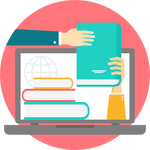
**Infosys Aptitude Questions and Answers**

**Infosys Aptitude Questions and Answers**

* [Percentages](http://prepinsta.com/infosys-percentages-questions-answers/)
* [Data Interpretation](http://prepinsta.com/infosys-data-interpretation-questions-answers/)
* [Permutation and Combination](http://prepinsta.com/infosys-permutation-combination-questions-answers/)

Tips for this section –

* **Number of Questions:** 3 – 5 Ques
* **Difficulty Level:**Medium
* **Importance:** Medium
* **Suggested time to solve:** 1 min 20 – 50 Sec



**Infosys Aptitude Papers with Solutions**

* [Probability](http://prepinsta.com/infosys-probability-questions-answers/)
* [Areas, Shapes, Perimeter](http://prepinsta.com/infosys-areas-shapes-perimeter-questions-answers/)
* [Speed Time and Distance / Boats and Streams](http://prepinsta.com/infosys-speed-time-distance-boats-streams-questions-answers/)
* [Problem on Ages](http://prepinsta.com/infosys-problems-on-ages-questions-answers/)

Facts about this section –

* **Number of Questions:** 3 – 5 Ques
* **Difficulty Level:** Medium
* **Importance:** High
* **Suggested time to solve:**1 min 20 – 40 Sec



**Infosys Aptitude Question paper**

* [Time and Work](http://prepinsta.com/infosys-time-work-questions-answers/)
* [Profit and Loss | Mixtures and Allegation](http://prepinsta.com/infosys-profit-loss-mixtures-allegation-questions-answers/)
* [Divisibility](http://prepinsta.com/infosys-divisibility-questions-and-answers/)
* [Number Decimal & Fractions](http://prepinsta.com/infosys-number-decimal-and-fractions-questions-and-answers/)

Facts about this section –

* **Number of Questions:** 3 Ques
* **Difficulty Level:** High
* **Importance:** High
* **Suggested time to solve:** 2 min 0 Sec



**Infosys Aptitude Questions Papers Syllabus and Written Paper Pattern**

* Quantitative Aptitude
  + Number of Questions – 10
  + Time Limit – 25 mins

**INFOSYS APTITUDE PAPERS WITH ANSWERS**

| **Infosys Aptitude Questions Topics** | **No. of Questions in Test** | **Suggested Avg. Time** | **Difficulty** |
| --- | --- | --- | --- |
| Data Interpretation | 0 or 3 | 2 mins | Medium |
| Permutation and Combination | 1 or 2 | 1 min 15 secs | Medium |
| Percentages | 0 or 2 | 1 min 10 secs | High |
| Probability | 0 or 2 | 1 min 25 secs | Medium |
| Areas, Shapes, Perimeter | 0 or 1 | 1 min 30 secs | High |
| Speed Time and Distance / Boats and Streams | 1 or 2 | 1 min 25 secs | Medium |
| Time and Work | 1 | 1 min | Medium |
| Profit and Loss | Mixtures and Allegation | 1 or 2 | 1 min 15 secs | High |

## Quants Percentages I: 1

|  |
| --- |
| **Question 1**  **WRONG** |

A batsman scored 110 runs which included 3 boundaries and 8 sixes.

What percent of his total score did he make by running

between the wickets?

|  |  |
| --- | --- |
|  | 45% |
|  | 45 ( 5/11) % |
| C | 54 ( 6/11) % |
| D | 55% |

**Question 1 Explanation:**

Number of runs made by running = 110 – (3 x 4 + 8 x 6)= 110 – (60)= 50.Required percentage = (50/110)\*100 = 45 ( 5/11) %

|  |
| --- |
| **Question 2**  **WRONG** |

Two students appeared at an examination. One of them secured 9 marks

more than the other and his marks were 56% of the sum of their marks.

The marks obtained by them are:

|  |  |
| --- | --- |
| A | 39, 30 |
|  | 41, 32 |
|  | 42, 33 |
| D | 43, 34 |

**Question 2 Explanation:**

Let their marks be (x + 9) and x.Then, x + 9 = 56 (x + 9 + x)

100

25(x + 9) = 14(2x + 9)3x = 99x = 33So, their marks are 42 and 33.

|  |
| --- |
| **Question 3**  **WRONG** |

A fruit seller had some apples. He sells 40% apples and still

has 420 apples. Originally, he had:

|  |  |
| --- | --- |
|  | 588 apples |
| B | 600 apples |
| C | 672 apples |
|  | 700 apples |

**Question 3 Explanation:**

Suppose originally he had x apples.Then, (100 – 40)% of x = 420.

=> (60/100)\*x = 420

=> x = (420\*100)/60

=> x = 700

|  |
| --- |
| **Question 4**  **WRONG** |

If A = x% of y and B = y% of x, then which of the following

is true?

|  |  |
| --- | --- |
|  | A is smaller than B. |
| B | A is greater than B |
| C | Relationship between A and B cannot be determined. |
| D | If x is smaller than y, then A is greater than B. |
|  | None of these |

**Question 4 Explanation:**

Basically A = B = xy/100None of the options mentions this; hence E.

|  |
| --- |
| **Question 5**  **CORRECT** |

If 20% of a = b, then b% of 20 is the same as:

|  |  |
| --- | --- |
|  | 4% of a |
| B | 5% of a |
| C | 20% of a |
| D | None of these |

**Question 5 Explanation:**

20% of a = b

=> (20/100)a = b

therefore, b% of 20 = (b/100)\*20

= (20a/100)\*(1/100)\*20

= 4a/100 = 4% of a.

|  |
| --- |
| **Question 6**  **WRONG** |

In a certain school, 20% of students are below 8 years of age.

The number of students above 8 years of age is 2/3 of the number

of students of 8 years of age which is 48.

What is the total number of students in the school?

|  |  |
| --- | --- |
|  | 72 |
| B | 80 |
| C | 120 |
| D | 150 |
|  | 100 |

**Question 6 Explanation:**

Let the number of students be x. Then,Number of students above 8 years of age =

(100 – 20)% of x = 80% of x.Therefore, 80% of x = 48 + 2/3 of 48

=> 80/100 x = 80

=> x = 100.

|  |
| --- |
| **Question 7**  **CORRECT** |

Two numbers A and B are such that the sum of 5% of A and 4% of B

is two-third of the sum of 6% of A and 8% of B.

Find the ratio of A : B.

|  |  |
| --- | --- |
| A | 2 : 3 |
| B | 1 : 1 |
| C | 3 : 4 |
|  | 4 : 3 |
| **Question 8**  **WRONG** | |

How much 60% of 50 is greater than 40% of 30?

|  |  |
| --- | --- |
|  | 18 |
| B | 13 |
| C | 15 |
|  | 20 |

**Question 8 Explanation:**

(60/100) \* 50 – (40/100) \* 30

30 – 12 = 18

|  |
| --- |
| **Question 9**  **WRONG** |

The tax on a commodity is diminished by 20% and its consumption

increased by 15%. The effect on revenue is?

|  |  |
| --- | --- |
| A | It increases by 8% |
|  | It decreases by 8% |
|  | No change in revenue |
| D | It increases by 10% |
| E | None |

**Question 9 Explanation:**

100 \* 100 = 10000

80 \* 115 = 9200

———–

10000———–800

100———–? => 8% decrease

|  |
| --- |
| **Question 10**  **WRONG** |

At an examination in which full marks were 500.

A got 10% less than B, B got 25% more than C and C got 20% less than D.

If A got 360marks, what percentage of full marks was obtained by D?

|  |  |
| --- | --- |
|  | 70% |
| B | 90% |
|  | 80% |
| D | 75% |

**Question 10 Explanation:**

A B C D

90 100 80 100

A D

90 —– 100

360 —— ? = 400

500 —— 400

100 ——- ? => 80%

## Quants Percentages I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

The price of a product is increased by 20%. If the original

price is Rs. 300, what is the final price of the product?

|  |  |
| --- | --- |
|  | 350 |
|  | 360 |
| C | 370 |
| D | 375 |

**Question 1 Explanation:**

Final Price = Initial price + Initial price x 20/100

= Initial price x (1+20/100)

= Rs.300x(1.2)

= Rs.360

|  |
| --- |
| **Question 2**  **WRONG** |

Mukul’s income is 10% more than Sunil’s. How much less is Sunil’s income than that of Mukul’s?

|  |  |
| --- | --- |
| A | 8.09 % |
|  | 9.09 % |
| C | 7.09 % |
|  | 7.90 % |

**Question 2 Explanation:**

Sunil’s income is less than Mukul’s = [(10 / (100 + 10)] × 100 %

= ( 1000 / 110 )%

= 9.09 %

|  |
| --- |
| **Question 3**  **WRONG** |

The total population of a country is 294000, out of which

150000 are males. Out of every 100 males, 98 can read and

write, but only 53% of the total population can do so.

Find the percentage of women who can read and write.

|  |  |
| --- | --- |
|  | 6.125 % |
| B | 5.125 % |
| C | 6.000 % |
|  | 4.125 % |

**Question 3 Explanation:**

Number of men who can read and write =

150000 × (98 ÷ 100) =147000Number of men and women who can read and write

=294000 × (53 ÷ 100) =155820Number of women who can read and write

155820 – 147000 = 8820Thus, out of 144000 women 8820 can read and write.Required percentage = (8820 × 100) ⁄ 144000 %=

6.125

|  |
| --- |
| **Question 4**  **WRONG** |

(0.756 x 3/4) terms of rate percent is equivalent to ?

|  |  |
| --- | --- |
| A | 18.9% |
| B | 37.8% |
|  | 56.7% |
|  | 75% |

**Question 4 Explanation:**

(0.756 x 3/4) = (756/1000) x (3/4) x 100 % = 56.7%

|  |
| --- |
| **Question 5**  **CORRECT** |

If 90% of A = 30% of B and B = C% of A,then the value of C is ?

|  |  |
| --- | --- |
| A | 900 |
| B | 800 |
| C | 600 |
|  | 300 |

**Question 5 Explanation:**

90A/100 = 30B/100 = (30/100) x AC/100

∴ C = 100 x (100/30) x (90/100) = 300

|  |
| --- |
| **Question 6**  **WRONG** |

If 0.5% of A =85 paise, then the value of A is?

|  |  |
| --- | --- |
|  | Rs. 170 |
| B | Rs. 17 |
| C | Rs. 1.70 |
|  | Rs. 4.25 |

**Question 6 Explanation:**

0.5/100 of A = 85/100

∴ A = Rs. (85 / 0.5) = Rs. 170

|  |
| --- |
| **Question 7**  **WRONG** |

30 quintals are what percent of 2 metric tonnes?

|  |  |
| --- | --- |
| A | 15% |
| B | 1.5% |
|  | 150% |
|  | 30% |

**Question 7 Explanation:**

Required percent = {30/(2 x 10)} x 100 % = 150%

|  |
| --- |
| **Question 8**  **WRONG** |

A candidate attempted 12 questions and secured full marks in

all of them. If he obtained 60% in the test and each question

carried equal marks, then what was the total number of questions

in the test?

|  |  |
| --- | --- |
| A | 36 |
| B | 30 |
|  | 25 |
|  | 20 |

**Question 8 Explanation:**

Let the number of question be Y.

60% of Y = 12

60Y / 100 =12

Y = 20

|  |
| --- |
| **Question 9**  **WRONG** |

Rajesh solved 80 percent of the questions in an examination

correctly, out of 41 questions solved by Rajesh 37 questions

are correct and of the remaining questions out of 8 questions,

5 questions have been solved by Rajesh correctly then find the

total number of question asked in the examination?

|  |  |
| --- | --- |
|  | 75 |
|  | 65 |
| C | 60 |
| D | Can’t be determined |

**Question 9 Explanation:**

Suppose there are 8y questions were asked apart

from the 41 question.Then

37 + 5y/41 + 8y = 80% = 4/5

⇒ 185 + 25y = 164 + 32y

⇒ 7y = 21

⇒ y = 3

∴ Total no. of questions = 41 + 8 x 3 = 65.

|  |
| --- |
| **Question 10**  **CORRECT** |

The difference between 78% of a number and 59% of the same

number is 323. What is 62% of that number?

|  |  |
| --- | --- |
|  | 1054 |
| B | 1178 |
| C | 1037 |
| D | 1159 |
| E | None of the above |

**Question 10 Explanation:**

Let the number be N.According to the question,

(78 – 59)% of N = 323

⇒ (19 x N)/100 = 323

∴ N = (323 x 100)/19 = 1700

∴ 62% of 1700 = (62/100) x 1700 = 1054

## Quants Percentages I: 3

|  |
| --- |
| **Question 1**  **WRONG** |

A mixture of 40 litres of sprite and water contains 10% water.

How much water (litres) must be added to this mixture to raise

the percentage of water to 25%?

|  |  |
| --- | --- |
|  | 12 |
| B | 24 |
|  | 8 |
| D | 4 |

**Question 1 Explanation:**

In 40 litres,the amount of water is 4 litres After water is added, water /(water + mixture)=25%(4+x)/(40+x) = 1/4 16+4x=40+x 3x=24 x = 8 Hence, 8 litres of water must be added to this mixture to raise the percentage of water to 25%.

|  |
| --- |
| **Question 2**  **WRONG** |

30% of the men are more than 25 years old and 80% of the

men are less than or equal to 50 years old. 20% of all men

play football. If 20% of the men above the age of 50 play

football, what percentage of the football players are less

than or equal to 50 years?

|  |  |
| --- | --- |
|  | 15% |
| B | 20% |
|  | 80% |
| D | 70% |

**Question 2 Explanation:**

20% of the men are above the age of 50 years. 20% of these men play football. Therefore, 20% of 20% or 4% of the total men are football players above the age of 50 years. Therefore, the % of men who are football players and below the age of 50 = (16/20)\*100 = 80%

|  |
| --- |
| **Question 3**  **WRONG** |

A speaks the truth in 75% cases whereas B lies in 20% cases.

In what percent of cases are they likely to contradict each

other narrating the same incident?

|  |  |
| --- | --- |
|  | 45% |
|  | 35% |
| C | 40% |
| D | 30% |

**Question 3 Explanation:**

Let A = Event that A speaks the truth B = Event that B speaks the truth Then P(A) = 75/100 = 3/4 P(B) = 80/100 = 4/5 P(A-lie) = 1-3/4 = 1/4 P(B-lie) = 1-4/5 = 1/5 Now A and B contradict each other = [A lies and B true] or [B true and B lies] = P(A).P(B-lie) + P(A-lie).P(B) [Please note that we are adding at the place of OR] = (3/4\*1/5) + (1/4\*4/5) = 7/20 = (7/20 \* 100) % = 35%

|  |
| --- |
| **Question 4**  **CORRECT** |

In an exam 49% candidates failed in English and 36% failed

in Hindi and 15% failed in both subjects. If the total number

of candidates who passed in English alone is 630. What is

the total number of candidates appeared in exam?

|  |  |
| --- | --- |
| A | 2500 |
|  | 3000 |
| C | 2632 |
| D | none |

**Question 4 Explanation:**

not fail in english =51% not fail in hindi =64% not fail in both =30 %(49+36-15) pass in english only=51-30=21 21/100\*x=630 x=3000

|  |
| --- |
| **Question 5**  **WRONG** |

a mixture of 80 liters of milk and water contain 10% water

how much water must be added to make water 20% in the new mixture?

|  |  |
| --- | --- |
|  | 10 |
| B | 20 |
|  | 12 |
| D | 9 |

**Question 5 Explanation:**

10 ltr of water is to be added. At present there is 72 ltr milk and 8 ltr water. cow 72 ltr milk should be 80% of mixture in new case. Then total mixture = 72/0.8= 90 ltrso 10 ltr water is to be added.

|  |
| --- |
| **Question 6**  **CORRECT** |

A survey of n people in the town of Eros found that 50% of

them preferred Brand A. Another survey of 100 people in the

town of Angie found that 60% preferred Brand A. In total,

55% of all the people surveyed together preferred Brand A.

What is the total number of people surveyed?

|  |  |
| --- | --- |
| A | 50 |
| B | 100 |
| C | 150 |
|  | 200 |
| E | none |

**Question 6 Explanation:**

50% of n people from Eros prefer brand A. 50% of n is 50/100 x n = n/2. 60% of 100 people from Angie prefer brand A. 60% of 100 is 60/100 x 100 = 60. Of the total n+ 100 people surveyed, n/2 + 60 prefer brand A. Given that this is 55%, we have (n/2+60)/(n+100) x100 =55 Solving the equation (n/2+60)/(n+100) x100= 55 (n/2+60) = 55/100x(n+100) (n/2+60) = 11/20n+55 0 = 11n /20 –n/2+55-60 Now subtracting n/2 and 60 from both sides 0=n/20-5 Adding 5 on both sides 5=n/20 n=100 Hence, the total number of people surveyed isn+ 100 = 100 + 100 = 200.

|  |
| --- |
| **Question 7**  **CORRECT** |

A candidate appearing for an examination has to secure

40% marks to pass paper I. But he secured only 40 marks

and failed by 20 marks. What is the maximum mark for paper I?

|  |  |
| --- | --- |
|  | 150 |
| B | 170 |
| C | 160 |
| D | 250 |

**Question 7 Explanation:**

total marks for pass the exam is 40+20=60 40%=60 100%=? 100\*60/40=150 total marks for paper I is 150

|  |
| --- |
| **Question 8**  **WRONG** |

There are 750 male and female participants in a meeting.

Half the female participants and one-quarterof the male

participants are Democrats. One-third of all the participants

are Democrats. How many of the Democrats are female?

|  |  |
| --- | --- |
|  | 102 |
| B | 49 |
|  | 125 |
| D | 131 |

**Question 8 Explanation:**

let female=x male =750-x given (x/2+(750-x)/4)=750/3 x=125

|  |
| --- |
| **Question 9**  **WRONG** |

During the testing of drug the result were found to be 85%

positive in the first phase of 100 tests and 55% positive of

second phase.If the overall results were 75% positive.

what was the total number of tests conducted in first

phase and second phase?

|  |  |
| --- | --- |
|  | 125 |
| B | 135 |
| C | 145 |
|  | 150 |

**Question 9 Explanation:**

85/100\*100 (+ve 1st Phase) + 55/100\*x (+ve 2nd phase) = 75/100(100+x); After Solving we will get x=50; Therefore Total will be 100+50 = 150

|  |
| --- |
| **Question 10**  **WRONG** |

The total population of a country is 294000, out of which

150000 are males. Out of every 100 males, 98 can read and

write, but only 53% of the total population can do so.

Find the percentage of women who can read and write.

|  |  |
| --- | --- |
|  | 6.125 % |
|  | 5.125 % |
| C | 6.000 % |
| D | 4.125 % |

**Question 10 Explanation:**

The number of men who can read and write = 150000 × (98 ÷ 100) =147000 Number of men and women who can read and write =294000 × (53 ÷ 100) =155820 Number of women who can read and write 155820 – 147000 = 8820 Thus, out of 144000 women 8820 can read and write. Required percentage = (8820 × 100) ⁄ 144000 %= 6.125

## Quants Percentages I: 4

|  |
| --- |
| **Question 1**  **CORRECT** |

A dishonest dealer professes to sell his goods at the cost

price but uses a weight of 800gm instead of 1kg. Find his

real gain percent.

|  |  |
| --- | --- |
|  | 25% |
| B | 20% |
| C | 30% |
| D | none |

**Question 1 Explanation:**

200/800 ×100 = 25%

|  |
| --- |
| **Question 2**  **WRONG** |

A sum of money lent out at simple interest amounts to

Rs. 720 after 2 years and to Rs. 1,020 after a further

period of 5 years. The sum and the rate % are

|  |  |
| --- | --- |
| A | Rs. 500, 5% |
| B | Rs. 400, 15% |
|  | Rs. 600, 10% |
|  | Rs. 700, 20% |

**Question 2 Explanation:**

Amount after 2 years = Rs 720 Amount after 7 years = Rs 1020 Therefore, Interest for 5 years = Rs 300 Interest for 1 year = Rs 60 And Interest for 2 years = Rs 120 SO Principal = 720-120 = Rs 600 Also, 120 = (600\*R\*2)/100 = R = 10% Amount after 2 years = Rs 720 Amount after 7 years = Rs 1020 Therefore, Interest for 5 years = Rs 300 Interest for 1 year = Rs 60 And Interest for 2 years = Rs 120 SO Principal = 720-120 = Rs 600 Also, 120 = (600\*R\*2)/100 = R = 10%

|  |
| --- |
| **Question 3**  **WRONG** |

A train with 90 km/h crosses a bridge in 36 seconds.

Another train 100 metres shorter crosses the same bridge

at 45 km/h. What is the time taken by the second train to

cross the bridge ?

|  |  |
| --- | --- |
|  | 61 seconds |
| B | 63 seconds |
| C | 62 seconds |
|  | 64 seconds |

**Question 3 Explanation:**

Train A, Speed = 90kmph =90\*(5/18)m/s = 25m/s = 25m/s, t=36s Let length, L = x+y = time\*speed = 25\*36 = 900m =800m, Speed= 45\*(5/18) = (25/2) m/s t= (Distance/Speed) = (800/(25/2)) = (1600/25) = 64 seconds

|  |
| --- |
| **Question 4**  **CORRECT** |

Ramesh travels 760 km to his home, partly by train and

partly by car He takes 8 hours, if he travels 160 km by

train and the rest by car. He takes 12 minutes more, if he

travels 240 km by train and the rest by car. What are the

speeds of the train and of the car?

|  |  |
| --- | --- |
| A | Speed of car = 90 km/h, speed of train = 60 km/h |
|  | Speed of car = 100 km/h, speed of train = 80 km/h |
| C | Speed of car = 80 km/h, speed of train = 70 km/h |
| D | Speed of car = 100 km/h, speed of train = 90 km/h |

**Question 4 Explanation:**

Let speeds be x and y for train and car respectively. Then 8 = (160/8) + (600/y) …..(1) And 8(1/5) = (240/x) + ((760-240)/y) …..(2) Solving for x and y, we get 100 and 80 km/hr.

|  |
| --- |
| **Question 5**  **WRONG** |

Some students planned a picnic. The budget for food was

Rs. 500. But, 5 of them failed to go and thus the cost of

food for each member increased by Rs. 5. How many students

attended the picnic?

|  |  |
| --- | --- |
|  | 15 |
| B | 25 |
|  | 20 |
| D | 35 |

**Question 5 Explanation:**

By direction options,500/25=20 ,500/20=25 By mathematical method, the main steps are: xy = 500 …(1) and (x−5) (y+5) = 500 …(2), From eqn. 2, x−y = 5 or y = x−5 Put in eqn 1, x(x−5) = 500 or x2-5x-500=0 , i.e. x = 25 and attended ones = x − 5 = 20

|  |
| --- |
| **Question 6**  **WRONG** |

After being set up, a company manufactured 6000 scooters

in the third year and 7000 scooters in the seventh year.

Assuming that the production increases uniformly by a fixed

number every year, what is the production in the tenth year?

|  |  |
| --- | --- |
|  | 7850 |
| B | 7650 |
|  | 7750 |
| D | 7950 |

**Question 6 Explanation:**

You can use A.P.,Tn =a+(n-1)d ,6000=a+2d…..(1) and 7000 = a + 6d …..(2) Eqn (2) – Eqn (1) ⇒ 1000=4d, i.e. d = 250 and a = 6000 − 500 = 5500 T10 =5500 + 9 × 250 =7750

|  |
| --- |
| **Question 7**  **WRONG** |

The average score of boys in an examination in a school is

71 and that of the girls is 73. The average score of the school

is 71.8. The ratio of the number of boys to that of the girls

that appeared in the examination is

|  |  |
| --- | --- |
| A | 1 : 2 |
|  | 3 : 2 |
|  | 2 : 2 |
| D | 4 : 2 |

**Question 7 Explanation:**

71.8 = (71x+73y)/(x+y) 71.8 (x+ y) = 71x + 73y 0.8x = 1.2y x:y = 12:8 which is equals to 3:2

|  |
| --- |
| **Question 8**  **WRONG** |

The mean monthly salary paid to 75 workers in a factory is

Rs. 5,680. The mean salary of 25 of them is Rs. 5,400 and

that of 30 others is Rs. 5,700. The mean salary of the

remaining workers is

|  |  |
| --- | --- |
| A | Rs. 5,000 |
|  | Rs. 7,000 |
|  | Rs. 6,000 |
| D | Rs. 8,000 |

**Question 8 Explanation:**

5680\*75 = (5400\*25+5700\*30+x(75-25-30))/75 4,26,00 = 1,35,000 +1, 71,000 + 20x X = 1,20,000/20, = 6,000

|  |
| --- |
| **Question 9**  **CORRECT** |

A sum of Rs. 25 was paid for a work which A can do in 32 days,

B in 20 days, B and C in 12 days and D in 24 days. How much

did C receive if all the four work together?

|  |  |
| --- | --- |
| A | Rs. 14/3 |
|  | Rs. 16/3 |
| C | Rs. 15/3 |
| D | Rs. 17/3 |

**Question 9 Explanation:**

B+ C’s 1 day’s work = ½ and B’s 1 day’s work = 1/20 Therefore, C’s 1 day’s work = (1/12) – (1/20) = 4/120 = 1/30 Monet will be distributed according to the ratio of work done i.e A: B: C: D = 1/32 : 1/20 : 1/30 : 1/24 = 15 :24:16:20 Therefore, C’s Share = 16/(15+24+16+20) = Rs 16/3

|  |
| --- |
| **Question 10**  **CORRECT** |

A man sold two steel chairs for Rs. 500 each. On one,

he gains 20% and on other, he loses 12%. How much does

he gain or lose in the whole transaction?

|  |  |
| --- | --- |
|  | 1.5% gain |
| B | 2% gain |
| C | 1.5% loss |
| D | 2% loss |

**Question 10 Explanation:**

CP/SP = 100/(100±x) , i.e. Total CP = 417 (500\*100/200) + 568(500\*100/88)≅ 985 Since CP

## Quants Percentages I: 5

|  |
| --- |
| **Question 1**  **WRONG** |

In a solution,75% is orange juice and remaining is water.

From this, if 20% is taken out, what will be the percentage

of orange juice in the final solution?

|  |  |
| --- | --- |
| A | 20 |
|  | 30 |
| C | 40 |
|  | 60 |

**Question 1 Explanation:**

Lets Assume that Solution is 100ml.

• So, Proportion of Orange Juice is

= 100ml x 75% = 75ml

• Remaining Solution will be Water i.e. 25ml

• Now, If 20% is Taken Out from the Solution

Then, Remaining Solution (100ml) will be

=100ml – 100ml x 20%

=100ml – 20ml = 80ml

Since, Orange Juice is 75% of Solution

Therefore, Remaining Orange Juice

= New/Remaining Solution x 75%

= 80ml x 75%

=60ml

|  |
| --- |
| **Question 2**  **WRONG** |

A town have a population of 500000 and 42% of males and

28% of females are married to same town. find the total

number of males

|  |  |
| --- | --- |
|  | 200000 |
|  | 20000 |
| C | 2000 |
| D | 200 |

**Question 2 Explanation:**

it is clear from question that42%male equals

28%female..so ratio of males to females =2:3

so number of males =2/5\*500000=200000

|  |
| --- |
| **Question 3**  **CORRECT** |

(0.756 x 3/4) terms of rate percent is equivalent to ?

|  |  |
| --- | --- |
| A | 18.9% |
| B | 37.8% |
|  | 56.7% |
| D | 75% |

**Question 3 Explanation:**

(0.756 x 3/4) = (756/1000) x (3/4) x 100 % = 56.7%

|  |
| --- |
| **Question 4**  **CORRECT** |

If 90% of A = 30% of B and B = C% of A,then the value of C is ?

|  |  |
| --- | --- |
| A | 900 |
| B | 800 |
| C | 600 |
|  | 300 |

**Question 4 Explanation:**

90A/100 = 30B/100 = (30/100) x AC/100

∴ C = 100 x (100/30) x (90/100) = 300

|  |
| --- |
| **Question 5**  **WRONG** |

A candidate attempted 12 questions and secured full marks

in all of them. If he obtained 60% in the test and each

question carried equal marks, then what was the total number

of questions in the test?

|  |  |
| --- | --- |
| A | 36 |
| B | 30 |
|  | 25 |
|  | 20 |

**Question 5 Explanation:**

Let the number of question be Y. 60% of Y

= 12 60Y / 100 =12 Y = 20

|  |
| --- |
| **Question 6**  **CORRECT** |

Rajesh solved 80 percent of the questions in an examination

correctly, out of 41 questions solved by Rajesh 37 questions

are correct and of the remaining questions out of 8 questions,

5 questions have been solved by Rajesh correctly then find

the total number of question asked in the examination?

|  |  |
| --- | --- |
| A | 75 |
|  | 65 |
| C | 60 |
| D | Can’t be determined |

**Question 6 Explanation:**

Suppose there are 8y questions were asked apart from

the 41 question.Then 37 + 5y/41 + 8y = 80% = 4/5

⇒ 185 + 25y = 164 + 32y ⇒ 7y = 21 ⇒ y = 3

∴ Total no. of questions = 41 + 8 x 3 = 65.

|  |
| --- |
| **Question 7**  **WRONG** |

The difference between 78% of a number and 59% of the same

number is 323. What is 62% of that number?

|  |  |
| --- | --- |
|  | 1054 |
|  | 1178 |
| C | 1037 |
| D | 1159 |
| E | None of the above |

**Question 7 Explanation:**

Let the number be N. According to the question,

(78 – 59)% of N = 323 ⇒ (19 x N)/100 = 323

∴ N = (323 x 100)/19 = 1700 ∴ 62% of 1700 =

(62/100) x 1700 = 1054

|  |
| --- |
| **Question 8**  **WRONG** |

If the price of cooking gas increases by 23%, what % of the

consumption of gas be reduced by a hotel owner so that the

expenditure on gas remains the same?

|  |  |
| --- | --- |
|  | 18.7 |
| B | 20.56 |
|  | 19.23 |
| D | 48 |

**Question 8 Explanation:**

With same expenditure the % consumption will be

= 100\*100/123 = 81.3%

So the consumption of gas be reduced by a hotel owner

so that the expenditure on gas remains the same =

18.7%

|  |
| --- |
| **Question 9**  **WRONG** |

The population of a town increased from 1,75,000 to 2,62,500

in a decade. The average percent increase of population per year is:

|  |  |
| --- | --- |
|  | 4.37% |
|  | 5% |
| C | 6% |
| D | 8.75% |

**Question 9 Explanation:**

Increase in 10 years = (262500 – 175000) = 87500.

Increase% = ( 87500 / 175000) x 100 % = 50%.

average = 50/10 % = 5%.

|  |
| --- |
| **Question 10**  **WRONG** |

A student multiplied a number by 3/5 instead of 5/3.

What is the percentage error in the calculation?

|  |  |
| --- | --- |
| A | 34% |
| B | 44% |
|  | 54% |
|  | 64% |

**Question 10 Explanation:**

actual no =5/3 x

mistake no = 3/5 x

if we assume x as 15 then,

actual=(5/3)\*15=25

mistake=(3/5)\*15=9

error=actual-mistake=25-9=16

then

for 25 it is 100%

for 16 it is ?%

(16\*100)/25

=64%

## Quants Percentages I- 6

|  |
| --- |
| **Question 1**  **CORRECT** |

In a certain school, 20% of students are below 8 years of age.

The number of students above 8 years of age is of the number

of students of 8 years of age which is 48. What is the total

number of students in the school?

|  |  |
| --- | --- |
| A | 72 |
| B | 80 |
|  | 120 |
| D | 150 |

**Question 1 Explanation:**

above 8 yrs+8 yrs=48+48=96 96 80%of total x 100%of total x=96\*100/80=120

|  |
| --- |
| **Question 2**  **CORRECT** |

In a competitive exam. Ram got 10% less than Shyam who got

25% more than Mohan and Mohan got 20% less than Jawa.

If the marks were 500 and Ram got 360.What was Java's percentage.

|  |  |
| --- | --- |
| A | 80 |
| B | 64 |
| C | 72 |
|  | None of these |

**Question 2 Explanation:**

ram got 360 which is 72% shyam=82% mohan=57% java=77%

|  |
| --- |
| **Question 3**  **WRONG** |

In a town having 1500 people, approximately 60% are female.

Of the female, approximately 50% are aged between 40 and 70.

How many of them are female and aged between 40 and 70?

|  |  |
| --- | --- |
| A | 450 |
|  | 475 |
| C | 425 |
| D | 530 |
|  | none of these |

**Question 3 Explanation:**

no. of females which are aged between 40 and 70 = 1500\*0.6\*0.5 = 450

|  |
| --- |
| **Question 4**  **WRONG** |

Nancy gets a salary increase of 5% plus an extra $10 per week.

Her present salary is $300 per week. What will be her new salary?

|  |  |
| --- | --- |
|  | 315 |
| B | 320 |
| C | 310 |
| D | 330 |
|  | 325 |

**Question 4 Explanation:**

present sal=300$per week; 5% in 300$=15$ and she get extra 10$per week so total=25$ so total sal per wek=325

|  |
| --- |
| **Question 5**  **WRONG** |

Bhanu spends 30% of his income on petrol on scooter.

1/4 of the remaining on house rent and the balance on food.

If he spends Rs.300 on petrol then what is the expenditure

on house rent?

|  |  |
| --- | --- |
| A | Rs.525 |
| B | Rs.1000 |
|  | Rs.675 |
|  | Rs.175 |

**Question 5 Explanation:**

If he spends Rs.300 on petrol then his total income = Rs 1000. balance income after spending on petrol = Rs 700 amt spent on house rent = 700/4 = Rs 175

|  |
| --- |
| **Question 6**  **WRONG** |

If the area of a square has increased by 60%, by what

percentage has its side increased?

|  |  |
| --- | --- |
|  | 21.2% |
|  | 11.2% |
| C | 21% |
| D | 51.2% |

**Question 6 Explanation:**

a^2=100 a=10 if area of square increased by 60% then a^2 = 160 now a=12.12 diff bw 12.12-10=2.12 Therefore % increase = (2.12/10)\*100=21.2% increase in side

|  |
| --- |
| **Question 7**  **WRONG** |

The storage space required is given by the function P(N) =

4000 √N, where N is the number of boxes used. Find the

percentage change in storage if the number of boxes is

increased by 1%.

|  |  |
| --- | --- |
|  | 0.75% |
| B | 0.25% |
| C | 0.5% |
|  | 1% |
| E | 2% |

**Question 7 Explanation:**

in given problem, CHANGE IN STORAGE ,so u make differential dp(n)/dn =4000 sqrt(N)AFTER DIFFERENTIAL, 1/2 N^-1/2 where change in storage =dp(n)/dn=1%=0.01 dp(n)/dn=1/2N^-1/2 0.01=1/2N^-1/2 hence after solving N=100 N=1 %

|  |
| --- |
| **Question 8**  **CORRECT** |

Three companies are working independently and receiving the

savings 20%, 30%, 40%. If the companies work combine,

what will be their net savings?

|  |  |
| --- | --- |
| A | 20 |
|  | 30 |
| C | 40 |
| D | 45 |

**Question 8 Explanation:**

suppose total income is 100 so amount x is getting is 80 y is 70 z =60 total=210 but total money is 300 300-210=90 so they are getting 90 rs less 90 is 30% of 300 so they r getting 30% discount

|  |
| --- |
| **Question 9**  **WRONG** |

Three independent mechanisms A,B and C have been incorporated

for fuel saving in a car producing respectively 30%, 20%, and

40% efficiency. Assuming that they operate independently,

what is the net fuel efficiency achieved?

|  |  |
| --- | --- |
| A | 40% |
|  | 35% |
| C | 45% |
|  | 30% |

**Question 9 Explanation:**

suppose total income is 100 so amount x is getting is 80 y is 70 z =60 total=210 but total money is 300 300-210=90 so they are getting 90 rs less 90 is 30% of 300 so they r getting 30% discount

|  |
| --- |
| **Question 10**  **WRONG** |

There is 24% increase in income tax rate.it leads to 1%

decrease in overall income.what is the rate of tax?

|  |  |
| --- | --- |
| A | 2% |
|  | 3% |
|  | 4% |
| D | none |

**Question 10 Explanation:**

If I is total taxable income and x is initial income tax rate, then I\*(100-x)\*0.99 = I\*(100-1.24x) x= 4 Hence initial income tax is 4%.

## Infosys Data Interpretation Questions with Solutions

## Data Interpretation H

|  |
| --- |
| **Question 1**  **CORRECT** |

If twenty sweets are distributed among some boys and girls such that

each girl gets two sweets and each boy gets three sweets,

what is the number of boys and girls?

A. The number of girls is not more than five.

B. If each girl gets 3 sweets and each boy gets 2 sweets,

the number of sweets required for the children will still be the same.

|  |  |
| --- | --- |
| A | Statement 1 alone is sufficient, but Statement 2 alone is not sufficient to answer the question |
|  | Statement 2 alone is sufficient, but Statement 1 alone is not sufficient to answer the question |
| C | Both statements taken together are sufficient to answer the question, but neither statement alone is sufficient |
| D | Each statement alone is sufficient |
| E | Statements 1 and 2 together are not sufficient, and additional data is needed to answer the question |

**Question 1 Explanation:**

Given 2G + 3B = 20.Now if we use statement (A) that number of girls is not more than 5, then we have

G = 1, B = 6 OR G = 4, B = 4.

Since we cannot get a single solution from this statement

it is not sufficient to answer the question.If we use statement (B) 3B + 2G = 20 we have G = 4 and B = 4.

Hence, statement (B) alone is sufficient to answer the question.

|  |
| --- |
| **Question 2**  **WRONG** |

Dream teams are formed by television viewers by selecting five players

from the sixteen players namely

F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15 and F16.

The players belong to exactly one of the three teams namely Chesla,

Liverpool and United.Every Dream Team must have two players each from Chesla

and Liverpool and one player from united.Following information is provided

a)F12 is not from United

b)F7 is from Chelsea.

c)F2 and F9 are from liverpool.

d)the 'match fee' of each player belonging to chelsea ,liverpool, and

united is Euro 800.Euro775 and euro 725 match played respectively.

8 such dream teams were formed are mentioned below...

Team1=F3,F9,F7,F1,F12

Team2=F12,F11,F13,F6,F9

Team3=F6,F3,F5,F11,F7

Team4=F2,F10,F7,F6,F1

Team5=F1,F4,F16,F11,F10

Team6=F6,F3,F7,F15,F12

Team7=F2,F9,F12,F14,F15

Team8=F4,F8,F13,F11,F10

In dream team 6 name the united player?

|  |  |
| --- | --- |
| A | F3 |
|  | F6 |
| C | F12 |
|  | F15 |
| **Question 3**  **CORRECT** | |

Dream teams are formed by television viewers by selecting five players

from the sixteen players namely

F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15 and F16.

The players belong to exactly one of the three teams namely Chesla,Liverpool

and United.Every Dream Team must have two players each from Chesla and

Liverpool and one player from united.Following information is provided

a)F12 is not from United

b)F7 is from Chelsea.

c)F2 and F9 are from liverpool.

d)the 'match fee' of each player belonging to Chelsea,liverpool,

and united is Euro 800.Euro775 and euro 725 match played respectively.

8 such dream teams were formed are mentioned below...

Team1=F3,F9,F7,F1,F12

Team2=F12,F11,F13,F6,F9

Team3=F6,F3,F5,F11,F7

Team4=F2,F10,F7,F6,F1

Team5=F1,F4,F16,F11,F10

Team6=F6,F3,F7,F15,F12

Team7=F2,F9,F12,F14,F15

Team8=F4,F8,F13,F11,F10

How many players belong to Chelsea from the given

sixteen players?

|  |  |
| --- | --- |
| A | 4 |
|  | 5 |
| C | 6 |
| D | 7 |

|  |
| --- |
| **Question 4**  **CORRECT** |

Dream teams are formed by television viewers by selecting five

players from the sixteen players namely

F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15 and F16.

The players belong to exactly one of the three teams namely Chelsea,

Liverpool and United.Every Dream Team must have two players each

from Chelsea and Liverpool and one player from United.

The following information is provided

a)F12 is not from United

b)F7 is from Chelsea.

c)F2 and F9 are from liverpool.

d)the 'match fee' of each player belonging to Chelsea ,liverpool, and

united is Euro 800.Euro775 and euro 725 match played respectively.

8 such dream teams were formed are mentioned below...

Team1=F3,F9,F7,F1,F12

Team2=F12,F11,F13,F6,F9

Team3=F6,F3,F5,F11,F7

Team4=F2,F10,F7,F6,F1

Team5=F1,F4,F16,F11,F10

Team6=F6,F3,F7,F15,F12

Team7=F2,F9,F12,F14,F15

Team8=F4,F8,F13,F11,F10

In team 8 who are from liverpool?

|  |  |
| --- | --- |
|  | F4,F8 |
| B | F10,F11 |
| C | F11,F13 |
| D | F4,F11 |
| **Question 5**  **WRONG** | |

Dream teams are formed by television viewers by selecting five

players from the sixteen players namely

F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15 and F16.

The players belong to exactly one of the three teams namely Chelsea,

Liverpool and United.Every Dream Team must have two players each

from Chelsea and Liverpool and one player from united.

Following information is provided

a)F12 is not from United

b)F7 is from Chelsea.

c)F2 and F9 are from liverpool.

d)the 'match fee' of each player belonging to Chelsea,liverpool, and

united is Euro 800.Euro775 and euro 725 match played respectively.

8 such dearm teams were formed are mentioned below...

Team1=F3,F9,F7,F1,F12

Team2=F12,F11,F13,F6,F9

Team3=F6,F3,F5,F11,F7

Team4=F2,F10,F7,F6,F1

Team5=F1,F4,F16,F11,F10

Team6=F6,F3,F7,F15,F12

Team7=F2,F9,F12,F14,F15

Team8=F4,F8,F13,F11,F10

What is the total fees per match (in Euros) for the team?

|  |  |
| --- | --- |
|  | 3800 |
| B | 3825 |
|  | 3875 |
| D | None of these |

**Question 5 Explanation:**

2\*(800+775)+725=3875

|  |
| --- |
| **Question 6**  **WRONG** |

Dream teams are formed by television viewers by selecting five players

from the sixteen players namely

F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,F13,F14,F15 and F16.

The players belong to exactly one of the three teams namely Chelsea,

Liverpool and United.Every Dream Team must have two players each from

Chelsea and Liverpool and one player from united.

Following information is provided

a)F12 is not from United

b)F7 is from Chelsea.

c)F2 and F9 are from liverpool.

d)the 'match fee' of each player belonging to Chelsea,liverpool, and

united is Euro 800.Euro775 and euro 725 match played respectively.

8 such dream teams were formed are mentioned below...

Team1=F3,F9,F7,F1,F12

Team2=F12,F11,F13,F6,F9

Team3=F6,F3,F5,F11,F7

Team4=F2,F10,F7,F6,F1

Team5=F1,F4,F16,F11,F10

Team6=F6,F3,F7,F15,F12

Team7=F2,F9,F12,F14,F15

Team8=F4,F8,F13,F11,F10

Which of the following combinations have only Liverpool players?

|  |  |
| --- | --- |
| A | F13,F3 |
|  | F3,F16 |
|  | F16,F14 |
| D | F14,F2 |
| **Question 7**  **WRONG** | |

ABCD are four points in a plane such that ABD and DBC form two triangles.

Area of ABD is 10 units and area of ADC is 20 units.

What is the ratio of lengths(AD/DC)?

i)points ADC are collinear

ii)DB is 5 units long and is perpendicular to AC.

|  |  |
| --- | --- |
|  | The question can be answered by using one of the statements alone, but can not be answered by using other statements alone. |
|  | The questions can be answered by using either statement alone |
| C | The question can be answered by using both statements together, but can not be answered using either statement alone. |
| D | The question cannot be answered even by using both statements together. |

|  |
| --- |
| **Question 8**  **WRONG** |

What was the percentage profit in selling a liter of milk?

i)5-liter milk was sold at cost price after adding 20% of water.

ii)Milk was purchased at RS.16 per liter.

|  |  |
| --- | --- |
|  | The question can be answered by using one of the statements alone, but can not be answered by using other statements alone. |
| B | The questions can be answered by using either statement alone. |
| C | The question can be answered by using both statements together, but can not be answered using either statement alone. |
|  | The question cannot be answered even by using both statements together |
| **Question 9** | |

Sukhbir is taller than Randhir but not as tall as Ajit.

If Manoj is taller than Nitin, who is shorter than Ajit,

then who among them is the shortest?

|  |  |
| --- | --- |
| A | Nitin |
| B | Sukhbir |
| C | Manoj |
| D | Data inadequate |

|  |
| --- |
| **Question 10**  **WRONG** |

How many liters of 20% alcohol should be mixed with 60 % alcohol to

get 32% alcohol

(1) We get 70 liters of 32% alcohol

(2) We used 21 lit of 60% alcohol, to prepare 32%

|  |  |
| --- | --- |
|  | The question can be answered by using one of the statements alone, but cannot be answered by using the other statements alone |
|  | The question can be answered by using either statement alone |
| C | The question can be answered by using both statements together, but cannot be answered by using either statement alone |
| D | The question cannot be answered even by using both the statements together |

**Question 10 Explanation:**

20 60

32

28 12

so the mixture will be in 28:12 ratio => 7:3 ratio

(1) if we have 70 liters of 32% alcohol that means we have

70\*(7/(7+3)) liter = 49 liter of 20% alcohol

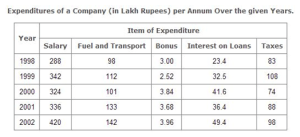
(2) if we have 21 liter of 60% alcohol that means 3x = 21(from the ratio)

=> x = 7

so we have 7 \* 7(from ratio) liter of 20% of alcoholso both statement alone is sufficient

## Quants Data Interpretation I : 2

|  |
| --- |
| **Question 1**  **CORRECT** |

**Paragraph:**

Study the following table and answer the questions based on it

The ratio between the total expenditure on Taxes for all the years

and the total expenditure on Fuel and Transport for all the years

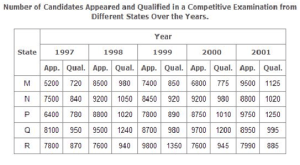
respectively is approximate?

|  |  |
| --- | --- |
| A | 4:7 |
|  | 10:13 |
| C | 15:18 |
| D | 5:8 |

**Question 1 Explanation:**

Explanation: Required ratio = [ (83 + 108 + 74 + 88 + 98)/(98 + 112 + 101 + 133 + 142) ] = [ 451/586] = 1/1.3 = 10/13

|  |
| --- |
| **Question 2**  **CORRECT** |



**Paragraph:**

Study the following table and answer the questions.

The total number of candidates qualified from all the states

together in 1997 is approximate what percentage of the total number

of candidates qualified from all the states together in 1998?

|  |  |
| --- | --- |
| A | 72% |
| B | 77% |
|  | 80% |
| D | 83% |

**Question 2 Explanation:**

Explanation: Required percentage = [ (720 + 840 + 780 + 950 + 870)/(980 + 1050 + 1020 + 1240 + 940) x 100 ]% = [ 4160/5230 x 100 ] % = 79.54% ~= 80%.

|  |
| --- |
| **Question 3**  **WRONG** |

In which of the given years the number of candidates

appeared from State P has the maximum percentage of qualified candidates?

|  |  |
| --- | --- |
| A | 1997 |
|  | 1998 |
| C | 1999 |
|  | 2001 |

**Question 3 Explanation:**

The percentages of candidates qualified to candidates appeared from State P during different years are:For 1997 (780 /6400 x 100 ) % = 12.19%.For 1998 (1020 /8800 x 100 ) % = 11.59%.For 1999 (890 /7800 x 100 ) % = 11.41%.For 2000 (1010 /8750 x 100 ) % = 11.54%.For 2001 (1250 /9750 x 100 ) % = 12.82%.Therefore Maximum percentage is for the year 2001.

|  |
| --- |
| **Question 4**  **WRONG** |

What is the percentage of candidates qualified from State

N for all the years together, over the candidates appeared

from State N during all the years together?

|  |  |
| --- | --- |
| A | 0.1239 |
| B | 0.1216 |
|  | 0.1147 |
|  | 0.1115 |

**Question 4 Explanation:**

Required percentage = [ (840 + 1050 + 920 + 980 + 1020)/(7500 + 9200 + 8450 + 9200 + 8800) x 100 ] % = [ 4810 /43150 x 100 ] % = 11.15%

|  |
| --- |
| **Question 5**  **WRONG** |

The percentage of the total number of qualified candidates

to the total number of appeared candidates among all the

five states in 1999 is?

|  |  |
| --- | --- |
| A | 0.1149 |
|  | 0.1184 |
|  | 0.1221 |
| D | 0.1257 |

**Question 5 Explanation:**

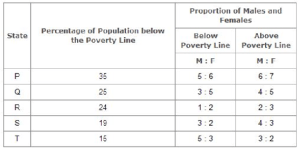
Required percentage = [ (850 + 920 + 890 + 980 + 1350)/(7400 + 8450 + 7800 + 8700 + 9800)x 100 ] % = [ 4990/42150 x 100 ] % = 11.84%.

|  |
| --- |
| **Question 6**  **WRONG** |

Paragraph:

The following table gives the percentage distribution of the

population of five states, P, Q, R, S and T on the basis of the

poverty line and also on the basis of sex.If the male population above the poverty line for State R is 1.9

million, then the total population of State R is?

|  |  |
| --- | --- |
|  | 4.5 Million |
| B | 4.85 Million |
| C | 5.35 Million |
|  | 6.25 Million |

**Question 6 Explanation:**

Let the total population of State R be x million. Then, population of State R above poverty line = [(100 – 24)% of x] million = ( 76/100) million And so, male population of State R above poverty line = [ 2/5x ( 76/100) ] million But, it is given that male population of State R above poverty line = 1.9 million. Thus, 2/5 x (76/100) = 1.9 => x= (5 x 100 x 1.9)/(76 x 2) = 6.25. Therefore Total population of State R = 6.25 million.

|  |
| --- |
| **Question 7**  **WRONG** |

What will be the number of females above the poverty line

in the State S if it is known that the population of State

S is 7 million?

|  |  |
| --- | --- |
|  | 3 Million |
|  | 2.43 Million |
| C | 1.33 Million |
| D | 5.7 Million |

**Question 7 Explanation:**

Total population of State S = 7 million. Therefore Population above poverty line = [(100 – 19)% of 7] million = (81% of 7) million = 5.67 million. And so, the number of females above poverty line in State S = ( 3/7x 5.67 ) million = 2.43 million.

|  |
| --- |
| **Question 8**  **WRONG** |

What will be the male population above the poverty line for

State P if the female population below the poverty line for

State P is 2.1 million?

|  |  |
| --- | --- |
|  | 2.1 Million |
| B | 2.3 Million |
| C | 2.7 million |
|  | 3.3 million |

**Question 8 Explanation:**

Female population below poverty line for State P = 2.1 million Let the male population below poverty line for State P be x million. Then, 5 : 6 = x : 21 => x = (2.1 x 5)/6 = 1.75. Therefore Population below poverty line for State P = (2.1 + 1.75) million = 3.85 million. Let the population above poverty line for State P by y million. Since, 35% of the total population of State P is below poverty line, therefore, 65% of the total population of State P is above poverty line i.e., the ratio of population below poverty line to that above poverty line for State P is 35 : 65. Therefore 35 : 65 = 3.85 : y => y = 65 x 3.85 /35= 7.15. Therefore Population above poverty line for State P = 7.15 million and so, male population above poverty line for State P = ( 6/13 x 7.15 ) million = 3.3 million.

|  |
| --- |
| **Question 9**  **WRONG** |

If the population of males below the poverty line for State

Q is 2.4 million and that for State T is 6 million, then

the total populations of States Q and T are in the ratio?

|  |  |
| --- | --- |
|  | 1:3 |
|  | 2:5 |
| C | 3:7 |
| D | 4:9 |

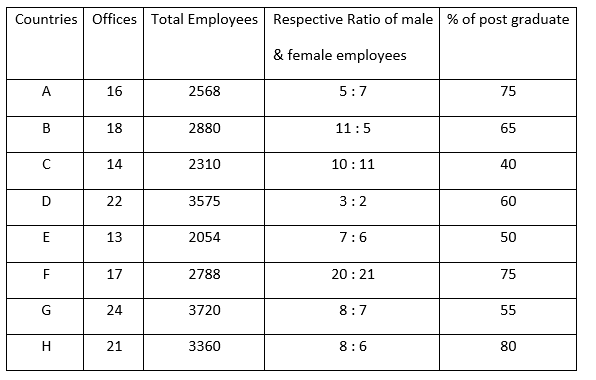
**Question 9 Explanation:**

For State Q: Male population below poverty line = 2.4 million. Let the female population below poverty line be x million. Then, 3 : 5 = 2.4 : x => x = 5 x 2.4/3= 4. Therefore Total population below poverty line = (2.4 + 4) = 6.4 million. If Nq be the total population of State Q, then, 25% of Nq = 6.4 million => Nq = ( 6.4 x 100/25 ) million = 25.6 million. For State T: Male population below poverty line = 6 million. Let the female population below poverty line be y million. Then, 5 : 3 = 6 : y => y = 3 x 6/5 = 3.6. Therefore Total population below poverty line = (6 + 3.6) = 9.6 million. If Nt be the total population of State T, then, 15% of Nt = 9.6 million => Nt = ( 9.6/15x 100 ) million = 64 million. Thus, Required ratio = Nq/Nt = 25.6/64 = 0.4 = 2/5.

|  |
| --- |
| **Question 10**  **WRONG** |

Data related to Human Resource Dept. of a multinational

company (X) which has 145 offices across 8 countries.



The number of male post graduate employees in country H is 1800.

If number of female post graduates in the same country increases

by 50% in the next year, what % of female employees in that particular

country is post graduate? (Given that all other data remain same)

|  |  |
| --- | --- |
|  | 76.8% |
| B | 74% |
|  | 92.5% |
| D | 90% |
| E | 80% |

**Question 10 Explanation:**

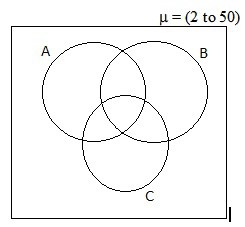
No. of post graduate in country H = 3360\*(4/5) = 2688 No. of female post graduates in H = 2688-1800 =88 female employees in H = 3360(6/14) = 1440 No. of female post graduate in next year = 888\*(3/2) = 1332 % of female graduates = (1332/1440) \* 100 = 92.5%

## Quants Data Interpretation I – 3

|  |
| --- |
| **Question 1**  **WRONG** |

**Directions for questions 1 to 5:** These questions are based

on the following diagram.



Circle A represents even numbers from 2 to 50.

Circle B represents odd numbers from 2 to 50.

Circle C, represents prime numbers from 2 to 50.

How many elements are there in set A only?

|  |  |
| --- | --- |
| A | 25 |
|  | 24 |
|  | 23 |
| D | 22 |

**Question 1 Explanation:**

Number of elements in set A only = 24 i.e, the even numbers which are not primes.

|  |
| --- |
| **Question 2**  **CORRECT** |

How many elements are there in set B only?

|  |  |
| --- | --- |
| A | 14 |
| B | 25 |
|  | 10 |
| D | 13 |

**Question 2 Explanation:**

There are 10 elements in only set B, i.e, there are 10 odd numbers which are not primes.

|  |
| --- |
| **Question 3**  **CORRECT** |

How many elements are there in B n C?

|  |  |
| --- | --- |
|  | 14 |
| B | 11 |
| C | 24 |
| D | 13 |

**Question 3 Explanation:**

There are 14 elements in B n C i.e, there are 14 odd prime numbers.

|  |
| --- |
| **Question 4**  **WRONG** |

How many elements are there in A U C?

|  |  |
| --- | --- |
|  | 0 |
|  | 1 |
| C | 2 |
| D | 3 |

**Question 4 Explanation:**

There is only one element in A n C i.e, 2 is the only even prime number.

|  |
| --- |
| **Question 5**  **WRONG** |

How many elements are there in B n C?

|  |  |
| --- | --- |
|  | 14 |
| B | 11 |
|  | 24 |
| D | 13 |

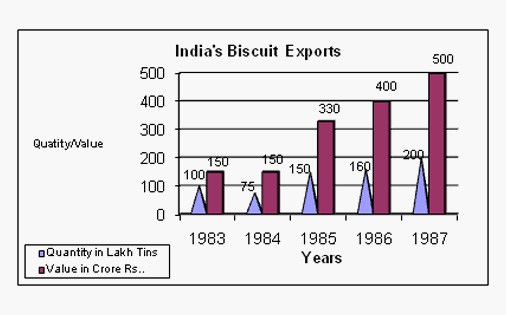
**Question 5 Explanation:**

There are 14 elements in B n C i.e, there are 14 odd prime numbers.

|  |
| --- |
| **Question 6**  **WRONG** |

**DIRECTIONSfor questions 6 & 7:** Study the following graph and

answer the questions that follow.



In which year was the value per tin the minimum?

|  |  |
| --- | --- |
| A | 1987 |
| B | 1984 |
|  | 1985 |
| D | 1986 |
|  | 1983 |

**Question 6 Explanation:**

In 1983, value per tin is 150/100, which is the lowest for all the years. Hence 5.

|  |
| --- |
| **Question 7**  **WRONG** |

If in 1986 tins were exported at the same rate per tin as

in 1985, then what would be the value of exports in 1986?

(Crores of Rupees)

|  |  |
| --- | --- |
| A | 400 |
| B | 420 |
| C | 375 |
|  | 330 |
|  | 352 |

**Question 7 Explanation:**

Value in 1985: 330/150 = 2.2. Value in 1986: 160 x 2.2 = 352

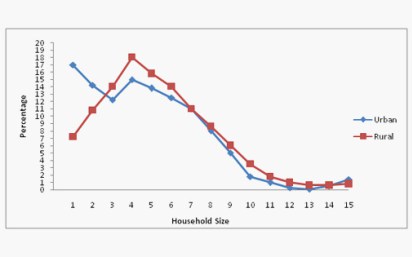
|  |
| --- |
| **Question 8**  **WRONG** |

**DIRECTIONS for questions 8 to 10:** The percentage distribution

of households by household size and the average sizes of household in.

All India Rural and Urban areas.

Urban areas classified as per population size are presented below.



|  |  |  |
| --- | --- | --- |
| All India | Distribution of People | Average Size of Household |
| Rural | - | 5.08 |
| Urban | - | 4.60 |
| Distribution of Urban | Below 15, 000 | 4.75 |
| 15, 000 - 50, 000 | 4.50 |
| 50001 – Above | 4.70 |

In rural areas, which one of the following sizes of the households is the highest in number?

|  |  |
| --- | --- |
| A | 15 |
|  | 2 |
| C | 3 |
|  | 4 |

**Question 8 Explanation:**

From the graph, we see that the line for rural peaks at about 4-5. Hence the best answer is (4)

|  |
| --- |
| **Question 9**  **WRONG** |

In urban areas, among the households of different sizes,

what is the percentage of households of size 5 or less?

|  |  |
| --- | --- |
| A | 13 |
|  | 72 |
|  | 36 |
| D | 87 |
| E | Can’t be determined |

**Question 9 Explanation:**

Total up the number of households ≤ 5 are 17 + 14 + 12 + 15 + 14 = 72.

|  |
| --- |
| **Question 10**  **CORRECT** |

In rural areas, per 100 households, there were 31 households of size:

|  |  |
| --- | --- |
| A | 3 or above |
| B | 3, 4 and 5 |
|  | 3 or less |
| D | 4 or less |

**Question 10 Explanation:**

Total up the values for rural area for the size 3 or less to get the answer.

## Quants Data Interpretation I – 4

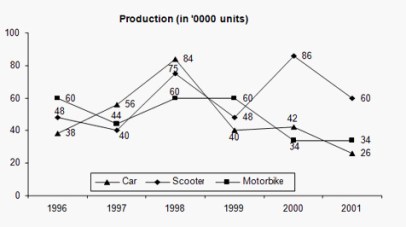
|  |
| --- |
| **Question 1**  **WRONG** |

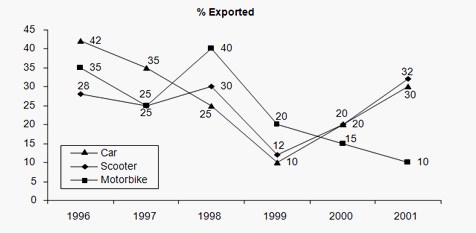
**DIRECTIONS  for questions 1 to 3:**Study the following line

graphs which show the production (in '0000 units) and

percentage exports of scooters, motorbikes and cars

respectively over the years.





In which of the following years was the production of cars

more than 50% of the total production?

|  |  |
| --- | --- |
| A | 2000 |
|  | 2001 |
| C | 1998 |
|  | none of these |

**Question 1 Explanation:**

For 2000, total production is (34 + 42 + 86)0000 = 1620000 units. Production of cars in 2000 = 420000. Percentage is less than 50%. For 2001, total production is (26 + 34 + 60)0000 = 1200000 units. Production of cars in 2001 = 260000. Percentage is less than 50%. For 1998, total production is (60 + 75 + 84)0000 = 2190000 units. Production of cars in 1998 = 840000. Percentage is less than 50%. Hence answer is none of these. Hence 4th option.

|  |
| --- |
| **Question 2**  **WRONG** |

Find the total number of automobiles exported in the year 1999.

|  |  |
| --- | --- |
| A | 227600 |
|  | 207600 |
|  | 217600 |
| D | 220000 |

**Question 2 Explanation:**

Number of cars exported = 400000 × 0.1 = 40000. Number of scooters exported = 480000 × 0.12 = 57600 Number of Motorbikes exported = 600000 × 0.2 = 120000 Total automobiles exported = 120000 + 57600 + 40000 = 217600

|  |
| --- |
| **Question 3**  **CORRECT** |

Find the ratio of cars, scooters and motorbikes exported in 1996

|  |  |
| --- | --- |
| A | 25 : 16 : 19 |
| B | 16 : 25 : 19 |
|  | 19 : 16 : 25 |
| D | 266 : 168 : 63 |

**Question 3 Explanation:**

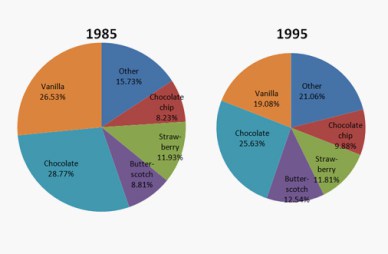
Cars : Scooters : Motorbikes (0.42) (38) : (0.28) (48) : (0.35) (60) = 19:16:25. Hence answer is 3rd option

|  |
| --- |
| **Question 4**  **WRONG** |

**DIRECTIONS for questions 4 to 6:** The pie charts below

represent the popularity of ice-cream flavors in the

state of Gujarat.



In 1995, if 20 % of the “Other” category is mango flavor,

and 4,212 people surveyed preferred mango, then how many

people were surveyed?

|  |  |
| --- | --- |
| A | 1,000 |
|  | 10,000 |
| C | 42,120 |
|  | 100,000 |
| E | 21,060 |

**Question 4 Explanation:**

Other = 4212 x 5 = 21060; Sample = 21060/21.06 x 100 = 100,000. Hence 4.

|  |
| --- |
| **Question 5**  **WRONG** |

If a percentage point shift results in annual additional

sales of Rs. 50,000, how much in Rupees, did combined

annual butter-scotch and chocolate chip sales increase

between 1985 and 1995?

|  |  |
| --- | --- |
|  | Rs. 2,690 |
| B | Rs. 4,650 |
| C | Rs. 29,500 |
| D | Rs. 465,000 |
|  | Rs. 269,000 |

**Question 5 Explanation:**

[(12.54 + 9.88) – (8.81 + 8.23)] x 50 k. Hence 5

|  |
| --- |
| **Question 6**  **WRONG** |

Which of the following can be deduced from the above pie-charts?

1. Both the butterscotch and vanilla percentages increased

by more than 33 % between 1985 and 1995.

2. A higher percentage of people chose butterscotch and

strawberry in 1985 than chose butterscotch and chocolate chip in 1995.

3. The total share of vanilla, chocolate and strawberry

decreased by less than 20 percent from 1985 to 1995.

|  |  |
| --- | --- |
| A | I only |
|  | II only |
|  | III only |
| D | II and III only |
| E | I and II only |

**Question 6 Explanation:**

(I) vanilla decreased II ) Please note that it is butterscotch and chocolate chip. III) 68 to 57, so true. Hence 3

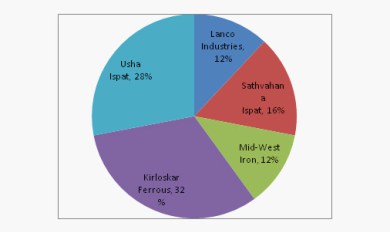
|  |
| --- |
| **Question 7**  **CORRECT** |

**DIRECTIONS for questions 7 & 10:** Refer to the information

given below and answer the questions that follow: **Given the**

**total capacity of the five companies given is 751000**

**tons(Percentage breakup is of capacity)**



|  |  |  |
| --- | --- | --- |
| **Production and the total in 1994-95** | | |
| Name | Production (in tonnes) | Capital cost(Rs. million) |
| Lanco Industries | 31,994 | 540.00 |
| Sathvahana Ispat | 80,759 | 544.92 |
| Mid-West Iron | 63,214 | 399.96 |
| Kirloskar Ferrous | 103,484 | 999.84 |
| Usha Ispat | 194,176 | 844.00 |

Which company had the highest capacity utilisation?

|  |  |
| --- | --- |
| A | Sathavahana ispat |
| B | Mid-west Iron |
|  | Usha Ispat |
| D | Kirloskar Ferrous |

**Question 7 Explanation:**

Capacity utilisation: By observation it has to be Mid west iron or Usha Ispat. Mid west iron ≥ 63214/90000 x 100 = 70% nearly. Usha Ispat 194176 / 211 x 100 = 92% nearly. Hence Usha Ispat is the answer, thus 3rd option.

|  |
| --- |
| **Question 8**  **WRONG** |

Which company had the lowest capital cost per tonne of capacity?

|  |  |
| --- | --- |
| A | Sathavahana Ispat |
| B | Mid-west Iron |
|  | Kirloskar Ferrous |
|  | Usha Ispat |

**Question 8 Explanation:**

Capital cost per tonne of capacity Lanco = 540 x 106 / 90 x 103 = Rs. 6,000. Sathavahana = 544.92 x 106 / 120 x 103 = Rs. 4,374. Mid-west Iron = 399.96 x 106 / 90 x 103 = Rs. 4,449. Kirloskar Ferrous = 999.84 x 106 / 240 x 103 = Rs. 4, 166. Usha Ispat = 884 x 106 / 211 x 103 = Rs. 4,000. Hence Usha Ispat, 4th option.

|  |
| --- |
| **Question 9**  **CORRECT** |

If the given capacity of the five companies account for 87%

of the total capacity in the country, what is the total

capacity in the country?

|  |  |
| --- | --- |
| A | 800 m tonnes |
| B | 900 m tonnes |
|  | 863 m tonnes |
| D | 1000 tonnes |

**Question 9 Explanation:**

Total capacity of the five companies = 751000 tonnes which is 87 % of the country’s production Hence total capacity = 751000/0.87 = 863,000 tonnes nearly

|  |
| --- |
| **Question 10**  **CORRECT** |

What is the capacity utilization of the company, which

has the highest capacity?

|  |  |
| --- | --- |
| A | 70% |
| B | 66% |
|  | 43% |
| D | 91% |

**Question 10 Explanation:**

Highest Capacity is of Kirloskar Ferrous = 240 x 103 Its capacity utilisation = (103484/ 240 x 103) x 100 = 43%

## Permutation and Combination Questions Infosys

## Quants Permutations & Combinations I: 1

|  |
| --- |
| **Question 1**  **WRONG** |

6 members have to be selected from different field.10 from java,

5 from Microsoft,8 from Oracle,2 from IBM.

What is the possible combination?

|  |  |
| --- | --- |
| A | 5 |
| B | 120 |
|  | 12880 |
| D | 25 |
|  | 168000 |

**Question 1 Explanation:**

10C1\*5C1\*8C1\*2C1\*21C2=168000

IN EVERY FIELD ONE MEMBER IS SELECTED AND IN REMAINING 21 WE SELECT 2 MEMN=BER.

|  |
| --- |
| **Question 2**  **CORRECT** |

99! how many zero's?

|  |  |
| --- | --- |
| A | 19 |
| B | 31 |
| C | 14 |
|  | 22 |

**Question 2 Explanation:**

no. of zero’s means check what are the total no. of factors of 2 and 5 when no.

is divided by both….consider lowest no. of factors

i.e. 99/2=49,,,,49/2=24,,,,24/2=12,,,,12/2=6,,,,6/2=3,,,3/2=1…..therefore total no. of factors of 2=49+24+12+6+3+1=95

now 99/5=19,,,19/5=3…..therefore total

no. of factors =19+3=22

now take lowest one….so 22 no. of zero’s in 99!

|  |
| --- |
| **Question 3**  **WRONG** |

In how many different ways can 5 girls and 5 boys form a circle

such that the boys and the girls alternate?

|  |  |
| --- | --- |
|  | 2880 |
|  | 1400 |
| C | 1200 |
| D | 32 |

**Question 3 Explanation:**

five girls can be seated in circle in (5-1)! ways=4!=24

remaining boys

can be placed in 5! ways=120

total ways =120\*24=2880

|  |
| --- |
| **Question 4**  **WRONG** |

If a die has 1 6 and 3 4 and 2 5 opposite each other how many

such dies can be made

|  |  |
| --- | --- |
|  | 12 |
|  | 24 |
| C | 18 |
| D | 36 |

**Question 4 Explanation:**

ans 12

if one face have 1,3,2, then the crossponding face will be occupied

by respective pair i.e (6,4,5).

so there r 3 place and we have 3 place soit can be arranged in 3! way

i.e 6 way and every pair will be suffled in 2 way so ans will be6\*2=12.

|  |
| --- |
| **Question 5**  **WRONG** |

7 members have to be selected from 12 men and 3 women,

Such that no two women can come together.

In how many ways we can select them?

|  |  |
| --- | --- |
|  | 12c6\*3c1 + 12c7 |
| B | 12c7 |
| C | 12c6\*3c1 |
|  | None |

**Question 5 Explanation:**

since no two women can come together,therfore women can be

selected in 3c1 ways …and men will be chosen in 12c6 so to

complete the 7 group members…

=12c6\*3c1

and only selection of men also possible = 12c7so final ans : 12c6\*3c1 + 12c7

|  |
| --- |
| **Question 6**  **WRONG** |

In how ways were team of four can be formed from four boys and

three girls such that at least one boy and one girl should be there?

|  |  |
| --- | --- |
| A | 120 |
| B | 64 |
|  | 20 |
|  | 34 |

**Question 6 Explanation:**

34 waysOne boy and one girl can be selected as (one boy & three girls) or

(two boys & two girls) or (three boys & one girl)=

(4C1\*3C3)+(4C2\*3C2)+(4C3\*3C1)=4+18+12=34

|  |
| --- |
| **Question 7**  **CORRECT** |

Find the number of different meals of 4 items that you can get

from the given menu of 6 items and no need to choose different items.

|  |  |
| --- | --- |
| A | a) 120 |
| B | b) 126 |
| C | c) 5040 |
|  | d) 15 |

**Question 7 Explanation:**

total item : 6

we can select : 4thus -> 6C4 which = 6C2

:: 6\*5/ 2\*1 = 15

|  |
| --- |
| **Question 8**  **WRONG** |

In how many ways can 4 men and 3 women can arrange with a condition

that each men should not sit together and they must be in the

order of their age.

|  |  |
| --- | --- |
| A | a) 210 |
| B | b) 5040 |
|  | c) 120 |
| D | d) none of these |
|  | Answer either None of these or 210(a) |

**Question 8 Explanation:**

d)none of these

4 men can take 4 position which can be done in 4!

and women

can be sit in 3! ways so 4!\*3!orGiven that the total number of people = 7

First we select 4 positions for the men to occupy.

These positions could be chosen in 7C4 ways = 7!/4!(7-4)! =

(1 x 2 x … x 7)/(1 x 2 x 3 x 4)(1 x 2 x 3)

= (5 x 6 x 7)/(1 x 2 x 3)

= 35 ways.This leaves 3 positions for the women, and the women can

be rearranged amongst themselves in 3! ways = 6 ways.

The men, of course, can be in only one order amongst themselves,

so the overall number of ways they could line up is given by

35 x 6 = 210 ways.

Hence, the answer is 210

|  |
| --- |
| **Question 9**  **WRONG** |

we need to carve out 125 identical cubes from a cube .

what is the minimum number of cuts needed?

|  |  |
| --- | --- |
| A | 16 |
| B | 25 |
|  | 5 |
|  | 12 |

**Question 9 Explanation:**

as Cube has 3 dimensions i.e L,B,Hnow 1 cut on any side divide cube into 2 partssimilarly 4 cuts on any side ( say on L) will divide it in 5 Parts

Hence 4 cuts on B will make ( 5\*5 =25 parts ) and 4 cuts on

H ( 5\*5\*5 = 125 )

Therefore

4+4+4 =12 cuts required

|  |
| --- |
| **Question 10**  **WRONG** |

We need to carve out 125 identical cubes from a cube .

what is the minimum number of cuts needed?

|  |  |
| --- | --- |
| A | 16 |
|  | 25 |
| C | 5 |
|  | 12 |

**Question 10 Explanation:**

as Cube has 3 dimensions i.e L,B,Hnow 1 cut on any side divide cube into 2 partssimilarly 4 cuts on any side ( say on L) will divide it in 5 Parts

Hence 4 cuts on B will make ( 5\*5 =25 parts ) and 4 cuts on.

H ( 5\*5\*5 = 125 )

Therefore

4+4+4 =12 cuts required

|  |
| --- |
| **Question 11**  **CORRECT** |

In a cycle race there are 5 persons named as J, K, L, M, N

participated for 5 positions so that in

how many number of ways can M make always before N?

|  |  |
| --- | --- |
| A | 24 |
| B | 120 |
|  | 60 |
| D | 720 |

## Quants Permutations & Combinations I: 2

|  |
| --- |
| **Question 1**  **CORRECT** |

There are 6 boxes numbered 1, 2,...6. Each box is to be

filled up either with a red or a green ball in such a way

that at least 1 box contains a green ball and the boxes

containing green balls are consecutively numbered.

The total number of ways in which this can be done is

|  |  |
| --- | --- |
| A | 5 |
|  | 21 |
| C | 33 |
| D | 60 |

**Question 1 Explanation:**

As far as the question is concerned: If there is one box that contains a green ball then there will be 6 ways to do it: 1, 2, 3, 4, 5, or 6If there are two boxes that contain green ball(s) then there will be 5 ways to do it: (1,2) (2,3) (3,4) (4,5) or (5,6)If there are three boxes that contain green ball(s) then there will be 4 ways to do it: (1,2,3) (2,3,4) (3,4,5) or (4,5,6)If there are four boxes that contain green ball(s) then there will be 3 ways to do it: (1,2,3,4) (2,3,4,5) or (3,4,5,6)If there are five boxes that contain green ball(s) then there will be 2 ways to do it: (1,2,3,4,5) or (2,3,4,5,6)If there are six boxes that contain green ball(s) then there will be 1 way to do it: (1,2,3,4,5,6)So in total 1+2+3+4+5+6 = 21 ways Hence, answer B

|  |
| --- |
| **Question 2**  **CORRECT** |

In how many ways can 7 different balls be distributed in

5 different boxes if any box can contain any number of

balls and no box is left empty?

|  |  |
| --- | --- |
|  | 16800 |
| B | 12400 |
| C | 22000 |
| D | 19700 |

**Question 2 Explanation:**

Since no box can be left empty, there can be only two cases.Case A: 1,1,1,1,3 (i.e., 3 balls are put in 1 box and 1 ball is put in each of the remaining 4 boxes.)A box (in which 3 balls are put) can be selected in 5C1 ways. Now, the three balls can be selected in 7C3 ways. Remaining 4 balls can be arranged in 4! ways.Hence, total number of ways = 5C1 × 7C3 × 4! …(A)Case B: 1,1,1,2,2(i.e., two balls are put in each of the two boxes and 1 ball is put in each of the remaining 3 boxes.)The two boxes (in each of them, two balls are put) can be selected in 5C2 ways. Now, two balls for the first selected box can be selected in 7C2 ways. Two balls for the second selected box can be selected in 5C2 ways. Remaining 3 balls can be arranged in 3! waysHence, total number of ways = 5C2 × 7C2 × 5C2 × 3! …(B)From (A) and (B), Required number of ways = (5C1 × 7C3 × 4!) + (5C2 × 7C2 × 5C2 × 3!) =(5×35×24)+(10×21×10×6)=4200+12600=16800

|  |
| --- |
| **Question 3**  **WRONG** |

In how many ways can 7 different balls be distributed in 5 different

boxes if box 3 and box 5 can contain only one and two number of

balls respectively and rest of the boxes can contain any number

of balls?

|  |  |
| --- | --- |
|  | 10100 |
| B | 6200 |
|  | 8505 |
| D | 12800 |

**Question 3 Explanation:**

One ball for box 3 can be selected in 7C1 ways. Two balls for box 5 can be selected in 6C2 ways.Remaining balls = 4 Remaining boxes = 3In these 4 balls, 1st ball can be put in any of these 3 boxes. Similarly 2nd ball can be put in any of these 3 boxes. 3rd ball can be put in any of these 3 boxes. 4th ball can be put in any of these 3 boxes.i.e., these 4 balls can be arranged in 3×3×3×3=34 waysRequired number of ways = 7C1 × 6C2 ×34×34=7×15×81=8505

|  |
| --- |
| **Question 4**  **WRONG** |

Five balls need to be placed in three boxes. Each box can hold

all the five balls. In how many ways can the balls be placed

in the boxes so that no box remains empty If all balls and

boxes are identical but the boxes are placed in a row?

|  |  |
| --- | --- |
|  | 2 |
| B | 4 |
|  | 6 |
| D | 1 |

**Question 4 Explanation:**

Here, the balls and boxes are identical. But the boxes are placed in a row. Hence, we need to consider the boxes as distinct.Therefore, this should be treated as a problem where balls are identical and boxes are distinct. Now it can be solved in any of the following ways.

|  |
| --- |
| **Question 5**  **WRONG** |

In how many ways can 10 software engineers and 10 civil engineers

be seated around a round table so that they are positioned alternatively?

|  |  |
| --- | --- |
| A | 9! × 10! |
|  | 10! × 10! |
|  | 2 × (10!)^2 |
| D | 2 × 9! × 10! |

**Question 5 Explanation:**

10 civil engineers can be arranged in a row in 10! ways …(A)Now we need to arrange software engineers such that software engineers and civil engineers are seated alternatively. i.e., we can arrange 10 software engineers either in the 10 positions marked as A,B,C,D,E,F,G,H,I,J or in the 10 positions marked as B,C,D,E,F,G,H,I,J,K Explanation 10 software engineers can be arranged in the 10 positions marked as A,B,C,D,E,F,G,H,I,J in 10! ways.10 software engineers can be arranged in the 10 positions marked as B,C,D,E,F,G,H,I,J,K in 10! ways.10 software engineers can be arranged in the 10 positions marked as A,B,C,D,E,F,G,H,I,J or in the 10 positions marked as B,C,D,E,F,G,H,I,J,K in 10!+10!=2×10! ways …(B)From (A) and (B), required number of ways =10!×(2×10!)=2×(10!)^2

|  |
| --- |
| **Question 6**  **WRONG** |

A box contains 20 balls. In how many ways can 8 balls be selected

if each ball can be repeated any number of times?

|  |  |
| --- | --- |
|  | 20C7 |
| B | None of these |
| C | 20C8 |
|  | 27C8 |

**Question 6 Explanation:**

Number of combinations of n distinct objects taking r at a time when each object may be repeated any number o f times = (n+r-1)Cr

|  |
| --- |
| **Question 7**  **CORRECT** |

In a chess competition involving some boys and girls,every

student had to play exactly one game with every other student.

It was found that in 45 games both the players were girls,

and in 190 games both were boys.Then in how many number of

games there was one player boy and the other was a girl?

|  |  |
| --- | --- |
| A | 40 |
|  | 200 |
| C | 180 |
| D | 120 |

**Question 7 Explanation:**

200 games there was one player boy and the other was a girl.Let n = No. of boys And m = No. of girlsBoys played :–> nc2 = 190 = n(n-1)/2 –> n(n-1) = 190\*2 –> n(n-1) = 380 –> n = 20Girls played :–> mc2 = 45 = m(m-1)/2 –> m(m-1) = 45\*2 –> m(m-1) = 90 –> m = 10Number of games between only one boy and one girl = nc2\*mc2 = 10\* 20= 200

|  |
| --- |
| **Question 8**  **WRONG** |

There are 12 intermediate stations between two places A and B.

Find the number of ways in which a train can be made to stop

at 4 of these intermediate stations so that no two stopping

stations are consecutive?

|  |  |
| --- | --- |
|  | 108 |
| B | 112 |
|  | 126 |
| D | 140 |

**Question 8 Explanation:**

Initially, let’s remove the 4 stopping stations. Then we are left with 8 non-stopping stations (=12-4) as shown below. Explanation to Problem on Permutations and Combinations (non-stopping stations are marked as 1,2 … 8)Now there are 9 positions (as marked by \* in the above figure) to place the 4 stopping stations such that no two stopping stations are consecutive. This can be done in 9C4 ways.Hence, required number of ways = 9C4

|  |
| --- |
| **Question 9**  **CORRECT** |

There are 6 boxes numbered 1,2,...,6. Each box needs to be filled up

either with a red or a blue ball in such a way that at least

1 box contains a blue ball and the boxes containing blue balls

are consecutively numbered. The total number of ways in which

this can be done is

|  |  |
| --- | --- |
| A | 24 |
| B | 23 |
|  | 21 |
| D | 18 |

**Question 9 Explanation:**

Case 1: Exactly one box contains a blue ballOne blue ball can be placed into any of the 6 boxes. i.e, 6 ways of doing this.Red balls can be filled in the remaining boxes. Since red balls are identical, there is only 1 way of doing this.Total number of ways =6×1=6Case 2: Exactly two boxes contain blue balls Two blue balls can be placed into (box 1 and box 2) or (box 2 and box 3) or (box 3 and box 4) or (box 4 and box 5) or (box 5 and box 6). i.e, 5 ways of doing this.Red balls can be filled in the remaining boxes. Since red balls are identical, there is only 1 way of doing this.Total number of ways =5×1=5Case 3: Exactly three boxes contain blue ballsThree blue balls can be placed into (box 1 , box 2 and box 3) or (box 2, box 3 and box 4) or (box 3 , box 4 and box 5) or (box 4, box 5 and box 6). i.e, 4 ways of doing this.Red balls can be filled in the remaining boxes. Since red balls are identical, there is only 1 way of doing this.Total number of ways =4×1=4Case 4: Exactly four boxes contain blue ballsFour blue balls can be placed into (box 1 , box 2, box 3 and box 4) or (box 2, box 3, box 4 and box 5) or (box 3 , box 4, box 5 and box 6). i.e, 3 ways of doing this.Red balls can be filled in the remaining boxes. Since red balls are identical, there is only 1 way of doing this.Total number of ways =3×1=3Case 5: Exactly five boxes contain blue ballsFive blue balls can be placed into (box 1, box 2, box 3, box 4 and box 5) or (box 2, box 3, box 4, box 5 and box 6). i.e, 2 ways of doing this.Red balls can be filled in the remaining boxes. Since red balls are identical, there is only 1 way of doing this.Total number of ways =2×1=2Case 6: All the six boxes contain blue balls Six blue balls can be placed into (box 1 , box 2, box 3, box 4, box 5 and box 6). i.e, only 1 way of doing this.Total number of ways = 1Hence, required number of ways =6+5+4+3+2+1=21

|  |
| --- |
| **Question 10**  **WRONG** |

There are three places P, Q and R such that 3 roads connect P

and Q and 4 roads connects Q and R. In how many ways can one

travel from P to R?

|  |  |
| --- | --- |
|  | 8 |
| B | 101 |
|  | 12 |
| D | 14 |

**Question 10 Explanation:**

Number of ways in which one can travel from P to R =3×4=12

## Quants Permutations & Combinations I- 4

|  |
| --- |
| **Question 1** |

A set of football matches is to be organized in a "round-robin"

fashion, i.e., every participating team plays a match against

every other team once and only If 21 matches are totally played,

how many teams participated?

|  |  |
| --- | --- |
| A | 6 |
| B | 9 |
| C | 8 |
| D | 7 |

**Question 1 Explanation:**

et us assume there are x teams then Team1 will play – (x-1) matches Team 2 will play- (x-2) Team 3 will play –(x-3) ………………………… ………………………… Team x-2 will play -2 matches Team x-1 will play –1match Team x will play – 0 matches Therefore,Total matches=1+2+3+4+……………+(x-1) =>x(x-1)/2=21 (since total matches=21) =>x= 7 (or) x=-6 No of teams cannot be –ve , X=7

|  |
| --- |
| **Question 2**  **WRONG** |

There are 16 hockey teams. find : Number of matches when

knockout of 16 team is to be played?

|  |  |
| --- | --- |
| A | 14 |
|  | 15 |
| C | 16 |
|  | 17 |

**Question 2 Explanation:**

(1)one team plays with 15 teams twice ie,1\*15\*2 16 teams plays with 15 teams twice= 16\*15\*2 (2)one team plays with 15 teams once ie,1\*15\*1 16 teams plays with 15 teams once= 16\*15\*1 (3)8+4+2+1=15

|  |
| --- |
| **Question 3**  **WRONG** |

15 tennis players take part in a tournament. Every player plays

twice with each of his How many games are to be played?

|  |  |
| --- | --- |
| A | 190 |
| B | 200 |
|  | 210 |
|  | 220 |

**Question 3 Explanation:**

15 th player can play with remaining 14 members two times = 2\*14=28 14 th ” remaining 13= 2\*13=26 2\*(1+2+3+4+……+14)=2(14)(14+1)/2=210

|  |
| --- |
| **Question 4**  **WRONG** |

If a refrigerator contains 12 cans such that 7 blue cans and

5 red cans. In how many ways can we remove 8 cans so that

atleast 1 blue can and 1 red can remains in the refrigerator?

|  |  |
| --- | --- |
| A | 450 |
|  | 455 |
|  | 544 |
| D | 500 |

**Question 4 Explanation:**

possible draw 8 balls and in refrigirator contains atleast 1 blue and 1 red ball are (6,2) (5,3) (4,4)6 2—->7c6\*5c2—>7\*10=70 5 3—->7c5\*5c3—>21\*10=210 4 4—->7c4\*5c4—>35\*5=17570+210+175=455ANS=455

|  |
| --- |
| **Question 5**  **WRONG** |

In a cycle race there are 5 persons named as J, K, L, M, N

participated for 5 positions so that in how many number of ways

can M make always before N?

|  |  |
| --- | --- |
|  | 60 |
| B | 70 |
|  | 80 |
| D | 90 |

**Question 5 Explanation:**

m is always before n it means not only beside may be like this 3! is for arranging jkl m—- 4 positions for n so 4(3!) -m— 3 positions for n so 3(3!) –m– 2 positions for n so 2(3!) —m- 1 position for n so 1(3!)so 3!(1+2+3+4)=60 ways

|  |
| --- |
| **Question 6**  **CORRECT** |

There are 16 people, they divide into four groups, now from

those four groups select a team of three members, such that no

two members in the team should belong to same group.

|  |  |
| --- | --- |
|  | 256 |
| B | 245 |
| C | 287 |
| D | 265 |

**Question 6 Explanation:**

4c1\*4c1\*4c1\*4c3=256 (4c3 means we can select any 3 teams from four teams and each one from each team)

|  |
| --- |
| **Question 7**  **WRONG** |

Tennis players take part in a Every player plays twice with

each of his opponents. How many games are to be played?

|  |  |
| --- | --- |
|  | 254 |
| B | 287 |
| C | 266 |
|  | 210 |

**Question 7 Explanation:**

Let’s consider a case where we have 3 players (A,B,C) and every player need to play with the other twice. A: plays with B & C B: Plays with A & C C: Plays with A & BIn the above cases, A plays with B is same as B plays with A. So it is counted as two times playing (i.e they are playing against each other twice.)so 3\*2 = 6 gamesSimilarly for 15 persons, its 15\*14 = 210

|  |
| --- |
| **Question 8**  **WRONG** |

How many ways can one arrange the word EDUCATION such that a

relative position of vowels and consonants remains same?

|  |  |
| --- | --- |
|  | 2884 |
|  | 2880 |
| C | 2886 |
| D | 2889 |

**Question 8 Explanation:**

here total vowel = 5 so they can arrange in 5! ways and constant= 4 so they can arrange in 4! ways so total no of ways= 5! X 4!=2880

|  |
| --- |
| **Question 9**  **WRONG** |

There are 8 digits and 5 alphabets. In how many ways can you

form an alphanumeric word using 3 digits and 2 alphabets?

|  |  |
| --- | --- |
|  | 12984 |
| B | 23433 |
|  | 43200 |
| D | 23412 |

**Question 9 Explanation:**

Select 3 digits from 8 digits i. e., 8C3 ways And also select 2 alphabets from 5 alphabets i.e.,5C2 ways Now to form a alphanumeric word of 5 characters we have to arrange the 5 selected digits. So the answer is (8C3\*5C2)\*5!=43200

|  |
| --- |
| **Question 10**  **WRONG** |

A college has 10 basketball players. A 5-member team and a

captain will be selected out of these 10 How many different

selections can be made?

|  |  |
| --- | --- |
|  | 1260 |
| B | 210 |
|  | 10C6 \* 6! |
| D | 10C5 \* 6 |

**Question 10 Explanation:**

A team of 6 members has to be selected from the 10 players. This can be done in 10C6 or 210 ways.Now, the captain can be selected from these 6 players in 6 ways. Therefore, total ways the selection can be made is 210×6= 1260

## Quants Permutations & Combinations I- 5

|  |
| --- |
| **Question 1** |

there are 6 credit cards and 4 debit cards.In how many ways

5 credit cards and 3 debit cards can be selected?

|  |  |
| --- | --- |
| A | 24 |
| B | 25 |
| C | 30 |
| D | 36 |

**Question 1 Explanation:**

6c5\*4c3=6\*4=24

|  |
| --- |
| **Question 2** |

6 members have to be selected from different field.10 from java,

5 from microsoft,8 from oracle,2 from IBM .What is the

possible combination?

|  |  |
| --- | --- |
| A | 25C5 |
| B | 25C6 |
| C | 35C5 |
| D | none |

**Question 2 Explanation:**

Members to be selected is 6 10+5+8+2=25 Answer:25C6

|  |
| --- |
| **Question 3**  **CORRECT** |

if a die has 1 6 and 3 4 and 2 5 opposite each other how many such dies can be made

|  |  |
| --- | --- |
|  | 12 |
| B | 14 |
| C | 26 |
| D | 45 |

**Question 3 Explanation:**

if one face have 1,3,2, then the crossponding face will be occupied by respective pair i.e (6,4,5). so there r 3 place and we have 3 place soit can be arranged in 3! way i.e 6 way and every pair will be suffled in 2 way so ans will be6\*2=12.

|  |
| --- |
| **Question 4**  **WRONG** |

7 members have to be selected from 12 men and 3 women ,

Such that no two women can come together. In how many ways

we can select them ?

|  |  |
| --- | --- |
|  | 3 |
|  | 2 |
| C | 4 |
| D | 7 |

**Question 4 Explanation:**

12C6\*3C1+12C7 gives us the correct ans..where C represents Combination.. In a team only one woman is allowed so only two combinations.

|  |
| --- |
| **Question 5**  **WRONG** |

Find the number of different meals of 4 items that you can

get from the given menu of 6 items and no need to choose different items.

|  |  |
| --- | --- |
| A | 120 |
| B | 126 |
|  | 5040 |
|  | 15 |

**Question 5 Explanation:**

total item : 6 we can select : 4thus -> 6C4 which = 6C2 :: 6\*5/ 2\*1 = 15

|  |
| --- |
| **Question 6**  **CORRECT** |

In how many ways can 4 men and 3 women can arrange with a

condition that each men should not sit together and they

must be in the order of their age.

|  |  |
| --- | --- |
|  | 210 |
| B | 5040 |
| C | 120 |
| D | none |

**Question 6 Explanation:**

Given that the total number of people = 7 First we select 4 positions for the men to occupy. These positions could be chosen in 7C4 ways = 7!/4! (7-4)! = (1 x 2 x … x 7)/(1 x 2 x 3 x 4)(1 x 2 x 3) = (5 x 6 x 7)/(1 x 2 x 3) = 35 ways.This leaves 3 positions for the women, and the women can be rearranged amongst themselves in 3! ways = 6 ways. The men, of course, can be in only one order amongst themselves, so the overall number of ways they could line up is given by 35 x 6 = 210 ways.

|  |
| --- |
| **Question 7**  **CORRECT** |

A shop has 4 shelf, 3 wardrobes, 2 chairs and 7 tables for sell.

You have to buy

a. 1 shelf

b. 1 wardrobe

c. either 1 chair or 1 table

How many selection can be made?

|  |  |
| --- | --- |
| A | 12 |
|  | 108 |
| C | 122 |
| D | 98 |

**Question 7 Explanation:**

4c1\*3c1\*(2c1+7c1)=4\*3\*9=108

|  |
| --- |
| **Question 8**  **WRONG** |

In how many ways can the letters in mmmnnnppqq can be

arranged with two n's together?

|  |  |
| --- | --- |
| A | 7690 |
| B | 4580 |
|  | 7560 |
|  | none |

**Question 8 Explanation:**

since 2 n’s are to be considered as one entity now, we have 9 letters out of which we have to select 9 and arrange them selecting and arranging 9= 9C9 x 9! / 3! x 2! x 2! x 2!= 7560

|  |
| --- |
| **Question 9**  **WRONG** |

How many such letter-pairs are there in the word BONAFIDE having

same number of letters left between them as they have in the series?

|  |  |
| --- | --- |
| A | 2 |
|  | 3 |
|  | 4 |
| D | 1 |

**Question 9 Explanation:**

1 pair is A(FI)D in BONAFIDE = A(BC)D in series… both have two letters between A & D.. 1 pair is A(FID)E in BONAFIDE= A(BCD)E in series., both have three letters between A and E. 1 pair is NO 1 pair is DE so total pair no is 1+1+1+1=4 pair

|  |
| --- |
| **Question 10**  **WRONG** |

How many such letter-pairs are there in the word SERVANT having

the same no. of letters left between them in the word as

they have in the series?

|  |  |
| --- | --- |
| A | 2 |
|  | 3 |
|  | 4 |
| D | 5 |

**Question 10 Explanation:**

SERVANT consider S & V there are 2 letters between them in the given order ie) S”+e r+”V similarly check in the alphabet Order between S& v there are 2 letters ie) S”+ T U+” V so we conclude that there are 2 letters between and we have to check for similar arrangements from the given word

## Quants Permutations & Combinations I- 6

|  |
| --- |
| **Question 1**  **WRONG** |

If all the possible words using the letters of the word

‘SMART’ are formed without repetition and arranged in

alphabetical order, what will be the position of the word ‘MASRT’?

|  |  |
| --- | --- |
|  | 27 |
|  | 37 |
| C | 30 |
| D | 38 |

**Question 1 Explanation:**

Ascending order of ‘SMART’ = AMRST Keeping A as constant remaining letters can be arranged in 4! ways = 24 -MARST -MARTS -MASRT

|  |
| --- |
| **Question 2**  **CORRECT** |

What is the probability that Kavi while randomly placing 3 keys

(each intended for a particular lock) in 3 different key chains

will use exactly one of those keys wrongly to unlock a particular lock?

|  |  |
| --- | --- |
| A | 1/3! |
| B | 1/3! |
| C | 1/3 |
| D | 0 |
|  | wrong |

**Question 2 Explanation:**

If one key is wrong then obviously the other will also go wrong. So exactly one going wrong is not possible.

|  |
| --- |
| **Question 3**  **WRONG** |

A coin is tossed 3 times. Find the probability of getting

at least two heads?

|  |  |
| --- | --- |
| A | 3/4 |
| B | 5/8 |
|  | 1/2 |
|  | 3/8 |

**Question 3 Explanation:**

Total events when a coin is tossed 3 times = 2 Favourable events = (Getting at least two heads) = {HHT, HTH, THH, HHH} = 4 Probability = 4/8 = 1/2

|  |
| --- |
| **Question 4**  **CORRECT** |

The probability that Suresh team will win the match is 30%

and the probability that his friend Siva team will win the

match is 70%. What is the probability that exactly one of

them will win the match?

|  |  |
| --- | --- |
| A | 78% |
|  | 58% |
| C | 50% |
| D | 37.5% |

**Question 4 Explanation:**

Probability of Suresh team will win = 30% = 0.30 Probability of Siva team will win = 70% = 0.70 Probability of Siva team will lose = 100% – 70% = 30% = 0.30 P( One of them winning) = P(Suresh winning and Siva losing) + P(Siva winning and Suresh losing) = (0.3 X 0.3) + (0.7 X 0.7) = 0.58 = 58%

|  |
| --- |
| **Question 5**  **WRONG** |

From a bag with 6 Sandisk, 5 HP, 4 Transcend pen drives.

What is the probability that all the 2 selected pen drives

are Sandisk?

|  |  |
| --- | --- |
| A | 1/9 |
|  | 1/21 |
|  | 1/7 |
| D | none |

**Question 5 Explanation:**

Total events = (Selecting two out of 6 + 5 + 4) = Favourable events = (both of them are scandisk) = 6C2 Probability= 6c2/15c2=1/7

|  |
| --- |
| **Question 6**  **WRONG** |

Find the sum of all 4 - digit numbers formed by taking all

the digits 1,2,5,7?

|  |  |
| --- | --- |
| A | 99099 |
|  | 99990 |
|  | 99900 |
| D | 99909 |

**Question 6 Explanation:**

Keeping 7 as constant we can arrange the remaining three numbers in 6 ways.(i.e)7 repeats 6 times. Likewise, 5, 2, 1 each repeat 6 times. Therefore unit digits sum = (7 x 6) + (5 x 6) + (2 x 6) + (1 x 6) = 90 10’s place also sum will be 90, and so on Therefore sum = 90(1000 + 100 + 10 + 1) = 90(1111) = 99990 Using the shortcut (Without Repetition), where ‘n’ is the number of digits So, (4-1)! \* (1+2+5+7) \* 1111 = 99990

|  |
| --- |
| **Question 7**  **WRONG** |

If all the possible words using the letters of the word ‘CART’

are formed without repetition and arranged in alphabetical order,

what will be the position of the word ‘CTRA’?

|  |  |
| --- | --- |
|  | 12 |
| B | 14 |
|  | 10 |
| D | 6 |

**Question 7 Explanation:**

The word CART can be arranged alphabetically as ACRT keeping ‘A’ as constant remaining letters can be arranged in 3! = 6 ways 7th – CART 8th – CATR 9th – CRAT 10th – CRTA 11th – CTAR 12th – CTRA

|  |
| --- |
| **Question 8**  **WRONG** |

If two different numbers are randomly selected from the

first 8 natural numbers, what is the probability that the

sum of the selected numbers will be multiple of 3?

|  |  |
| --- | --- |
| A | 5/43 |
| B | 9/28 |
|  | 2/45 |
| D | 1/45 |
|  | 5/14 |

**Question 8 Explanation:**

Total events (selecting 2 out of 8) = 8c2 Favourable event (getting a multiple of 3) = (1,2), (1,5), (1,8), (2,4), (3,6), (4,5), (4,8), (5,7), (7,2), (7,8) = 10 Probability = 10/28 = 5/14

|  |
| --- |
| **Question 9**  **WRONG** |

22 students attended a party where every student has to dance

with every other student. How many pair dances will be possible?

|  |  |
| --- | --- |
| A | 178 |
|  | 153 |
| C | 194 |
|  | 231 |

**Question 9 Explanation:**

22c2==(22\*21)/2 231

|  |
| --- |
| **Question 10**  **WRONG** |

The number of ways of providing 6 different flowers among 4 pairs

of lovers (P,Q,R,S) such that P and Q gets 1 flower each

and R and S get 2 flowers each is

|  |  |
| --- | --- |
| A | 6! / (2!\*6!) |
|  | 180 |
| C | 6! / (4\*2) |
|  | 6c4 |

**Question 10 Explanation:**

The number of ways in which it can be distributed=6\*5\*4C2 \*2C2=180

## Quants Probability

## Quants Probability I: 1

|  |
| --- |
| **Question 1** |

Two dice are thrown simultaneously. What is the probability that the

sum of the numbers shown on the two dices will be a prime number?

|  |  |
| --- | --- |
| A | 17/36 |
| B | 1/2 |
| C | 15/36 |
| D | 7/18 |

**Question 1 Explanation:**

number of sample solution=36

number of possible outcomes=(1,1),(1,2),(1,4),(1,6),(2,1),(2,3),(2,5),

(3,2)(3,4)(4,1)(4,3)(5,2)(5,6)(6,1)(6,5)=15

p=15/36

|  |
| --- |
| **Question 2**  **WRONG** |

There are 4 baskets. The first basket has 3 apples and 4 oranges,

the second one has 4 apples and 5 mangoes, the third one has

6 Mangoes and 2 bananas and the last one has 7 bananas and 2 apples.

If a fruit is randomly chosen from any basket and

it comes out to be an apple,

then what is the probability that it was taken out from the

second basket?

|  |  |
| --- | --- |
| A | 18/69 |
| B | 28/41 |
|  | 45/69 |
|  | 28/69 |

**Question 2 Explanation:**

P(A|1)=3/7

P(A|2)=4/9

P(A|3)=0/8

P(A|4)=2/9Hence event 1,2,3,4 are the partitions of the sample space.The probability of choosing an apple, by the law of total probability

P(A)=P(A|1)P(1)+P(A|2)P(2)+P(A|3)P(3)+P(A|4)P(4)

=3/7\*1/4+4/9\*1/4+0/8\*1/4+2/9\*1/4

=23/84By Baye’s theorem,

P(2|A)=P(A|2)\*P(2)/P(A)

=4/9\*(1/4)/(23/84)

=28/69

|  |
| --- |
| **Question 3**  **WRONG** |

3 persons are standing at the middle of edges of a Triangle.

All the 3 persons starts moving at same time with

same speed in random direction

What is the probability of meeting at least 2 persons?

|  |  |
| --- | --- |
|  | 2/3 |
| B | 1 |
| C | 1/4 |
|  | 3/4 |

**Question 3 Explanation:**

answer will be 3/4 as total no. of cases of possible moves=8

from this in 2 case their will not be collision(all anti clock or all clock wise)so,p=(8-2)/8=3/4No. of events will be 8.

This is because the person can move either inside or outside the triangle.

And the no. of favorable events will be 6. This is because we want

at least 2 person to meet and we have total 3 person, so 2×3 = 6Probability = 6/8 = 3/4

Ans= 3/4

|  |
| --- |
| **Question 4**  **WRONG** |

There is a school were 60% are girls and 35% of the girls are poor.

Students are selected at random, what is the probability

of selecting a poor girl out of total strength?

|  |  |
| --- | --- |
| A | 14/39 |
| B | 35/100 |
|  | 21/100 |
|  | 22/45 |

**Question 4 Explanation:**

Let take 100 students

outoff 100 60 are girls

among girls poor girls are =35% 0f 60=21

pbt of selecting poor girl in total strength=21/100

|  |
| --- |
| **Question 5**  **WRONG** |

What is the probability of drawn an ace or a space or both from

a dew of cards.

|  |  |
| --- | --- |
|  | 13/52 |
| B | 26/52 |
|  | 16/52 |
| D | 16/50 |

**Question 5 Explanation:**

There are 13 spades in a standard deck of cards.There are four aces in a standard deck of cards.One of the aces is a spade.So, 13 + 4 – 1 = 16 spades or aces to choose from.Since we have a total of 52 cards, the probability of selecting an ace

or a spade is 16 / 52.

|  |
| --- |
| **Question 6**  **CORRECT** |

You are given three coins: one has heads on both faces,

the second has tails on both faces,

and the third has a head on one face and a tail on the other.

You choose a coin at random and

toss it, and it comes up heads.

The probability that the other face is tails is

|  |  |
| --- | --- |
| A | (A) 1/4 |
|  | (B) 1/3 |
| C | (C) 1/2 |
| D | (D) 2/3 |

**Question 6 Explanation:**

ans = 1/3

becoz ther is only one chance to get tail on other side of coin,

amnog three coins,according to the

question

|  |
| --- |
| **Question 7**  **CORRECT** |

In a horse racing competition, there were 18 numbered 1 to 18.

The organizers assigned a probability of winning the race to each

horse based on horses health and training the probability that

horse one would win is 1/7, that 2 would win is 1/8, and that 3 would

win is 1/7.Assuming that tie is impossible.

Find the chance that one of these three will win the race?

|  |  |
| --- | --- |
| A | 22/392 |
| B | 1/392 |
|  | 23/56 |
| D | 391/392 |

**Question 7 Explanation:**

CORRECT ANSWER IS 23/56

HORSE 1: 1/7 WINNING PROBABILITY

HORSE 2: 1/8 WINNING PROBABILITY

HORSE 3: 1/7 WINNING PROBABILITY

ONE OF THESE WIN THE RACE:

=> 1/7 + 1/8 + 1/7

=> 8/56 +7/56 + 8/56 (TAKING LCM)

=> 23/56

|  |
| --- |
| **Question 8**  **CORRECT** |

There are 1000 junior and 800 senior students in a class.

And there are 60 sibling pairs where each pair has 1 junior

and 1 senior.1 student is chosen from senior and 1 from junior

randomly.

What is the probability that the two selected students are

from a sibling pair?

|  |  |
| --- | --- |
|  | 7140/800000 |
| B | 8450/800000 |
| C | 7455/800000 |
| D | 8230/800000 |

**Question 8 Explanation:**

Junior student = 1000

Senior student = 800

60 sibling pair = 2 x 60 = 120 student

Probability that 1 student chosen from senior = 800

Probability that 1 student chosen from junior = 1000

Therefore,1 student chosen from senior and 1 student chosen from junior

n(s) = 800 x 1000 = 800000

Two selected student are from a sibling pair

n(E) = 120C2 = 7140

Therefore

P(E) = n(E)/n(S) = 7140⁄800000

|  |
| --- |
| **Question 9**  **WRONG** |

There were two candidates in an election.

Winner candidate received 62% of votes and won the election by

288 votes.

Find the number of votes cast to the winning candidate?

|  |  |
| --- | --- |
| A | 456 |
|  | 744 |
|  | 912 |
| D | 1200 |

**Question 9 Explanation:**

W = 62% L = 38%

62% – 38% = 24%

24% ——– 288

62% ——– ? => 744

|  |
| --- |
| **Question 10**  **WRONG** |

A candidate who gets 30% of the marks fails by 50 marks.

But another candidate who gets 45% marks gets 25 marks more than

necessary for passing. Find the number of marks for passing?

|  |  |
| --- | --- |
|  | 150 |
|  | 200 |
| C | 250 |
| D | 275 |

**Question 10 Explanation:**

30% ———— 50

45% ———— 25

———————-

15% ————- 75

30% ————– ?

150 + 50 = 200 Marks

## Quants Probability I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

A man X selects a random number from 1 to 1000 and another man

Y selects a random number from 1 to 1000. What is the probability

of Y getting a number equal to what X has selected?

|  |  |
| --- | --- |
|  | 1/1000 |
| B | 2/1000 |
|  | 1/2000 |
| D | 2/2000 |

**Question 1 Explanation:**

If X select 1 then the probability of X selecting 1 = 1/1000. Now,Y has only one possibly to select a number which is equal to 1. Then, the probability of Y selecting a random number which is equal to 1 = 1/1000. Therefore, the probability of X selecting 1 and then Y selecting 1 = P1 = 1/1000 x 1/1000 Similarly, the probability of X selecting 2 and then Y selecting 2 = P2 = 1/1000 x 1/1000 And the probability of X selecting 3 and then Y selecting 3 = P3 = 1/1000 x 1/1000proceeding like this we have, The probability of X selecting 999 and then Y selecting 999 = P999 = 1/1000 x 1/1000 The probability of X selecting 1000 and then Y selecting 1000 = P1000 = 1/1000 x 1/1000Totally, the required probability is, = P1 + P2 + ….. P1000 = {1/1000 x 1/1000 + 1/1000 x 1/1000 + 1/1000 x 1/1000 +….. +1/1000 x 1/1000} In the above equation, the term “1/1000 x 1/1000” occurs thousands times. Therefore, it can be rewritten as 1000 x (1/1000 x 1/1000) = 1/1000 Hence the required answer is 1/1000.

|  |
| --- |
| **Question 2**  **WRONG** |

From a railway station, trains leave for every 15 minutes and

25 minutes to city A and city B respectively. The first train to

city A and city B start at 9 am and 10.15 am respectively.

If a man arrives at the station in between 11.25 am and 12.25 pm

then the probability of getting train for city A is:

|  |  |
| --- | --- |
| A | 1/4 |
|  | 4/7 |
|  | 3/5 |
| D | 2/5 |

**Question 2 Explanation:**

The man wants to go to city A and he arrives station in between 11.25 am and 12.25 pm. First train to city A is at 9 am and there is a train for every 15 minutes. Trains for city A will leave at the following times : 9 am, 9.15 am, 9.30 am,…,11.30 am, 11.45 am, 12 pm, 12.15pm, and so on. Number of trains for city A between 11.25 am and 12.25 pm is 4.First train to city B is at 10.15 am and there is a train for every 25 minutes. Trains for city B will leave at the following times: 10.15 am, 10.40 am, 11.05 am, 11.30 am, 11.55 am, 12.20 pm, and so on. Number of trains for city B between 11.25 am and 12.25 pm is 3. Probability of getting train for city A between 11.25 am and 12.25 pm = Number trains for city A from 11.25 am to 12.25 pm / Total number of trains for city A and B from 11.25 am to 12.25 pm = 4/7.

|  |
| --- |
| **Question 3**  **WRONG** |

A man X selects a random number from 1 to 1000 and another

man Y selects a random number from 1 to 1000. Then what is

the probability of Y getting a number unequal to what X has

selected?

|  |  |
| --- | --- |
| A | 1 |
| B | 0 |
|  | 999/1000 |
|  | 1/1000 |

**Question 3 Explanation:**

If X selects 1 then the probability of X selecting 1 = 1/1000. Now,Y has 999 possibilities to select a number which is unequal to 1. Then, the probability of Y selecting a random number which is unequal to 1 = 999/1000. Therefore, the probability of X selecting 1 and Y selecting a number unequal to 1 = P1 = 1/1000 x 999/1000 If X selects the number 2 then the probability of X selecting 2 = 1/1000. Now,Y has 999 possibilities to select a number which is unequal to 2. (This is because, Y can select all numbers from 1 to 1000 except the number 2)Then, the probability of Y selecting a random number which is unequal to 2 = 999/1000 Therefore, the probability of X selecting 2 and Y selecting unequal to 2 = P2 = 1/1000 x 999/1000 Similarly, the probability of X selecting 3 and Y selecting unequal to 3 = P3 = 1/1000 x 999/1000proceeding like this, The probability of X selecting 997 and Y selecting unequal to 997 = P997 = 1/1000 x 999/1000 The probability of X selecting 998 and Y selecting unequal to 998 = P998 = 1/1000 x 999 /1000 The probability of X selecting 999 and Y selecting unequal to 999 = P999 = 1/1000 x 999 /1000 And the probability of X selecting 1000 and Y selecting unequal to 1000 = P1000 = 1/1000 x 999/1000Totally, the required probability is, = P1 + P2 + ……………… + P1000 = {1/1000 x 999/1000 + 1/1000 x 999/1000 + 1/1000 x 999/1000 +….. +1/1000 x 999/1000} (1000 times) = 1000x(1/1000 x 999/1000) = 999/1000 Hence the answer is 999/1000.

|  |
| --- |
| **Question 4**  **CORRECT** |

A man has to go to both Pune and Mumbai. He decides to go by

whichever first train he encounters. The first train towards

Pune is at 8:00 am and the frequency of Pune trains is 10 minutes.

The first train towards Mumbai is at 8:10 am and the frequency of

Mumbai trains is 15 minutes. Assume that the man arrives at the

railway station at a particular time between 8 and 9 am. What

should be his exact arrival time at the station that will leave

him really confused on whether to go Pune or Mumbai?

|  |  |
| --- | --- |
| A | 9.00am |
| B | 9.10am |
|  | 8.40am |
| D | 8.25am |

**Question 4 Explanation:**

The man plans to go by first train he encounters. Hence at times when only one of the trains leave, he will never get confused. But if his arrival time is greeted by both the trains (one to Pune and one to Mumbai) starting simultaneously the man will surely be confused.First train to Pune is at 8 am and the frequency is 10 minutes. Therefore Pune trains will leave at the following times : 8 am, 8.10am, 8.20am, 8.30am, 8.40am, 8.50am and so on.First train to Mumbai is at 8.10 am and the frequency is 15 minutes. Therefore Pune trains will leave at the following times : 8.10 am, 8.25am, 8.40am, 8.55am, 9.10am and so on.At 8.40am both the trains will leave simultaneously. This is the time at which the fellow can really be confused.

|  |
| --- |
| **Question 5**  **WRONG** |

From a railway junction RJ, trains leave from platforms

P and Q for every 20 minutes and 30 minutes respectively.

Assume all the trains travel at constant speed. The service

from platform P starts at 6.00am and the service from platform

Q at 6.05 am. Assume that you are waiting at a nearby station.

Any train from RJ would require 5 minutes to reach your station.

Now, what is the probability that you will be able to board a

train from P in between 6 and 6.30 am?

|  |  |
| --- | --- |
|  | 2/3 |
| B | 1/3 |
| C | 1 |
|  | 1/4 |

**Question 5 Explanation:**

From Platform PThe first train will leave by 6 am and reach your station in 5 minutes, i.e. at 6.05 am Second train will leave after 20 minutes i.e at 6 am and reach your station at 6.25 amFrom Platform QThe first train will leave by 6.05 am and reach your station at 6.10 am. Second train will leave after 30 minutes i.e at 6.35 am and reach your station at 6.40 am.Inference.Between 6 and 6.30 am, first and second trains from P and first train from Q will reach your station. In other words, you will be able to board 2 trains from P and 1 train from Q.Therefore, probability that you will board a train from P = Trains from P between 6 and 6.30 / Total Trains from P and Q between 6 and 6.30 = 2/3

|  |
| --- |
| **Question 6**  **CORRECT** |

There are N coins on a table. There are two players A&B.

You can take 1or 2 coins at a time. The person who takes

the last coin is the loser. An always starts first. A can

win by proper play if N is equal to

|  |  |
| --- | --- |
| A | 13 |
| B | 37 |
| C | 22 |
| D | 34 |
|  | 48 |
| **Question 7**  **WRONG** | |

There are 6 boxes numbered 1, 2, ... 6. Each box is to be

filled up either with a red or a green ball in such a way

that at least 1 box contains a green ball and the boxes

containing green balls are consecutively numbered.

The total number of ways in which this can be done is:

|  |  |
| --- | --- |
| A | 5 |
|  | 21 |
| C | 33 |
|  | 60 |
| E | 6 |

**Question 7 Explanation:**

The required number of ways to achieve the stated condition is 21.

|  |
| --- |
| **Question 8**  **WRONG** |

Bag x contains 3 red and 5 black balls and bag y contains

4 red and 4 black balls. One bag is selected at random and

from the selected bag one ball is drawn. What is the probability

that the ball drawn is red?

|  |  |
| --- | --- |
| A | 7/8 |
|  | 7/16 |
|  | 3/16 |
| D | 4/5 |
| E | 9/16 |
| **Question 9**  **WRONG** | |

Six persons A,B,C,D,E &F went to soldier cinema. There are six

consecutive seats. A sits in the first seat followed by B, followed

by C and so on. If A taken on of the six seats, then B should sit adjacent

to A. C should sit adjacent to A or B. D should sit adjacent to A, B or C

and so on. How many possibilities are there ?

|  |  |
| --- | --- |
|  | 32 |
| B | 33 |
| C | 12 |
|  | 19 |

**Question 9 Explanation:**

First we have to arrange A, there is 1 method for it, for second person B, there are 2 methods one left and one right, for third 2 methods are there same as for B similarly for others, so total number of methods = 1\*2\*2\*2\*2\*2 = 32

|  |
| --- |
| **Question 10**  **WRONG** |

Two guys are tossing coin with a bet of $1 for each game. After

some tosses., one  guy earned $3 while the other won three times.

How many games do they play.

|  |  |
| --- | --- |
|  | 9 |
| B | 12 |
|  | 17 |
| D | 19 |

**Question 10 Explanation:**

is 9.. in 9 times one guy won 6 and loss 3 time, while second guy won 3 and loss 6

## Quants Probability I- 3

|  |
| --- |
| **Question 1**  **WRONG** |

There are 1000 junior and 800 senior students in a class.

And there are 60 sibling airs where each pair has 1 junior

and 1 senior. One student is chosen from senior and 1 from

junior randomly.What is the probability that the two selected

students are from a sibling pair?

|  |  |
| --- | --- |
|  | 714 / 80000 |
| B | 74 / 8000 |
|  | 814 / 80000 |
| D | 914 / 80000 |

**Question 1 Explanation:**

Junior students = 1000

Senior students = 800

60 sibling pair = 2 x 60 = 120 student

One student chosen from senior = 800 C 1

=800

One student chosen from junior= 1000 C 1 =1000

Therefore, one student chosen from senior and one student chosen from junior n(s) =

800 x 1000=800000

Two selected students are from a sibling pair n(E)= 120 C 2 =7140

therefore,P(E) = n(E) / n(S)=7140/800000 = 714/80000

|  |
| --- |
| **Question 2**  **CORRECT** |

In a cycle race there are 5 persons named as J,K,L,M,N participated

for 5 positions so that in how many number of ways can M finishes

always before N?

|  |  |
| --- | --- |
| A | 130 |
|  | 60 |
| C | 120 |
| D | 170 |

**Question 2 Explanation:**

Total number of ways in which 5 persons can finish is 5! = 120 (there are no ties)

Now in half of these ways M can finish before N.

|  |
| --- |
| **Question 3**  **WRONG** |

How many five digit numbers are there such that two left most digits are

even and remaining are odd and digit 4 should not be repeated?

|  |  |
| --- | --- |
| A | 2376 |
| B | 2476 |
|  | 1245 |
|  | 2375 |

**Question 3 Explanation:**

We have

4 cases of first digit {2,4,6,8}

5 cases of second digit {0,2,4,6,8}

But 44 is one case we have to omit. So total ways for leftmost two digits

are

4 x 5 – 1 =

19 5 cases of third digit {1,3,5,7,9}

5 cases of fourth digit {1,3,5,7,9}

5 cases of fifth digit {1,3,5,7,9}

So total ways = 19 x 5 x 5 x 5 = 2375

|  |
| --- |
| **Question 4**  **CORRECT** |

A Jar contains 18 balls. 3 blue balls are removed from the

jar and not replaced.Now the probability of getting a blue ball

is 1/5 then how many blue balls jar contains initially?

|  |  |
| --- | --- |
| A | 11 |
| B | 9 |
| C | 7 |
|  | 6 |

**Question 4 Explanation:**

x/15 = 1/5

x=3

3 + 3 (removed 3 blue balls) = 6

|  |
| --- |
| **Question 5**  **CORRECT** |

6, 10, 14, 22, 26, 34, 38, 46, \_ ? what is next term in the series.

|  |  |
| --- | --- |
|  | 56 |
| B | 48 |
| C | 49 |
| D | 58 |

**Question 5 Explanation:**

This is a prime

number series. So next number will be 2 x 29 = 58

|  |
| --- |
| **Question 6**  **WRONG** |

 A shop has 4 shelf, 3 wardrobes, 2 chairs and 7 tables for sell.

You have to buy1shelf b. 1 wardrobe c. either 1 chair or 1 table.

How many selection can be made?

|  |  |
| --- | --- |
|  | 108 |
| B | 208 |
| C | 105 |
|  | 99 |

**Question 6 Explanation:**

The way to answer this question

4 C 1 × 3 C 1 × 2 C 1 + 4 C 1 × 3 C 1 × 7 C 1 = 108

|  |
| --- |
| **Question 7**  **WRONG** |

There are 6561 balls out of them 1 is heavy.Find the min. no.

of times the balls have to be weighed for finding out the haevy ball?

|  |  |
| --- | --- |
| A | 12 times |
|  | 14 times |
| C | 9 times |
|  | 8 times |

**Question 7 Explanation:**

1)6561/3=2187->2187,2187,2187

2)2187/3=729->729,729,729

3)729/3=243->243,243,243

4)243/3=81->81,81,81

5)81/3=27->27,27,27

6)27/3=9->9,9,9

7)9/3=3->3,3,3

8)3/3=1->1,1,1

8 times required

|  |
| --- |
| **Question 8**  **WRONG** |

Question related to probabilities of removing the red ball from a basket,

given that two balls are removed from the basket and the other ball is red.

The basket contains blue,red,yellow balls?

|  |  |
| --- | --- |
|  | 3/5 |
| B | 4/5 |
| C | 7/5 |
|  | 4/5 |

**Question 8 Explanation:**

PROBABILITY=1-BOTH TIME GREEN BALL 1 TIME GREEN BALL=4/6(4 OUT OF 5) 2TME GREEN BALL=3/5(3 OUT OF 5)

1-(4/6\*3/5) =1-2/5=3/5

ANS=3/5

|  |
| --- |
| **Question 9**  **WRONG** |

Persons A and B. Person A picks a random no. from 1 to 1000.

Then person B picks a random no. from 1 to 1000. What is the

probability of B getting no. greater then what A has picked?

|  |  |
| --- | --- |
| A | 3/4 |
| B | 2/2 |
|  | 2/1 |
|  | 1/2 |

**Question 9 Explanation:**

EASIEST WAY S SOLVING USING FORMULA ;

prob of B getting greaterr no than A= P(B)/ ( p(A)+p(B))

P(A)=1/1000 P(B)=1/1000

Therefore ans = (1/1000) / (2/1000) = ½

|  |
| --- |
| **Question 10**  **WRONG** |

There are six cards in which it has two king cards.

all cards are turned down and two cards are opened.

a) What is the possibility to get at least one king?

|  |  |
| --- | --- |
|  | 3/5 |
|  | 4/5 |
| C | 6/2 |
| D | none |

**Question 10 Explanation:**

POSSIBILITY TO GET AT LEAST ONE KING IS : 2C1\*4C1/6C2 + 2C2/6C2 = 8/15+1/15=3/5

|  |
| --- |
| **Question 11** |

There are six cards in which it has two king cards.

all cards are turned down and two cards are opened.

|  |  |
| --- | --- |
| A | 3/4 |
| B | 1/7 |
| C | 1/6 |
| D | 1/5 |

## Quants Probability I- 4

|  |
| --- |
| **Question 1**  **CORRECT** |

A coin is so unbalanced that it may come both heads in 2 tosses as

it may come tails in a single toss. What is the probability of getting

a head in a single toss?

|  |  |
| --- | --- |
| A | 2/41 |
|  | 1/2 |
| C | 2/6 |
| D | none |

**Question 1 Explanation:**

in two toss both heads means=1/2 \* 1/2=1/4

similarly in single toss probability of getting head is ½

|  |
| --- |
| **Question 2**  **WRONG** |

There are 19 red balls and one black ball. Ten balls are put in

one jar and the remaining 10 are put in another jar. What is the

possibility that the black is in the right jar.

|  |  |
| --- | --- |
| A | 2/2 |
|  | 1/2 |
|  | 2/3 |
| D | 3/4 |

**Question 2 Explanation:**

The probability that the Black ball is in the Right jar

= 19C9 / 20C10 = 1/2

(there are 20C10 ways of choosing any 10 balls. Out of that there are 19C9ways

in which the Black ball is one of them).

|  |
| --- |
| **Question 3**  **CORRECT** |

A cube, which is painted red on all its sides, is cut into 27 cubes

with three straight cuts. Now how many cubes have  No red face?

|  |  |
| --- | --- |
| A | 0 |
| B | 2 |
|  | 1 |
| D | 2 |

**Question 3 Explanation:**

we knw n=3

(i) no red face (n-2)^3=1

|  |
| --- |
| **Question 4**  **WRONG** |

A cube, which is painted red on all its sides, is cut into 27

cubes with three straight cuts. Now how many cubes have 1 red face ?

|  |  |
| --- | --- |
| A | 8 |
|  | 6 |
| C | 4 |
|  | 1 |

**Question 4 Explanation:**

) 1 red face 6(n-2)^2=6

|  |
| --- |
| **Question 5**  **WRONG** |

There are containing 5 , 7 , 14 , 16 , 18 , 29 balls of either red or

blue in colour. Some boxes contain only red balls and others contain

only blue . One sales man sold one box out of them and then he says

" I have the same number of red balls left out as that of blue ".

Which box is the one he solds out ?

|  |  |
| --- | --- |
|  | 30 |
| B | 35 |
| C | 46 |
|  | 50 |

**Question 5 Explanation:**

total no of balls = 89 and (89-29 /2 = 60/2 = 30

and also 14 + 16 = 5 + 7 + 18 = 30

|  |
| --- |
| **Question 6**  **WRONG** |

Two people are playing with a pair of dies. Instead of numbers, the

dies have different colors on their sides. The first person wins if the same

color appears on both the dies and the second person wins if the colors are

different. The odds of their winning are equal. If the first dice has 5 red sides

and 1 blue side, find the color(s) on the second one?

|  |  |
| --- | --- |
|  | 3red,4blue |
| B | 9red,3blue |
|  | 5red,3blue |
| D | 3red,7blue |

**Question 6 Explanation:**

3 red and 3 blue as there 5 red and 1 blue if suppose there are

again 5 red and 1 blue on the other side so no.of favourable

cases will 5red\*5red=25+1blue\*1blue=1

so 26 nom

favouarable cases 1blue\*5red=5+5red\*1blue=5 so total 10 but

he gave odds

equal ……so now let’s take 4 red and 2 blue so no.of favourable

cases 5red\*4red=20+2blue\*1blue=2 so total 22 and nonfavourable

cases 5red\*2blue=10+1blue\*4red=4 so total 14 odds not equal

again……..now take 3red 3 blue no.of favourable cses 5red\*3blue=

15+1blue\*3blue=3 so total 18 no.of unfavourable cases 5red\*3blue

=15+1blue\*3red=

3 total 18 equal so 3 red 3 blue

|  |
| --- |
| **Question 7**  **CORRECT** |

There are 17 brown ties,13 red ties, 9 green ties, 5 blue ties and

2 white ties.Then a man takes a tie. so, how many times he at least

take tie to get the 2 ties In same colour?

|  |  |
| --- | --- |
|  | 6 |
| B | 7 |
| C | 6 |
| D | 0 |
| **Question 8**  **CORRECT** | |

Mrs. Barbinger bought some plates on Saturday for $1.30, when everything

was being sold two cents below the regular price. She exchanged those plates

on Monday, at their regular price, for cups & saucers. Cost of one

plate equals cost of one plate & one saucer. She returned home

with 16 more articles than before. Since, saucers cost only 3

cents each, she bought 10 more saucers than cups. The puzzle is,

how many cups could she have bought on Saturday, for $1.30?

|  |  |
| --- | --- |
| A | 19 cups |
| B | 14 cups |
|  | 13 cups |
| D | 16 cups |

**Question 8 Explanation:**

Monday:

cup = 12 cents, saucer = 3 cents, plate = 15 cents

On Saturday:

cup = 10 cents, saucer = 1 cent, plate = 13 cents

|  |
| --- |
| **Question 9**  **CORRECT** |

My rack contains 8 Red colour ties, 13 violate colour ties,10 Blue

colour ties, 5 Pink colour ties, 4 green colour ties. If electricity

gone and i want at least two ties of same colour then how many ties

i should take out from my rack?

|  |  |
| --- | --- |
| A | 5 |
|  | 6 |
| C | 8 |
| D | 9 |
| E | 14 |

**Question 9 Explanation:**

5 times u will get different colored ties but in 6th times u will get

same color tie to one of before’s 5.

so, ans would b 6.

|  |
| --- |
| **Question 10**  **CORRECT** |

There is a cube, which has to be inscribed with the following pair of

numbers on opposite sides.1 and 6, 2 and 4,3 and 5.

How many different ways can it be done?

|  |  |
| --- | --- |
|  | 37,41 |
| B | 41,37 |
| C | 40,45 |
| D | 96,12 |

**Question 10 Explanation:**

Since all are false we can conclude:

1)Sam is over 40, i.e 41,42…

2)mala is not 38 and sam is atmost 4 years older than mala.

3)Mala is atmost 37(since in the 2nd statement mala cant be 38)

So mala is 37 and sam is 41.

## Quants Probability I: 5

|  |
| --- |
| **Question 1**  **WRONG** |

A shopkeeper has 13 washing machines out of which 5 are defective.

A customer buys 3 washing machine. What is the probability that

exactly one machine is defective?

|  |  |
| --- | --- |
| A | 1/20 |
|  | 1/5 |
|  | 70/143 |
| D | 35/143 |

**Question 1 Explanation:**

5 are defective and (13-5) are not defective so out of 3 machines 1 from defective and 2 from not defective. (5C1x8C2)/13C3 = 70/143

|  |
| --- |
| **Question 2**  **WRONG** |

What is the probability of getting two balls from either yellow

or green from 2 yellow, 3 green and 2 blue balls.

|  |  |
| --- | --- |
|  | 10/21 |
| B | 8/21 |
|  | 18/21 |
| D | 20/21 |
| **Question 3**  **WRONG** | |

Two persons A and B appeared in an interview for two vacancies

for the same post. The probability of A’s selection is 1/7 and

that of B is 1/5. What is the probability that only one of them

are selected ?

|  |  |
| --- | --- |
| A | 1/7 |
| B | 1/35 |
|  | 2/7 |
|  | 3/21 |

**Question 3 Explanation:**

Two persons A and B appeared in an interview for two vacancies for the same post. The probability of A’s selection is 1/7 and that of B is 1/5. What is the probability that i. Both of them are selected P(A and B) = (1/5)(1/7) = 1/35 ———————————— ii. Only one of them is selected P(one selected) = 1 – [P(both selected) + P(neither is selected)]= 1 – [1/35 + (4/5)(6/7)] = 1 – [1/35 + 24/35] = 1 – (5/7) = 2/7

|  |
| --- |
| **Question 4**  **CORRECT** |

The probability of Ronaldo shooting a goal is ¾.He takes 5 shots

on the goal. What is the probability that he shoots a goal atleast 3 times?

|  |  |
| --- | --- |
|  | 279/512 |
| B | 371/464 |
| C | 471/502 |
| D | 459/512 |

**Question 4 Explanation:**

Probability of shooting a goal at least 3 times out of 5 times = sum of probabilities of shooting a goal exactly 3 times, exactly 4 times and exactly 5timesP(X≥3) = P(3) + P(4) + P(5)= 5C3(3/4)3(1/4)2+5C4(3/4)4(1/4)1+5C5(3/4)5= 10(27/64)(1/16)+5(9/256)(14)+1(243/1024)= 270/1024+45/1024+243/1024= 558/1024= 279/512

|  |
| --- |
| **Question 5**  **WRONG** |

A man has 53 socks in his drawer: 21 identical blue, 15 identical

black and 17 identical red. The lights are fused and he is completely

in the dark. How many socks must he take out to make 100 percent

certain he has a pair of black socks?

|  |  |
| --- | --- |
|  | 35 |
|  | 40 |
| C | 45 |
| D | 50 |

**Question 5 Explanation:**

To solve this, you need to assume the worst case scenario. This is picking out all of the blue socks, then all of the red socks, before picking out the black socks.The answer is therefore the number of red socks + the number of blue socks + 2 (for the number of black socks that need to be picked out to form a pair)21+17+2=40

|  |
| --- |
| **Question 6**  **CORRECT** |

Rohit buys 12 bulbs out of which 6 are defective, his brother

chooses 3 bulbs at random for three sockets in a room. Find the

probability that the room is lighted.

|  |  |
| --- | --- |
|  | 10/11 |
| B | 10/9 |
| C | 8/10 |
| D | 9/10 |

**Question 6 Explanation:**

To lighten the room at least one non defective ball is required: ways of selecting at least one non defective ball,lets say n= (6C1 \* 6C2)+(6C2\*6C1)+6C3 total ways of selecting 3 ball ,lets say s=12C3 probability=n/s= 10/11

|  |
| --- |
| **Question 7**  **CORRECT** |

A Jar contains 18 3 blue balls are removed from the jar and not

replaced. Now the probability of getting a blue ball is 1/5 then

how many blue balls jar contains initially ?

|  |  |
| --- | --- |
|  | 6 |
| B | 9 |
| C | 8 |
| D | 7 |

**Question 7 Explanation:**

et initially no. of blue balls are x.so, initially probability of getting 1 blue ball = (x) combination 1 = xafter remove 3 blue balls no. of blue balls in the jar = x-3 now the probability of getting 1 blue ball = (x-3) combination 1 = x-3 as, x-3 = 1/5 , x = 3. so, initially no. of blue balls in the jar = 3 + 3 = 6. (because after remove 3 blue balls we get 3 blue balls in the jar.)

|  |
| --- |
| **Question 8**  **WRONG** |

There are 1000 junior and 800 senior students in a class. And

there are 60 sibling pairs where each pair has 1 junior and 1 1

student is chosen from senior and 1 from junior randomly. What

is the probability that the two selected students are from a

sibling pair?

|  |  |
| --- | --- |
|  | 7140/800000 |
|  | 800000/7140 |
| C | 7240/800000 |
| D | 7340/800000 |

**Question 8 Explanation:**

junior student=1000 senior student=800 60 sibling pair=2\*60=120 student 1 student choosen frm senior=800c1=800 1 student choosen from junior=1000c1=1000 therefore,1 student choosen frm senior and 1 student choosen from junior n(s)=800\*1000=800000 two selected student are from a sibling pair n(E)=120c2=7140 therefore,P(E)=n(E)/n)(S)=7140/800000=714/80000

|  |
| --- |
| **Question 9**  **WRONG** |

Rohit buys 12 bulbs out of which 6 are defective, his brother

chooses 3 bulbs at random for three sockets in a room. Find the

probability that the room is

|  |  |
| --- | --- |
| A | 0.7 |
|  | 0.8 |
|  | 0.9 |
| D | 1.0 |

**Question 9 Explanation:**

total ways of choosing three bulbs=12C3 if 0 defective bulb is choosen= 6C3 if 1 …………………………………….= 6C1\*6C2 if 2 …………………………………… = 6C2\*6C1 total ways in which room room is lighted = 6C3+(6C1\*6C2)+(6C2\*6C1) reqd prob= [6C3+(6C1\*6C2)+(6C2\*6C1)]/12C3 = 10/11 => reqd prob= 10/11

|  |
| --- |
| **Question 10**  **WRONG** |

The probability of Ronaldo shooting a goal is 3/4 . He takes 5

shots on the What is the probability that he shoots a goal

atleast 3 times?

|  |  |
| --- | --- |
| A | 291/364 |
| B | 371/464 |
|  | 471/502 |
|  | 459/512 |

**Question 10 Explanation:**

There will be three cases Case 1: where he scores 3 goals. Case 2: where he scores 4 goals. Case 3: where he scores 5 goals.The probability of ronaldo missing a goal=1–3/4=1/4Case 1:Number of ways he can score 3 goals is 5C3\*(3/4)^3\*(1/4)^2 Case 2:Number of ways he can score 4 goals is 5C4\*(3/4)^4\*(1/4)^1 Case 3:Number of ways he can score 5 goals is 5C5\*(3/4)^5Answer= 5C3\*(3/4)^3\*(1/4)^2 + 5C4\*(3/4)^4\*(1/4)^1 + 5C5\*(3/4)^5= 10\*(27/64)\*(1/16) + 5\*(81/256)\*(1/4) + 1\*(243/1024)=0.26 + 0.39 + 0.24=0.89

## Quants Probability I- 6

|  |
| --- |
| **Question 1**  **CORRECT** |

A single letter is drawn at random from the word."ASPIRATION",

the probability that it is a vowel is?

|  |  |
| --- | --- |
| A | 2/4 |
|  | 1/2 |
| C | 6/2 |
| D | none |

**Question 1 Explanation:**

ASPIRATION vowels= AIAIO= 5 total alphabets = 10 so the probability is 5/10 = 1/2

|  |
| --- |
| **Question 2**  **WRONG** |

Two dice are thrown simultaneously. What is the probability

that the sum of the numbers shown on the two dices will be

a prime number?

|  |  |
| --- | --- |
| A | 7/89 |
| B | 4/36 |
|  | 8/36 |
|  | 36/8 |

**Question 2 Explanation:**

total number of solutions =36 no of possible outcomes = (1,1),(1,2),(1,4),(1,6),(2,3),(2,5),(3,4),(5,6) = 8 remaining (2,1),(4,1),(6,1),(3,2),(5,2),(4,3),(6,5) are repeated probability = 8/36

|  |
| --- |
| **Question 3**  **WRONG** |

There are 4 baskets. The first basket has 3 apples and 4 oranges,

the second one has 4 apples and 5 mangoes, the third one has

6 Mangoes and 2 bananas and the last one has 7 bananas and 2 apples.

If a fruit is randomly chosen from any basket and it comes out

to be an apple, then what is the probability that it was taken

out from the second basket?

|  |  |
| --- | --- |
| A | 14/45 |
|  | 2/9 |
|  | 28/69 |
| D | none |

**Question 3 Explanation:**

P(A|1)=3/7 P(A|2)=4/9 P(A|3)=0/8 P(A|4)=2/9Hence event 1,2,3,4 are the partitions of the sample space.The probability of choosing an apple, by the law of total probability P(A)=P(A|1)P(1)+P(A|2)P(2)+P(A|3)P(3)+P(A|4)P(4) =3/7\*1/4+4/9\*1/4+0/8\*1/4+2/9\*1/4 =23/84By Baye’s theorem, P(2|A)=P(A|2)\*P(2)/P(A) =4/9\*(1/4)/(23/84) =28/69

|  |
| --- |
| **Question 4**  **WRONG** |

3 persons are standing at the middle of edges of a Triangle.

All the 3 persons starts moving at same time with same speed

in random direction What is the probability of meeting atleast

2 persons?

|  |  |
| --- | --- |
|  | 3/4 |
|  | 2/4 |
| C | 5/6 |
| D | none |

**Question 4 Explanation:**

no of times that they dont meet is 2 so they meet in 6 ways so required probability is=6/8=3/4

|  |
| --- |
| **Question 5**  **WRONG** |

There is a school were 60% are girls and 35% of the girls are poor.

Students are selected at random, what is the probability of

selecting a poor girl out of total strength?

|  |  |
| --- | --- |
|  | 21/100 |
| B | 100/2 |
| C | 3/69 |
|  | 4/20 |

**Question 5 Explanation:**

Let take 100 students outoff 100 60 are girls among girls poor girls are =35% 0f 60=21 pbt of selecting poor girl in total strength=21/100

|  |
| --- |
| **Question 6**  **WRONG** |

5 boys and 5 girls sit around a circular table.what is the

probability of 5 boys are sitting together

|  |  |
| --- | --- |
|  | 9 |
| B | 6 |
| C | 7 |
|  | 5 |

**Question 6 Explanation:**

total no of ways 5 boys and 5 girls can sit = (10-1)! i.e. 9! ways (circular table). consider 5 boys in a single group so 5 boys themselves can be seated in 5! ways. so now there should be arrangement of 6 people (i.e. 5 girls and 1 group of boys) = (6-1)! = 5! so probability that 5 boys are sitting together = (5! \* 5!) / 9!

|  |
| --- |
| **Question 7**  **WRONG** |

One student to pass the subject as probability 1/4. another man

to get driving licence and student passed subject probability 1/6.

find the probability man get driving licence.

|  |  |
| --- | --- |
| A | 1/3 |
|  | 2/3 |
|  | 4/9 |
| D | 3/36 |

**Question 7 Explanation:**

Let the probability of the man get driving licence is x.so, 1/4 \* x = 1/6 x = 2/3.

|  |
| --- |
| **Question 8**  **WRONG** |

marbles are to be distributed.Ann gets 1,Mary gets 2, Rose gets 3

and Lisa gets 4.John Brown gets as much as his sister.Tim Smith gets

2 times as much as his sister.Neil Johnson gets 3 times as much as

his sister.Sam Paul gets 4 times as much as his sister.Find the

surnames of Ann,Mary,Rose and Lisa

|  |  |
| --- | --- |
| A | 16 |
| B | 20 |
|  | 32 |
|  | 64 |

**Question 8 Explanation:**

Ann’s brother is Neil John(1\*3=3); Mary ‘s brother Sam paul(2\*4=8); Rose’s brother John Brown(3\*1=3); Lisa’s Brother is TIm Smith(4\*2=8);1+2+3+4+3+8+3+8=32

|  |
| --- |
| **Question 9**  **CORRECT** |

15 tennis players take part in a tournament. Every player

plays twice with each of his opponents. How many games are

to be played?

|  |  |
| --- | --- |
| A | 190 |
| B | 200 |
|  | 210 |
| D | 220 |
| E | 225 |

**Question 9 Explanation:**

15 th player can play with remaining 14 members two times = 2\*14=28 14 th ” remaining 13= 2\*13=26 2\*(1+2+3+4+……+14)=2(14)(14+1)/2=210

|  |
| --- |
| **Question 10**  **WRONG** |

If a refrigerator contains 12 cans such that 7 blue cans

and 5 red cans. In how many ways can we remove 8 cans so

that atleast 1 blue can and 1 red can remains in the refrigerator.

|  |  |
| --- | --- |
| A | 458 |
|  | 455 |
| C | 416 |
|  | 220 |

**Question 10 Explanation:**

possible draw 8 balls and in refrigirator contains atleast 1 blue and 1 red ball are (6,2) (5,3) (4,4) 6 2—->7c6\*5c2—>7\*10=70 5 3—->7c5\*5c3—>21\*10=210 4 4—->7c4\*5c4—>35\*5=17570+210+175=455

## Areas, Shapes, Perimeter

## Areas, Shapes, Perimeter

|  |
| --- |
| **Question 1** |

A rabbit is tied to one end of an equilateral triangle of side 5 m

with a rope length of 8 m.The rabbit is not allowed to travel inside

the triangle then find the maximum area covered by the rabbit?

|  |  |
| --- | --- |
| A | (96/9)\*pi |
| B | (480/9)\*pi |
| C | (240/9)\*pi |
| D | 190 m^2 |

**Question 1 Explanation:**

Area covered by rabbit = Area of circle(radius 8m)-

Area of Triangle(side 5m)

= pie\*8\*8 – (sqrt(3)/4)\*5\*5

= 201.06 – 10.82

= 190.24 m^2

|  |
| --- |
| **Question 2**  **CORRECT** |

No triangles formed in a polygon having 15 sides is?

|  |  |
| --- | --- |
| A | 400 |
| B | 355 |
| C | 353 |
|  | 455 |

**Question 2 Explanation:**

total no. of points=15

no. of points needed to form a triangle=3

thus total no of traingles formed=15C 3=455.

|  |
| --- |
| **Question 3**  **WRONG** |

A GOLF BALL HAS DIAMETER EQUAL TO 4.1CM. ITS SURFACE HAS

150 DIMPLES EACH OF RADIUS 2MM (0.2 CM).

CALCULATE TOTAL SURFACE AREA WHICH IS EXPOSED TO SURROUNDINGS

ASSUMING THAT THE DIMPLES ARE HEMISPHERICAL.

|  |  |
| --- | --- |
| A | 51.62 cm2 |
|  | 77.62 cm2 |
|  | 71.62 cm2 |
| D | 45.62 cm2 |

**Question 3 Explanation:**

he total surface area of the golf ball without considering the

dimples is 4\*3.14\*sqrt(4.1/2).

Due to 150 pits on the surface a there will be a reduction in

surface area of ball which will be equal to opening area of the dimples

which is 150\*3.04\*sqrt(0.2). again due to formation of the pits there

will be an increase in surface area due to hemispherical

concave surface of the pits which will be 150\*2\*3.14\*sqrt(0.2).

So, the total surface area will be 4\*3.4\*sqrt(4.1)-150\*3.14\*sqrt(.2)+

150\*2\*3.14\*sqrt(.2)=71.62cm2

|  |
| --- |
| **Question 4**  **WRONG** |

If a goat is tied to a pole at Point A with a rope 12 m long

such that it can not enter a triangle ABC with AB=AC=10 m and

angle A = 30 deg. How much area can it graze?

|  |  |
| --- | --- |
|  | (i) less than 132 pi |
|  | (ii) more than 132 pi |
| C | (iii) equal to 132 pi |
| D | (iv) none |

**Question 4 Explanation:**

Since the length of the rope is longer than the sides of the triangle it

will eat a bit more at the edges than (330/360)\*144pi. Hence more than

132pi.

|  |
| --- |
| **Question 5**  **WRONG** |

The right angled triangle PQR is to be constructed in the xy-plane,

so that the right angle is at P and PR is parallel to the x-axis.

The x and y coordinates of P,Q and R are to be integers that satisfy

the inequality −4≤x≤5 & 6≤y≤16. How many different triangles with

these properties could be constructed?

|  |  |
| --- | --- |
|  | A. 1,100 |
| B | B. 12,100 |
| C | C. 10,000 |
|  | D. 9,900 |

**Question 5 Explanation:**

We have the rectangle with dimensions 10\*11

(10 horizontal dots and 11 vertical). PQ is parallel to y-axis and PR

is parallel to x-axis.Choose the (x,y) coordinates for vertex P (right angle): 10C1\*11C1;

Choose the x coordinate for vertex R (as y coordinate is fixed

by A): 9C1, (10-1=9 as 1 horizontal dot is already occupied by A);

Choose the y coordinate for vertex Q (as x coordinate is

fixed by A): 10C1, (11-1=10 as 1 vertical dot is already

occupied by A).10C1\*11C1\*9C1\*10C1=9900.Answer: C

|  |
| --- |
| **Question 6**  **WRONG** |

If PQRST is a parallelogram what it the ratio of triangle

PQS & parallelogram PQRST

|  |  |
| --- | --- |
|  | 1:2 |
|  | 2:1 |
| C | 1:3 |
| D | 3:1 |

**Question 6 Explanation:**

1:2

as traingle resides half of parallelogram

|  |
| --- |
| **Question 7**  **WRONG** |

The length of a rectangular plot is 20 metres more than its breadth.

If the cost of fencing the plot @ 26.50 per metre is Rs. 5300,

what is the length of the plot in metres?

|  |  |
| --- | --- |
| A | 40 |
|  | 50 |
| C | 120 |
| D | Data inadequate |
|  | None of these |

**Question 7 Explanation:**

Let breadth = x metres.Then, length = (x + 20) metres.Perimeter = 5300 m = 200 m.

26.50

2[(x + 20) + x] = 2002x + 20 = 1002x = 80x = 40.Hence, length = x + 20 = 60 m.

|  |
| --- |
| **Question 8**  **CORRECT** |

A rectangular field is to be fenced on three sides leaving a side

of 20 feet uncovered. If the area of the field is 680 sq. feet,

how many feet of fencing will be required?

|  |  |
| --- | --- |
| A | 34 |
| B | 40 |
| C | 68 |
|  | 88 |

**Question 8 Explanation:**

We have: l = 20 ft and lb = 680 sq. ft.So, b = 34 ft.Length of fencing = (l + 2b) = (20 + 68) ft = 88 ft.

|  |
| --- |
| **Question 9**  **WRONG** |

A tank is 25 m long, 12 m wide and 6 m deep. The cost of plastering

its walls and bottom at 75 paise per sq. m, is:

|  |  |
| --- | --- |
| A | Rs. 456 |
| B | Rs. 458 |
|  | Rs. 558 |
|  | Rs. 568 |
| **Question 10**  **WRONG** | |

A rectangular park 60 m long and 40 m wide has two concrete crossroads

running in the middle of the park and rest of the park has been

used as a lawn.

If the area of the lawn is 2109 sq. m,

then what is the width of the road?

|  |  |
| --- | --- |
| A | 2.91 m |
|  | 3 m |
| C | 5.82 m |
|  | None of these |

**Question 10 Explanation:**

Area of the park = (60 x 40) m2 = 2400 m2.Area of the lawn = 2109 m2.Area of the crossroads = (2400 – 2109) m2 = 291 m2.Let the width of the road be x metres. Then,60x + 40x – x2 = 291x2 – 100x + 291 = 0(x – 97)(x – 3) = 0x = 3.

## Quants Area, Shapes & Perimeter I : 2

|  |
| --- |
| **Question 1**  **WRONG** |

An error 2% in excess is made while measuring the side

of a square. The percentage of error in the calculated

area of the square is:

|  |  |
| --- | --- |
| A | 1.04 |
|  | 2.04 |
| C | 3.04 |
|  | 4.04 |

**Question 1 Explanation:**

100 cm is read as 102 cm.A1 = (100\*100)Sq.cmA2 = (102\*102)Sq.cm(A2 – A1) = 1022−10021022-1002 = (102 + 100) x (102 – 100) = 404 sq.cm.

|  |
| --- |
| **Question 2**  **CORRECT** |

If the length of a certain rectangle is decreased by 4 cm

and the width is increased by 3 cm, a square with the same

area as the original rectangle would result. Find the

perimeter of the original rectangle?

|  |  |
| --- | --- |
| A | 20 |
| B | 30 |
| C | 40 |
|  | 50 |

**Question 2 Explanation:**

Let x and y be the length and breadth of the rectangle respectively. Then, x – 4 = y + 3 or x – y = 7 —-(i) Area of the rectangle =xy; Area of the square = (x – 4) (y + 3) (x – 4) (y + 3) =xy <=> 3x – 4y = 12 —-(ii) Solving (i) and (ii), we get x = 16 and y = 9. Perimeter of the rectangle = 2 (x + y) = [2 (16 + 9)] cm = 50 cm

|  |
| --- |
| **Question 3**  **WRONG** |

The length of a rectangle is twice its breadth. If its length

is decreased by 5 cm and breadth is increased by 5 cm, the

area of the rectangle is increased by 75 sq. cm. Find the

length of the rectangle.

|  |  |
| --- | --- |
| A | 10 cm |
| B | 15 cm |
|  | 20 cm |
|  | 18 cm |

**Question 3 Explanation:**

Let breadth = x. Then, length = 2x. Then, (2x – 5) (x + 5) – 2x \* x = 75 => 5x – 25 = 75 => x = 20. Length of the rectangle = 20 cm.

|  |
| --- |
| **Question 4**  **WRONG** |

The sector of a circle has the radius of 21 cm and central

angle 135o. Find its perimeter?

|  |  |
| --- | --- |
|  | 91.5 cm |
| B | 93.5 cm |
| C | 94.5 cm |
| D | 92.5 cm |
|  | None of these |

**Question 4 Explanation:**

Perimeter of the sector = length of the arc + 2(radius) = (135/360 \* 2 \* 22/7 \* 21) + 2(21) = 49.5 + 42 = 91.5 cm

|  |
| --- |
| **Question 5**  **WRONG** |

A plot has a concrete path within its borders on all sides

having the uniform width of 4m. The plot is rectangular with

sides 20m and 15m. The charge of removing concrete is Rs. 6 per sq.m.

How much is spent in removing all the concrete?

|  |  |
| --- | --- |
| A | Rs. 1548 |
|  | Rs. 1296 |
|  | Rs. 1500 |
| D | Rs. 1083 |
| **Question 6**  **WRONG** | |

A tree breaks and falls to the ground such that its upper part

is still partially attached to its stem. At what height did it

break, if the original height of the tree was 24 cm and it makes

an angle of 30° with the ground?

|  |  |
| --- | --- |
| A | 12 cm |
|  | 8 cm |
| C | 9.5 cm |
|  | 7.5 cm |

|  |
| --- |
| **Question 7**  **WRONG** |

A room is 8 meters long and 4 meters wide. How many paving stones each

measuring 2.5dm by 2dm are required to pave its floor?

|  |  |
| --- | --- |
| A | 700 |
| B | 720 |
|  | 640 |
|  | 810 |
| **Question 8**  **WRONG** | |

The barrel of a fountain pen is cylindrical in shape which

radius of the base as 0.7 cm and is 5 cm long. One such barrel

in the pen can be used to write 300 words. A barrel full of ink

which has a capacity of 14 cu cm can be used to write how many

words approximately?

|  |  |
| --- | --- |
|  | 598 |
| B | 656 |
| C | 508 |
|  | 545 |
| E | 687 |

**Question 8 Explanation:**

Volume of the barrel of pen = πr2h = 22/7 \* 0.7\*0.7 \* 5 = 7.7 cu cm A barrel which has capacity 7.7 cu cm can write 300 words So which has capacity 14 cu cm can write = 300/7.7 \* 14 = 545 words

|  |
| --- |
| **Question 9**  **WRONG** |

A vessel is in the form of a hemispherical bowl on which is

mounted a hollow cylinder. The diameter of the sphere is 14 cm

and the total height of vessel is 15 cm, find the capacity

of the vessel.

|  |  |
| --- | --- |
| A | 1977.23 cm3 |
|  | 1999.45 cm3 |
| C | 1840.67 cm3 |
|  | 1950.67 cm3 |
| E | 1833.27 cm3 |

**Question 9 Explanation:**

Diameter is 14, so radius is 7 cm Total height = 15 cm, so height of cylinder = 15-7 = 8 cm (because height of hemisphere is same as its radius) Capacity of vessel = volume of cylinder + vol of hemisphere So = πr2h + 2/3 \*πr3 = 22/7 \* 7 \* 7 \* 8 + 2/3 \* 22/7 \* 7 \* 7 \* 7 = 1232 + 718.67 = 1950.67 cu cm

|  |
| --- |
| **Question 10**  **WRONG** |

The diameters of the internal and external surfaces of a

hollow spherical shell are 10cm and 6 cm respectively.

If it is melted and recasted into a solid cylinder of

length 8/3 cm, find the diameter of the cylinder.

|  |  |
| --- | --- |
|  | 28√2 cm |
|  | 14√2 cm |
| C | 26√2 cm |
| D | 18√2 cm |
| E | 22√2 cm |

**Question 10 Explanation:**

External diameter of a sphere = 10 cm Internal diameter of the sphere = 6 cm Volume of the sphere = 4/3 π (R3 – r3) = (4/3) (22/7) (103 – 63) = (4/3) (22/7) (784) = 9856 / 3 cm3 Height of the cylinder formed = 8/3 cm Let the radius of the cylinder be ‘r’ cm Volume of the cylinder = πr2h = 22/7 \* r2 \* 8/3 = 22/7 \* r2 \* 8/3 = 9856 / 3 r2 = 392 r = 14√2 cm So Diameter of the cylinder = 2 x 14√2 =28√2 cm

## Quants Area, Shapes & Perimeter I – 3

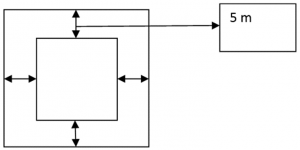
|  |
| --- |
| **Question 1**  **WRONG** |

In the given diagram, there is a 5 m gap given for a walk in

the garden.  If the outside square has a perimeter of 340 m,

then find the cost of flooring pavement space allocated for

walking. It costs Rs.8 per square meter for flooring



|  |  |
| --- | --- |
|  | 12800 |
| B | 6600 |
|  | 6400 |
| D | None of these |
| **Question 2**  **WRONG** | |

 If a goat is tied to a pole at point A with a rope 12m long

such that it can enter a triangle ABC with AB=AC= 10m and

angle A = 30deg . How much area can it gaze

|  |  |
| --- | --- |
| A | Less than 132 pi |
|  | More than 132 pi |
| C | Equal to 132 pi |
|  | None |

**Question 2 Explanation:**

Since the length of the rope is longer than the sides of the triangle it will eat a bit more at the edges than (330/360)\*144pi. Hence more than 132pi.

|  |
| --- |
| **Question 3**  **WRONG** |

If side of the square triples its initial side, then perimeter

equals the area of the new square, find the side of square?

|  |  |
| --- | --- |
|  | 4/3 |
|  | 1/4 |
| C | 1/2 |
| D | 2/3 |

**Question 3 Explanation:**

side of square = a Area of new square = 3a^2 perimeter of old square= 4a therefore:- 4a = 3a^2 a= 4/3

|  |
| --- |
| **Question 4**  **WRONG** |

If the diagonal of a rectangle is 17cm long and its perimeter

is 46 cm. Find the area of the rectangle.

|  |  |
| --- | --- |
| A | 110 |
|  | 120 |
| C | 130 |
|  | 140 |

**Question 4 Explanation:**

let length = x and breadth = y then2(x+y) = 46 => x+y = 23x²+y² = 17² = 289now (x+y)² = 23²=> x²+y²+2xy= 529=> 289+ 2xy = 529=> xy = 120area = xy = 120 sq.cm

|  |
| --- |
| **Question 5**  **WRONG** |

A wire can be bent in the form of a circle of radius 56cm.

If it is bent in the form of a square, then its area will be

|  |  |
| --- | --- |
|  | 7744 |
| B | 8844 |
|  | 5544 |
| D | 4444 |

**Question 5 Explanation:**

length of wire = 2πr= 2 x (22/7 ) x 56 = 352 cm side of the square = 352/4 = 88cm area of the square = 88 x 88 = 7744sq cm

|  |
| --- |
| **Question 6**  **WRONG** |

The area of the largest circle that can be drawn inside a

rectangle with sides 18cm by 14cm is

|  |  |
| --- | --- |
| A | 49 |
|  | 154 |
|  | 378 |
| D | 1078 |

**Question 6 Explanation:**

The diameter is equal to the shortest side of the rectangle.So radius= 14/2 = 7cm.Therefore, area of circle =πr^2=227×49=154cm2

|  |
| --- |
| **Question 7**  **WRONG** |

The length of a rectangular hall is 5m more than its breadth.

The area of the hall is 750 m. The length of the hall is

|  |  |
| --- | --- |
| A | 20 |
| B | 30 |
|  | 25 |
|  | 35 |

**Question 7 Explanation:**

Let breadth = x mThen, length = (x+5)mx(x+5) = 750x² + 5x – 750= 0(x+30)(x-25)= 0x = 25

|  |
| --- |
| **Question 8**  **WRONG** |

One side of a rectangular field is 15m and one of its diagonal

is 17m. Find the area of field?

|  |  |
| --- | --- |
| A | 110 |
|  | 120 |
| C | 130 |
|  | 140 |

**Question 8 Explanation:**

Other side = [(17 x 17) – (15 x 15)] = (289 – 225) = 8m Area = 15 x 8 =120 sq. m

|  |
| --- |
| **Question 9**  **WRONG** |

The dimensions of a room are 10m x 7m x 5m. There are 2 doors

and 3 windows in the room. The dimensions of the doors are

1m x 3m. One window is of size 2m x 1.5m and the other 2 windows

are of size 1m x 1.5m. The cost of painting the walls at Rs. 3

per sq m is

|  |  |
| --- | --- |
| A | Rs.174 |
| B | Rs.274 |
|  | Rs.374 |
|  | Rs.474 |

**Question 9 Explanation:**

Area of 4 walls = 2(l+b)h =2(10+7) x 5 = 170 sq m Area of 2 doors and 3 windows = 2(1×3)+(2×1.5)+2(1×1.5) = 12 sq m area to be planted = 170 -12 = 158 sq mCost of painting = Rs. 158 x 3 = Rs. 474

|  |
| --- |
| **Question 10**  **WRONG** |

The diameter of the driving wheel of a bus is 140 cm. How many

revolution, per minute must the wheel make in order to keep a

speed of 66 kmph ?

|  |  |
| --- | --- |
| A | 150 |
|  | 250 |
|  | 350 |
| D | 550 |

**Question 10 Explanation:**

Circumference = No.of revolutions \* Distance covered Distance to be covered in 1 min. = (66 X1000)/60 m = 1100 m. Circumference of the wheel = 2 x (22/7) x 0.70 m = 4.4 m. Number of revolutions per min. =(1100/4.4) = 250.

## Quants Time Speed & Distance

## Quants Time Speed & Distance I: 1

|  |
| --- |
| **Question 1**  **WRONG** |

One gear pulley rotates at a speed of 3 rev/sec another gear

roates at 5 rev/sec.

if both start together after how many seconds will they be

together again?

|  |  |
| --- | --- |
|  | 3 sec |
| B | 20 sec |
|  | 15 sec |
| D | 5 sec |

**Question 1 Explanation:**

3 rotates 3,6,9,12,15

5 rotates 5,10,15

because ans is 15

|  |
| --- |
| **Question 2**  **WRONG** |

An express A starts at 2.30 pm from nampali station and travels

towards vizag station at speed of 80 kmph. Another expressstarts

at 4.30 pmfrom nampali station to vizag station at speed

of 100 kmph. How far awayfrom station Nampali will the two trains meet?

|  |  |
| --- | --- |
| A | A.600 km |
|  | B.700 km |
| C | C.750 km |
|  | D. 800 km |

**Question 2 Explanation:**

Let train A take x hours to reach the point of meeting(let it be P)

Then train B will reach the same point in

x-2 hours.

Distance covered to reach P by train A in x hours=Distance covered by B to reach P in x-2 hrs.

80\*x=100(x-2)

80x=100x-200

x=10 hrs.

Distance from Nampali=x\*speed of train A

=10\*80

=800 km

|  |
| --- |
| **Question 3**  **WRONG** |

A journey of 600 km, Due to some problem in Vehicle speed was

reduced to 200 kmph and it takes 30min extra,

Find the Actual time taken for Journey?

|  |  |
| --- | --- |
|  | 1 hour |
|  | 1 hour 10 mins |
| C | 2 hour 40 mins |
| D | 45 mins |

**Question 3 Explanation:**

Here the Distance is constant. So, let the actual time is x.

Then,

600/x-600/(x+(1/2))=200

After we solve this we will get 1hr.

So, the actual time taken for the journey is 1hr.

|  |
| --- |
| **Question 4**  **WRONG** |

Two men start from opposite banks of a river .

They meet 340 meters away from one of the banks on forward journey.

After that they meet at 170 meters from the other bank of the

river on their backward journey.

What will be the width of the river (in meters)?

|  |  |
| --- | --- |
| A | 1.3kms |
|  | 400 m |
| C | 1 km |
|  | 850 m |

**Question 4 Explanation:**

Let the two opposite ends of the river be X and Y and the distance

between them be D meters.(i.e., width = D meters)

Let P and Q be the two men starting from the opposite banks

(i.e., from X and Y respectively).

Let the speed of P and Q be A and B m/hr .I meet :

During I meet, P travels 340m from X while Q travels

(D – 340)m from Y.

Therefore, Time taken for P to travel 340m = Time taken for

Q to travel (D – 340)

Or 340 / A = (D – 340) / B

Or 340 / (D – 340) = A / B …(1)II meet :

After crossing spot I, both of them proceed in their respective directions,

reach banks and return back to cross each other at

Spot II which is 170m from Y.

From Spot I to Spot II, P would had travelled a distance of

(D – 340) + 170 m

From Spot I to Spot II, Q would had travelled a distance of

340 + (D – 170) m

Time taken by P to travel from Spot I to Spot II will be the same

as that of Q from Spot I to Spot IITherefore, A / (D – 340) + 170 = B / 340 + (D – 170)

Or

(D – 340) + 170 / 340 + (D – 170) = A / B …(2)

From equations I and II, we get,

340 / (D – 340) = (D – 340) + 170 / 340 + (D – 170)

340 / (D – 340) =

D – 170 / D + 170

By Cross- Multiplying,

340 (D + 170) = (D – 170) (D – 340)

340D + 57800 =

D2 – 170D – 340D + 57800

D2 – 850D = 0

By Factorizing,

D(D – 850) = 0

D = 850

Hence the width of the river = 850 m

|  |
| --- |
| **Question 5**  **WRONG** |

When a train travels at a speed of 60kmph,it reaches the destination

on time.when the same train travels at a speed of 50kmph,

it reaches its destination 15min late.what is the length of journey?

|  |  |
| --- | --- |
|  | 75km |
|  | 50km |
| C | 60km |
| D | 85km |

**Question 5 Explanation:**

Let x be the time reached with the speed 60km/h

50km/h —-> x+15

Distance is equal so

60(km/h)× xhr = 50(km/h) × (x+15) hr

So

60 x = 50x + 750

So the would be in km

And x = 75

So

75km

|  |
| --- |
| **Question 6**  **WRONG** |

A girl goes to her office for work which is 50 miles.

She goes to her office few distance by bicycle and remaining by train.

The speed of bicycle is 15 mph and that of train is twice of the

bicycle. If she spend 20 min. more on bicycle, then total time tak

|  |  |
| --- | --- |
|  | 1 hr 30 min |
|  | 2 hr 30 min |
| C | 2 hr 20 min |
| D | 2 hr 50 min |

**Question 6 Explanation:**

Let time travelled in train is x min then in cycle (x+20) min.

(30/60)x + (15/60)(x + 20) = 50 or x = 60

Total time taken 60 + (60 + 20) = 2 hr 20 min

|  |
| --- |
| **Question 7**  **WRONG** |

A motorboat, whose speed in 15 km/hr in still water goes 30 km

downstream and comes back in a total of 4 hours 30 minutes.

The speed of the stream (in km/hr) is

|  |  |
| --- | --- |
|  | 2 km/hr |
| B | 3 km/hr |
| C | 4 km/hr |
|  | 5 km/hr |
| **Question 8**  **CORRECT** | |

If Rahul rows 15 km upstream in 3 hours and 21 km downstream in

3 hours, then the speed of the stream is

|  |  |
| --- | --- |
| A | 5 km/hr |
| B | 4 km/hr |
| C | 2 km/hr |
|  | 1 km/hr |

**Question 8 Explanation:**

Rate upstream = (15/3) kmph

Rate downstream (21/3) kmph = 7 kmph.

Speed of stream (1/2)(7 – 5)kmph = 1 kmph

|  |
| --- |
| **Question 9**  **WRONG** |

A man rows 750 m in 675 seconds against the stream and returns

in 7 and half minutes. His rowing speed in still water is

|  |  |
| --- | --- |
| A | 4 kmph |
|  | 5 kmph |
| C | 6 kmph |
|  | 7 kmph |
| **Question 10**  **WRONG** | |

A boat can travel with a speed of 16 km/hr in still water.

If the rate of the stream is 5 km/hr,

then find the time taken by the boat to cover the distance

of 84 km downstream.

|  |  |
| --- | --- |
|  | 4 hours |
| B | 5 hours |
|  | 6 hours |
| D | 7 hours |

**Question 10 Explanation:**

It is very important to check, if the boat speed given is in still water

or with water or against water. Because if we neglect it

we will not reach on right answer. I just mentioned here because

mostly mistakes in this chapter are of this kind only.Lets see the question now.

Speed downstream = (16 + 5) = 21 kmphTime = distance/speed = 84/21 = 4 hours

|  |
| --- |
| **Question 11**  **WRONG** |

A train leaves Meerut at 5 a.m. and reaches Delhi at 9 a.m.

Another train leaves Delhi at 7 a.m. and reaches Meerut at 10.30 a.m.

At what time do the two trains travel in order to cross each other ?

|  |  |
| --- | --- |
|  | 08:30 |
| B | 07:25 |
|  | 07:56 |
| D | none |

**Question 11 Explanation:**

First train takes 4 hours and the second train takes 3.5 hours.Time ratio is 8:7. Therefore, the speed ratio will be 7:8.Let the speeds be 7x and 8x, and distance be 28x ( 4×7 or 3.5×8).At 7 AM, the first train must have covered a distance of 14x.

Therefore, at 7 A.M. the distance between the two trains is 28x-14x=14x.Time taken to meet = 14x/(7x+8x)=14/15 hour or 56 minutes.Hence, the two trains meet at 7.56 AM.

## Quants Time Speed & Distance I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

Ram covers a part of the journey at 20 kmph and the balance

at 70 kmph taking the total of 8 hours to cover the distance

of 400 km. How many hours has been driving at 20 kmph?

|  |  |
| --- | --- |
|  | 2 hours |
| B | 3 hours 20 minutes |
| C | 2 hours 40 minutes |
|  | 3 hours 12 minutes |
| **Question 2**  **CORRECT** | |

A train starts from A towards B with some velocity. Due to an

engine problem, after travelling 3/8 of its journey, it slows

to 3/5 of its actual velocity. The train reaches B 1 hour later

than the actual planned time. If the engine had failed after

travelling 80km and if it would have slowed down to 4/5th of

its initial velocity for another 80km and covered remaining

distance with 1/2 of its initial velocity, the train would

have reached the destination one and half hours late.

What is the distance between A and B in meters?

|  |  |
| --- | --- |
| A | 10000 |
|  | 48000 |
| C | 24000 |
| D | 52000 |

**Question 2 Explanation:**

Let the distance between A and B be X and the speed initially be V. The train travels 3X/8km with speed V and the remaining distance(X – 3X/8)km with speed 3/5 of V. Ultimately the train was late by 1 hour. According to the above condition with the formula ” distance/speed = time”, we can have [(3X/8)/V]+[(X-(3X/8))/(3V/5)] = [X/V]+1 [3X/8V] + 5(8X-3X)/24V = [X/V]+1 9X+25X-24X / 24V = 1 10X-24V = 0 ……….eqn1 According to the question, if the train travelled 80km with speed V, another 80km with 4/5 th of V and the remaining distance(X-160)km with speed 1/2 of V then [80/V]+[80/(4V/5)]+[(X-160)/(1V/2)] = [X/V]+3/2 80/V + 100/V + (2X-360)/V = X/V + 3/2 X-180 / V = 3/2 2X-3V = 360 ………eqn2 solving eqn1 and eqn2 we have, X=480 and V=200 Thus the distance between A and B is 480km and the speed of the train is 200km/hour. Hence 480km = 480000meters is the answer.

|  |
| --- |
| **Question 3**  **WRONG** |

A bus P leaves from City 1 to City 2 and at the same time

bus Q leaves from City 2 to City 1. They meet 720 km away

from City 1 and after reaching their destinations, both

drivers halt for 2 hours. After that they start back and

meet 400 km away from City 2 on their return journey.

Find the ratio between the speeds of the two buses.

|  |  |
| --- | --- |
| A | 7:11 |
|  | 7:19 |
| C | 8:17 |
|  | 9:13 |

**Question 3 Explanation:**

Let the distance between two cities d km. Let the speed of the bus P be a km/hr. Then the time taken by p to reach city2 from city1 = d/a Let the speed of the bus Q be b km/hr. Then the time taken by Q to reach city1 from city2 = d/bGiven that, they met at 720 km away from city1. Then P reaches 720km of d from city1 while Q reach d -720 km of d from city2. Therefore, the time taken by P to reach 720km = 720/aAnd the time taken by Q to reach d -720 km = (d-720)/b since they start at the same time then we have, 720/a = (d – 720)/b 720b = (d – 720)a a/b = 720 / (d – 720) ……(1)Also given that they met 400 km away from city2 on their return journey with halting 2 hours. Then time taken by P to reach 400 km from city2 on its return journey = 400/a And the total time taken by p to reach that 400km with halting 2 hours = time taken to reach city2 from city1 + 2 hours + time taken to reach 400km from city2. = d/a + 2 + 400/a Similarly, the total time taken by Q to reach d-400 km with halting 2 hours = time taken to reach city1 from city2 + 2 hours + time taken to reach d-30 km from city1. = d/b + 2 + (d – 400) / bThen we would have, d/a + 2 + 400/a = d/b + 2 + (d-400)/b (d+400) / a = (2d – 400) / b a/b = (d + 400) / (2d – 400)….(2)From (1) and (2) 720 / (d – 720) = (d + 400)/(2d – 400) (2d – 400)720 = (d + 400)(d – 720) d^2 – 720d + 400d – 288000 = 1440d – 288000 d^2 – 320d = 1440d d^2 – 1760d = 0 d(d-1760) = 0 Either d = 0 or d=1760Therefore the distance between city1 and city2 = 1760 km Now from (1), a/b = 720 / (d – 720) = 720 / 1760-720 = 720 / 1040 = 9/13 Hence the required ratio is 9:13.

|  |
| --- |
| **Question 4**  **WRONG** |

Three customers want haircut and a shave. In a saloon,

two barbers operate at same speed. They take quarter of an

hour for the haircut and 5 mins for the shave. How quickly

can they finish the haircut and shave of these three customers?

|  |  |
| --- | --- |
| A | 10 minutes |
|  | 30 minutes |
| C | 15 minutes |
|  | 35 minutes |

**Question 4 Explanation:**

3 PERSONS REQUIRE 3 HAIRCUTS + 3 SHAVESThe two barbers finish the hair cut of 2 people in 15 minutes Then one barber starts the hair cut of 3rd person, while the first barber focuses on the shave of the 3 persons one by one. In the end they will be working together on the 3rd person cutting hair and shaving at the same time. This will take another 15 mins. So in total 15 + 15 = 30 minutes, they will be done.

|  |
| --- |
| **Question 5**  **CORRECT** |

I travel the first part of my journey at 40 kmph and the

second part at 60 kmph and cover the total distance of

240 km to my destination in 5 hours. How long did the first

part of my journey last?

|  |  |
| --- | --- |
| A | 4 hours |
| B | 2 hours |
|  | 3 hours |
| D | 2 hours 24 minutes |
| **Question 6**  **WRONG** | |

Find the speed of the stream when a boat takes 5 hours to

travel 60 kms downstream at a rate of 10 kms per hour in

still water?

|  |  |
| --- | --- |
|  | 2 kmph |
| B | 3 kmph |
|  | 4 kmph |
| D | 5 kmph |

**Question 6 Explanation:**

Speed b + s = 60/5 = 12 km ph Speed b = 10 km ph So speed is = 12-10 = 2 km ph

|  |
| --- |
| **Question 7**  **WRONG** |

A man can row a certain distance downstream in 2 hours while

he takes 3 hours to come back. If the speed of the stream be

6 km/hr then the speed of the man in still water is:

|  |  |
| --- | --- |
| A | 15km/hr |
|  | 30km/hr |
|  | 25km/hr |
| D | 29km/hr |

**Question 7 Explanation:**

Let the speed of the man in still water be X km/hr.Given that, speed of the stream = 6 km/hr. Therefore, speed in downstream = (X+6) km/hr (by using formula 2) And, speed in upstream = (X-6) km/hrDistance covered in downstream in 2 hours = (X+6)2 kmDistance covered in upstream in 3 hours = (X-6)3 kmTherefore, (X+6)2 = (X-6)3 2X+12 = 3X-18 X = 30km/hr.

|  |
| --- |
| **Question 8**  **WRONG** |

A boat takes 7 hours to cover 24 km distance and comes back.

And, it can cover 2 km with the stream in the same time as

1.5 km against the stream. The speed of the stream is:

|  |  |
| --- | --- |
|  | 1 km/hr |
|  | 2 km/hr |
| C | 3 km/hr |
| D | 4 km/hr |

**Question 8 Explanation:**

Let the boat takes X hours to cover 2 km in downstream. Then, speed in downstream = (2/X) km/hrand, speed in upstream = (1.5/X)km/hrGiven that, the boat takes 7 hours to cover 24 km distance and comes back.That is, 24/(2/X) + 24/(1.5/X) = 7 24X/2 + 48X/3 = 7 168X/6 = 7 X = 42/168 = 1/4So, speed in downstream = 2/X = 2 /(1/4) = 8 km/hr Speed in upstream = 1.5/X = 1.5 /(1/4) = 6 km/hr.Speed of the stream = (8-6)/2 km/hr (by using the formula 3) = 1 km/hr.

|  |
| --- |
| **Question 9**  **WRONG** |

A man can take the same time to row 13 km downstream and

7 km upstream. His speed in still water 5 km/hr. The speed

of the stream is:

|  |  |
| --- | --- |
|  | 5/2 km/hr |
|  | 3/2 km/hr |
| C | 7/2 km/hr |
| D | 2 km/hr |

**Question 9 Explanation:**

Given that, the speed in still water = 5 km/hr Let the speed of the stream be X km/hr. Then speed in downstream = (5+X) km/hr And, speed in upstream = (5-X) km/hrThe time taken to cover 13 km downstream = 13/(5+X) The time taken to cover 7 km upstream = 7/(5-X)Therefore, 13/(5+X) = 7/(5-X) 13(5-X) = 7(5-X) 65 – 13X = 35+7X 30 = 20X X = 30/20 = 3/2Hence the required answer is 3/2 km/hr.

|  |
| --- |
| **Question 10**  **CORRECT** |

There are two bus stands, namely X and Y. Buses leave from X

for every 30 minutes and its first bus starts at 8.05 am.

Every hour number of buses leaving from Y increases by 1 and its

first bus starts at 7 am. From Y there is only 1 bus for the 1st hour.

Any bus from either of the bus stations takes 15 minutes to reach a

nearby bus stop. Suppose a person reaches the stop in between 12.15 pm

and 1.15 pm. The probability that the person will get a bus from Y is:

|  |  |
| --- | --- |
|  | 3/4 |
| B | 1/3 |
| C | 1 |
| D | 1/4 |

**Question 10 Explanation:**

From bus stand X : The first bus will leave by 8.05 am and reach the bus stop in 15 minutes, i.e. at 8.20 am Second bus will leave after 30 minutes i.e. at 8.35 am and will reach the stop at 8.50 am Therefore, buses will reach the stop at the following times: 8.20am, 8.50am, 9.20 am,…,12.20 pm, 12.50 pm, 1.20 pm and so on. Between 12.15 pm and 1.15 pm, two buses will reach the stop at 12.20 pm and 1.20 pm. Therefore, the person will get 2 buses from X.From bus stand Y : The first bus will leave by 7 am and reach the bus stop in 15 minutes, i.e. at 7.15 am. There is only one bus for first 1 hour. i.e., the second bus will leave after 8 am. Note that, the number of buses leaving from Y is increased by 1 per hour.From 8 am to 9 am, two buses will leave from Y and reach the stop between 8.15 am to 9.15 am. And from 9 am to 10 am, 3 buses will leave from Y and reach the stop between 9.15 am to 10.15 am. Proceeding like this, we have, From 12 pm to 1 pm, 6 buses will leave from Y and reach the stop between 12.15 pm to 1.15 pm.Therefore, the person will get 6 buses from Y between 12.15 pm to 1.15 pm. Probability of getting bus from Y between 12.15 pm to 1.15 pm = Number buses from Y in between 12.15 pm to 1.15 pm / Total number of buses from X and Y in between 12.15 pm to 1.15pm = 6/(2+6) = 6/8 = 3/4.

## Quants Time Speed & Distance I: 3

|  |
| --- |
| **Question 1**  **WRONG** |

There is well of depth 30 m and frog is at bottom of the well.

He jumps 3 m in one day and falls back 2 m in the same day.

How many days will it take for the frog to come out of the well?

|  |  |
| --- | --- |
|  | 30 |
| B | 29 |
|  | 28 |
| D | 26 |

**Question 1 Explanation:**

28 days Frog jumps 3 m in day & falls back 2 m at night so,frog will be 3 – 2 = 1 m up in a day. Thus, in 27 days it will be 27 m up On 28th day it will be at top i.e 27 + 3 = 30 m & will not fall down.

|  |
| --- |
| **Question 2**  **WRONG** |

There is well of depth 30 m and frog is at bottom of the well.

He jumps 3 m in one day and falls back 2 m in the same day.

How many days will it take for the frog to come out of the well?

|  |  |
| --- | --- |
| A | 36 days |
| B | 48 days |
|  | 10 days |
|  | 28 days |

**Question 2 Explanation:**

28 days Effective height covered in 1 day = 3 – 2 = 1 m. So in 27 days 27 m. will be covered. On 28th day distance of 27+3=30 m is covered

|  |
| --- |
| **Question 3**  **WRONG** |

Due to some defect in our elevator, I was climbing down the staircase.

I’d climbed down just 7 steps when I saw a man on the ground floor.

Continuing to walk down, I greeted the man and I was surprised to see

that when I was yet to get down 4 steps to reach the ground floor,

the man had already finished climbing the staircase. He perhaps climbed

up 2 steps for every 1 of mine. How many steps did the staircase have?

|  |  |
| --- | --- |
|  | 27 |
| B | 23 |
|  | 22 |
| D | 9 |

**Question 3 Explanation:**

Let us consider x be the number of steps 7 + x + 4 = 2x As old man takes 2 steps for every one steps he takes and he has to complete 4 steps, So x = 11 and total steps = 2x = 22

|  |
| --- |
| **Question 4**  **WRONG** |

A dog takes 4 leaps for every 5 leaps of hare but 3 leaps

of dog is equal to 4 leaps of hare compare speed?

|  |  |
| --- | --- |
|  | 16 : 17 |
| B | 17 : 15 |
|  | 16 : 15 |
| D | 20 : 15 |

**Question 4 Explanation:**

Dog and hare speeds according to the number of leaps = 4 : 5 But their leap lengths are in the ratio = 4 : 3 (3 x D = 4 x H ) Multiplying number of leaps and leap lengths we get their speeds as = 4 x 4 : 5 x 3 = 16 : 15 Answer = 16 : 15

|  |
| --- |
| **Question 5**  **CORRECT** |

Supposing a clock takes 7 seconds to strike 7. How long will it take

to strike 10?

|  |  |
| --- | --- |
| A | 1 hours not 3 hours. |
| B | 2 hours not 2 hours. |
|  | 1 hours not 2 hours. |
| D | 4 hours not 2 hours. |

**Question 5 Explanation:**

7 strike of a clock have 6 intervals While 10 strikes have 9 intervals. Required time = ( 76×9 ) seconds =10 1/2 seconds. Because time is only moving ahead ! so when we say between 1 to 2 hours, that means we assume only 1 hours not 2 hours.

|  |
| --- |
| **Question 6**  **WRONG** |

An escalator is descending at constant speed. A walks down and

takes 50 steps to reach the bottom. B runs down and takes 90 steps

in the same time as A takes 10 steps. How many steps are visible when

the escalator is not operating?

|  |  |
| --- | --- |
| A | 255 |
|  | 350 |
|  | 100 |
| D | 99 |

**Question 6 Explanation:**

Lets suppose that A walks down 1 step / min and escalator moves n steps/ min It is given that A takes 50 steps to reach the bottom In the same time escalator would have covered 50n steps So total steps on escalator is 50 + 50n. Again it is given that B takes 90 steps to reach the bottom and time taken by him for this is equal to time taken by A to cover 10 steps i.e 10 minutes. So in this 10 min escalator would have covered 10n steps. So total steps on escalatro is 90 + 10n Again equating 50 + 50n = 90 + 10n we get n = 1 Hence total number of steps on escalator is 100.

|  |
| --- |
| **Question 7**  **WRONG** |

Jack and Jill went up and down a hill. They started from the bottom

and Jack met Jill again 20 miles from the top while returning. Jack

completed the race 1 min a head of Jill. If the hill is 440 miles

high and their speed while down journey is 1.5 times the up journey.

How long it took for the Jack to complete the race ?

|  |  |
| --- | --- |
|  | 13.6min |
| B | 14.6min |
| C | 120.6min |
|  | 12.6min |

**Question 7 Explanation:**

Assume that height of the hill is 440 miles. Let speed of Jack when going up = x miles/minute and speed of Jill when going up = y miles/minute Then speed of Jack when going down = 1.5x miles/minute and speed of Jill wen going up = 1.5y miles/minute Case 1 : Jack met jill 20 miles from the top. So Jill travelled 440 – 20 = 420 miles. Time taken for Jack to travel 440 miles up and 20 miles down = Time taken for Jill to travel 420 miles up 440 x +201.5 x =420 y 681.5 x =420 y 68y = 63x y = 63 x 68 —(1) Case 2 : Time taken for Jack to travel 440 miles up and 440 miles down = Time taken for Jill to travel 440 miles up and 440 miles down – 1 440 x +4401.5 x =440 y +4401.5 y – 1 440×53(1 y −1 x )=1 —–(2) Substitute (2) in (1) we get x = 4 40×5×53×63 t = 440×53(1 x ) t = 12.6min

|  |
| --- |
| **Question 8**  **WRONG** |

A family X went for a vacation. Unfortunately it rained for 13 days

when they were there. But whenever it rained in the mornings, they had

clear afternoons and vice versa. In all they enjoyed 11 mornings and

12 afternoons.How many days did they stay there totally?

|  |  |
| --- | --- |
|  | 18 days |
|  | 28 days |
| C | 26 days |
| D | 36 days |

**Question 8 Explanation:**

Clearly 11 mornings and 12 afternoons = 23 half days since 13 days raining means 13 half days. so 23 – 13 =10 half days ( not affected by rain ) so 10 half days = 5 full days Total no. of days = 13 + 5 = 18 days

|  |
| --- |
| **Question 9**  **WRONG** |

If i walk with 30 miles/hr i reach 1 hour before and if i walk

with 20 miles/hr i reach 1 hour late.Find the distance between 2

points and the exact time of reaching destination is 11 am then

find the speed with which it walks.

|  |  |
| --- | --- |
|  | 240 |
|  | 120 |
| C | 340 |
| D | 255 |

**Question 9 Explanation:**

LET ORIGINAL SPEED BE V AND TIME TAKEN BE T…AS DISTANCE BETWEEN TWO POINTS IS CONSTANT, 30\*(T-1)=20\*(T+1)=V\*THENCE, V=24MILE/HR T=5 HRSDISTANCE BETWEEN TWO POINTS IS 120 MILES

|  |
| --- |
| **Question 10**  **WRONG** |

Food grains are to be sent to city from godown. Owner wants to

reach the food grains at 11 O' Clock in the city. If a truck travels

at a speed of 30km/hr then he will reach the city one hour earlier.

If the truck travels at a speed of 20km/h then he will reach the city

one hour late. Find the distance between the godown to city. Also with

which speed the truck should travel in order to reach at exactly 11 'O clock?

|  |  |
| --- | --- |
|  | 24 kmph |
| B | 26 kmph |
|  | 36 kmph |
| D | 48 kmph |

**Question 10 Explanation:**

Let distance be x km and original time be t hr, when he travels at constant speed, say s kmph. Clearly, x = st. Now, x=30(t-1) and x=20(t+1). Solving these to simultaneous linear eqns, we get x=120 km and t=5 hr. So, distance between city and go-down =120km. To reach exactly at 11 o’clock, he must travel at speed s=x/t = 120/5 = 24 kmph

|  |
| --- |
| **Question 11**  **WRONG** |

Two trains starting at same time, one from Bangalore to Mysore and

other in opposite direction arrive at their destination 1 hr and 4 hours

respectively after passing each other. How nuch faster is

one train from other?

|  |  |
| --- | --- |
| A | 5 |
|  | 6 |
|  | 2 |
| D | 8 |

**Question 11 Explanation:**

et v1-peed of train from bangalore to mysore(train1) v2- speed of train from mysore to bangalore(train2) and x be the distance from B to M and a be the distance from bangalore till meet point (i.e.)train1 travels a km and train2 travels x-a km time taken by train1 to travel a=time taken by train2 to travel x-a a/v1=x-a/v2, v1/v2=a/x-a time taken by train1 to travel x-a=1hr x-a/v1=1, x-a=v1 time taken by train2 to travel a=4hrs a/v2=4, a=4v2 therefore s1/s2=4s2/s1 s1^2=4s2^2 s1:s2=2:1 train1 speed=twice the speed of train2

## Quants Time Speed & Distance I: 4

|  |
| --- |
| **Question 1**  **WRONG** |

Two boats start from opposite banks of river perpendicular to the shore.

One is faster then the other. They meet at 720 yards from one of the ends.

After reaching opposite ends they rest for 10mins each. After that they

start back. This time on the return journey they meet at 400yards from

the other end of the river. Calculate the width of the river?

|  |  |
| --- | --- |
|  | 1760 yard |
| B | 1755 yard |
| C | 1660 yard |
|  | 2260 yard |

**Question 1 Explanation:**

: Let us assume that width of river d yards and speed of boats – x and

y yards/min respectively.Hence the two equations are :1) (d-720)/x =

720/y2) (d/y+10+400/y)

= (d/x + 10 + (d-400)/x)Solving the two equationsWe get d=1760 yard

|  |
| --- |
| **Question 2**  **WRONG** |

Joe started from bombay towards pune and her friend julie in

opposite direction.they meet at a point .distance travelled by

joe was 1.8 miles more than that of julie.after spending some both

started there way. joe reaches in 2 hours while julie in 3.5 hours.

Assuming both were travelling with constant speed.Wath is the distance

between the two cities.

|  |  |
| --- | --- |
|  | 7.6 Miles |
|  | 6.6 Miles |
| C | 6.9 Miles |
| D | 5.6 Miles |

**Question 2 Explanation:**

The distance between 2 cities is 6.6 miles.Consider Both meet

after X Hrs after they started .Consider Y Miles is the distance travelled

by Julie in X Hrs=> Distance covered by Joe in X Hrs = Y + 1.8 Miles.

Hence Julie’s speed is Y/X Miles/Hr And Joe’s speed is (Y + 1.8 ) /X Miles/Hr

Distance travelled by Joe (Bombay – Pune) in 2 Hrs = Distance travelled

by Joe (Pune – Bombay) in

3.5 Hrs( (Y + 1.8 ) /X) \* 2 = (Y/X) \* 3.52Y + 3.6 = 3.5Y1.5 Y =3.6Y=

2.4Hence Distance between Pune -Bombay = Y + (Y +1.8) = 2Y + 1.8 =

(2\*2.4) +1.8 = 4.8 + 1.8 = 6.6 Miles

|  |
| --- |
| **Question 3**  **WRONG** |

A & B two places. C & D are two people. C started from A and D

started from B. When they meet each other in the way C traveled 18 m

more than D. Then C takes 13 and half a minute and D takes 24 minutes

to reach the other end. What was the distance between A & B?

|  |  |
| --- | --- |
| A | 130 m. |
|  | 135 m. |
| C | 137 m. |
|  | 126 m. |

**Question 3 Explanation:**

let d travelled x km, then c travelled 18+x km.

then c takes 13.5 min to travel ‘x’ distance and d takes 24 min to travel ’18+x’

so their speeds are x/13.5 & (x+18)/24

Initially time taken by c & d to travel distances 18+x and x are same.

t=d/s => (18+x)/(x/13.5) = x/((x+18)/24)

=> (18+x)^2 = 1.777x^2

On solving the quadratic equation x=54 m

Distance between them is 2x+18= 2\*54+18 = 126 m.

|  |
| --- |
| **Question 4**  **WRONG** |

A person drives with constant speed and after some time he sees a

milestone with 2 digits. Then he travels for 1 hour and sees the same

2 digits in reverse order. 1 hour later he sees that the milestone has

the same 2 digits with a 0 between them. What is the speed of the car (in mph)?

|  |  |
| --- | --- |
| A | 40mph |
|  | 60mph |
|  | 45mph |
| D | 65mph |

**Question 4 Explanation:**

: let during the 1st hr men sees two digit number be(1hr):10x+y

now after an hr he sees reverse of the digit(2 hr) :10y+x

again he sees a 3-digit number which is same as previous but with 0 added so(3hr):100x+0+y

since,speed is constant then

distance covered in an hr=distance covered in 2 hr

(10y+x)-(10x+y)=(100x+y)-(10y+x)

-9x+9y=99x-9y

-108x+18y=0

18y=108x

9y=54x

so,x=1 y=6

ie:16 61 106

so to get the speed when we add 45 to 16 ie:45+16=61 similarly 61+45=106

so speed is 45mph

|  |
| --- |
| **Question 5**  **WRONG** |

A man was going by cycle. After going 2/3rd of total distance the cycle

broke down and he had to complete the journey on foot. At the end he found

that he walked twice as long as he was on cycle. How many times the speed

of the cycle is as the speed of walking?

|  |  |
| --- | --- |
|  | 4 times |
| B | 6 times |
|  | 12 times |
| D | 0 times |

**Question 5 Explanation:**

Let the distance be z km, speed of cycle be x km/hr and walking speed be y

km/hr.

Then he covered 2z/3 km by cycle in 2z/3x hr and

covered z/3 km on foot in z/3y hr.

? according to the question 2\*2z/3x = z/3y ? x/y = 4.

|  |
| --- |
| **Question 6**  **WRONG** |

A ship went on a voyage after 180 miles a plane started with 10 times

speed that of the ship. Find the distance when they meet from starting point.

|  |  |
| --- | --- |
| A | 600 miles |
|  | 400 miles |
|  | 200 miles |
| D | 700 miles |

**Question 6 Explanation:**

Let the distance traveled by the ship after 180 miles to meet the plane be ‘d’

Speed of the ship be ‘x’ and speed of the ship be ’10x’Time taken by plane to travel 180+d dist. = time take by ship for ‘d’ dist.

(180+d)/10x=d/x

180+d=10d

d=180/9=20.So the distance traveled when they meet from starting point=180+d=200 miles

|  |
| --- |
| **Question 7**  **WRONG** |

There are 20 poles with a constant distance between each pole.

A car takes 24 second to reach the 12th pole.How much will it

take to reach the last pole?

|  |  |
| --- | --- |
|  | 41.4545 seconds |
|  | 42.4545 seconds |
| C | 46.4545 seconds |
| D | 56.4545 seconds |

**Question 7 Explanation:**

Assuming the car starts at the first pole…To reach the 12th pole, the car need to travel 11 poles (the first pole

doesn’t count, as the car is already there).

11 poles 24 seconds

1 pole (24/11) secondsTo reach the last (20th) pole, the car needs to travel 19 poles.

19 pole 19 \* (24/11) seconds

= 41.4545 seconds

|  |
| --- |
| **Question 8**  **WRONG** |

There r some steps. i come down 7 steps then see a man at bottom.

then he comes up and i go down at same speed(my speed). when 4 steps

r remaining for me i find tht man has reached the top. for my single

step downwards he took 2 steps up. find total steps?

|  |  |
| --- | --- |
| A | 11 |
| B | 24 |
|  | 22 |
|  | 25 |

**Question 8 Explanation:**

If I took steps during man’s journey upwards, then

7+x+4=2x where 2x is number of total steps

x=11

total steps =2x=22 steps

|  |
| --- |
| **Question 9**  **WRONG** |

When the actual time pass 1hr wall clock is 10 min behind it.

When 1 hr is shown by wall clock, table clock shows 10 min ahead of it.

When table clock shows 1 hr the alarm clock goes 5min behind it.

When alarm clock goes 1 hr wrist watch is 5 min ahead of it assuming

that all clocks are correct with actual time at 12 noon, what will be

time shown by wrist watch after 6 hr?

|  |  |
| --- | --- |
| A | 6.00 pm |
| B | 5.48 pm |
|  | 5.30 am |
|  | 5.47 pm |

**Question 9 Explanation:**

1. Table clock – Wall Clock = +10 minutes ⇒ 1 hour in 6 hours

2. Alarm clock – Table clock = – 5 minutes ⇒ 30 minutes in 6 hours

3. Wristwatch – Alarm clock = + 5 minutes ⇒ 30 minutes in 6 hours

Also, every hour Wall clock loses 10 minutes.

If it’s 6 hours since 12 noon then time shown by Wall clock = 6:00 – 1 hour =

5:00 pm

⇒ Time shown by Table clock with reference to Wall clock = 5:00 + 50 min =

5:50 pm

⇒ Time shown by Alarm clock with reference to Table clock =

5:50 pm – 25 minutes – 25/6 minutes =

5:21 pm

⇒ Time shown by Wristwatch = 5:21 + 25 minutes + 21/6 =

5.47 pm

Hence, 5.47 pm is the answer.

|  |
| --- |
| **Question 10**  **WRONG** |

Mr. ANYMAN left ANYTOWN by car to attend a wedding at ANYCITY.

He had been driving for exactly two hours when the car got punctured.

It took his driver exactly ten minutes to change the wheel. In order

to play safe they covered the remaining distance at a speed of 30 mph.

consequently, Mr. ANYMAN was at wedding half an- hour behind schedule.

Had the car got the puncture only 30 miles later , I would have been

only FIFTEEN minutes late he told the driver . How Far is ANYCITY

from ANYTOWN

|  |  |
| --- | --- |
|  | 120min |
| B | 220min |
|  | 20min |
| D | 60min |

**Question 10 Explanation:**

first he took total time=2+t+10/60 where t is the time taken to

travel after puncture

in the second case the

total time=2+30/s+10/60+t-15/60 where 30/s is the time taken to move 30 miles

before puncture and 15/60 is that if we fast

we will be 15mins before so we need to subtract

so solving both s=120mph

x=240miles

before puncture we have travelled 240

30=d-x/t

30=d-240/t

30t=d-240 from

30=d-(x+30)/t-15/60

d-240/t=(d-270)/t-(1/4)

by solving we get values of d and t

## Quants Time Speed & Distance I: 5

|  |
| --- |
| **Question 1**  **CORRECT** |

A man is going to a wedding party. He travels for 2hrs when

he gets a puncture. Changing tyres takes 10mins. The rest of

the journey he travels at 30 miles/hr. He reaches 30mins behind

schedule. He thinks to himself that if the puncture had occurred

30miles later, he would have been only 15mins late. Find the total

distance traveled by the man?

|  |  |
| --- | --- |
| A | 220 miles |
|  | 120 miles |
| C | 2400 miles |
| D | 320 miles |

**Question 1 Explanation:**

120 miles. normal speed 40 mph. Normal time = 3 hrs Distance travelled in 2 hrs = 80 miles. Time taken for last 40 miles = 40/30 =4/3 hrs .. 1 hr 20 mis. Time taken to replace tyre = 10 mins.so late by 30 mins

|  |
| --- |
| **Question 2**  **CORRECT** |

A man was on his way to a marriage in a car with a constant speed.

After 2 hours one of the tier is punctured and it took 10 minutes to

replace it. After that they traveled with a speed of 30 miles/hr

and reached the marriage?

|  |  |
| --- | --- |
| A | 220 miles |
| B | 360 miles |
|  | 120 miles |
| D | 440 miles |

**Question 2 Explanation:**

A man was on his way to a marriage in a car with a constant speed. After 2 hours one of the tier is punctured and it took 10 minutes to replace it. After that they traveled with a speed of 30 miles/hr and reached the marriage

|  |
| --- |
| **Question 3**  **WRONG** |

There were some containers of quantity 1, 3, 4, 5, 6, 12, 15, 22, 24, 38

liters. Each was filled with some liquid except one. The liquids

are milk, water and oil. Quantity of each was like this.

Water = 2\* milk oil = 2\* water. Find out which container

was empty and containers filled with milk and oil.

|  |  |
| --- | --- |
|  | 4ltr |
|  | 5ltr |
| C | 7ltr |
| D | 4.5ltr |

**Question 3 Explanation:**

4 ltr container is empty. Oil 72 ltrs in 38+22+6+5+1 ltr containers water in 24+12 =36 ltr milk 18 ltr in 15+3 ltr container

|  |
| --- |
| **Question 4**  **CORRECT** |

we travelled to a place at the rate of 10 miles per hour and

offcourse returned the same way, but owing to less traffic

at the rate of 15 miles per hour.what was our relative speed.

|  |  |
| --- | --- |
| A | 120mph |
|  | 12mph |
| C | 42mph |
| D | 48mph |

**Question 4 Explanation:**

(2\*x\*y)/(x+y) = 2\*10\*15/25 = 12mph

|  |
| --- |
| **Question 5**  **CORRECT** |

Two trains leaving from two station 50 miles away from each other

with costant speed of 60 miles per hour, approaches towards each

other on diffrent tracks. if lenght of each train is 1/6 mile.

when they meet How much time they need to pass each other totally?

|  |  |
| --- | --- |
| A | 2/6 minutes |
|  | 1/6 minutes |
| C | 1/7 minutes |
| D | 2/8 minutes |

**Question 5 Explanation:**

both are approaching each other relative speed=60+60=120m/h distance=50m time=50/120=5/12hrs= 25 minutes to meetnow, relative length of train= 1/6+1/6=1/3m relative speed = 120m/h time to cross both the trains= (1/3)/120=1/360 hrs = 1/6 minutes

|  |
| --- |
| **Question 6**  **WRONG** |

A boy goes to school from his house.on one fourth oh his way to school,

he crosses a machinery station. And on one third of his way to school,

he crosses a Railway station.He crossed the machinery station at 7:30

and he crosses the Railway station at 7:35.when does he leave the

house & when does he reach the school ?

|  |  |
| --- | --- |
|  | 8:15 |
| B | 14:00 |
|  | 15:00 |
| D | 22:30 |

**Question 6 Explanation:**

1/4th distance is reached at 7:30 and 1/3rd distance is reached at 7:35 Hence (1/3)-(1/4)=1/12 distance will be covered in 5 mins. If 1/12th of the total distance is covered in 5 mins then, the boy needs 60 mins to cover total distance (i.e., 5\*12=60) 1/4th of 60 mins is 15 mins. Hence the boy would have left 15 mins before 7:30 Hence the boy leaves the house at 7:15 and reaches his school at 8:15

|  |
| --- |
| **Question 7**  **WRONG** |

A drives a car four times a lap 10,20 30,60 kmph what is the average speed?

|  |  |
| --- | --- |
| A | 240kmph |
|  | 40kmph |
| C | 45kmph |
|  | 20kmph |

**Question 7 Explanation:**

For simplicity, assume the distance of the lap is 60km When the speed is 10kmph, time taken to complete the lap=6hrs. 20kmph, time taken to complete the lao=3hrs 30kmph, time taken to complete the lap=2hrs 60kmph, time taken to complete the lap=1hr. Average speed=total distance/time taken=240/12=20kmph

|  |
| --- |
| **Question 8**  **WRONG** |

A man was travelling to a place 30 miles away from starting point.

he was speeding at 60 miles/hr. but when he came back, his car got

breakdown and half an hour was wasted in reparing that. altogether

he took 1 hr for return journey. Find the avg. speed of the whole journey

|  |  |
| --- | --- |
| A | 45miles/hr |
|  | 40miles/hr |
| C | 46miles/hr |
|  | 50miles/hr |

**Question 8 Explanation:**

in 1/2 hours he will cover 30 miles( 60 miles/hr) when came back he takes 1 hours. so total time = 1.5 hours total distance = 60 miles av speed = 60/1.5 = 40miles/hr

|  |
| --- |
| **Question 9**  **CORRECT** |

A cow was standing on a bridge, 5feet away from the middle of

the bridge. suddenly a lightning express with 90 miles/hr was

coming towards the bridge from nearest end of the cow.seeeing

this the cow ran towards the express and managed to escape

when the train is one feet away from the bridge. if it would

have ran to opposite direction(ie away from train) it would

have been hit the train one ft away from the end of the bridge.

Calculate the length of bridge.

|  |  |
| --- | --- |
| A | 10mts. |
| B | 28mts. |
| C | 44mts. |
|  | 32mts. |

**Question 9 Explanation:**

: let ‘b’ be the Length of bridge from cow to the near end of the bridge and ‘a’ be the distance of the train from the bridge. ‘x’ be speed of cow => ‘4x’ speed of train Then the total length of the bridge 2b + 10. (a-2)/4x = b/x => a-2 = 4b……..(1) Now if it had run in opposite direction (a+2b+10-2)/4x = (b+10-2)/x => a – 2b = 24……(2) Solving (1) and (2) b = 11 , Therefore length of the bridge is 2 x 11 + 10 = 32mts.

|  |
| --- |
| **Question 10**  **WRONG** |

A complex statement - about an aeroplane comming late.

"The boy says if it was 6 hours later, the waiting time would be

1/5th of the time if the plane had come 2 hours earlier instead.

the plane is supposed to come at midnight?

|  |  |
| --- | --- |
|  | 8 hrs |
|  | 6 hrs |
| C | 9 hrs |
| D | 6.30 hrs |

**Question 10 Explanation:**

Let them arrive at x pmPlane arrives on time : Wait time = 12-x;Plane arrives 6 hrs late : Wait time = 12+6-x = 18-x;Plane arrives 2 hrs early : Wait Time = 12-2-x = 10-x;1/5(18-x) = (10-x)18-x = 50 -5x;4x = 32;x =8;Proof: 2hrs early :10-8 =2= 1/5(18-8) :6 hrs late

|  |
| --- |
| **Question 11**  **WRONG** |

There ia truck which should reach some place at 11`o clock ,

if it travels with 30 mph it reaches i hour before , if it

travles with 20 mph it reaches 1 hour late. what is the distance

it must be travlled and what is the speed it must maintain to rech

at exact time? ans: 120 miles and 24 mph?

|  |  |
| --- | --- |
| A | 320miles |
|  | 360miles |
|  | 120miles |
| D | 220miles |

**Question 11 Explanation:**

: let the distance be d d/30=t-1 d/20=t+1 on dividing above we get 3/2=(t+1)/(t-1) t=5hrs. so d=120miles

|  |
| --- |
| **Question 12**  **WRONG** |

There are two colcks one runs 1min/hrs faster and other 1min/hr

slower when will the two clocks have time time difference of 1 hr?

|  |  |
| --- | --- |
|  | 30 hrs |
| B | 35 hrs |
|  | 30030 hrs |
| D | 90 hrs |

**Question 12 Explanation:**

in 30 hrs, the faster clock is 30 min ahead and the slower one 30 min behind…so, difference is 1 hr

## Quants Time Speed & Distance I: 6

|  |
| --- |
| **Question 1**  **WRONG** |

There are 2 guards Bal and Pal walking on the side of a wall

of a wearhouse(12m X11m) in opposite directions. They meet at

a point and Bal says to Pal "See you again in the other side".

After a few moments of walking Bal decides to go back for a smoke

but he changes his direction again to his previous one after

10 minutes of walking in the other(opposite) direction remembering

that Pal will be waiting for to meet. If Bal and Pal walk 8 and

11 feet respectively, how much distance they would have travelled

before meeting again?

|  |  |
| --- | --- |
|  | 48 metres |
| B | 80 metres |
|  | 49 metres |
| D | 52 metres |
| **Question 2**  **WRONG** | |

A person has to cover the fixed distance through his horses.

There are five horses in the cart. They ran at the full potential

for the 24 hours continuously at constant speed and then two of the

horses ran away to some other direction. So he reached the destination

48 hours behind the schedule. If the five horses would have run

50 miles more,then the person would have been only 24 hours late.

Find the distance of the destination?

|  |  |
| --- | --- |
|  | 400 |
| B | 600 |
|  | 423 |
| D | 365 |

**Question 2 Explanation:**

Suppose his actual speed is ‘v’ with 5 horses, If he travelled that 50 miles with 5 horses the time taken wud b 50/v, which equals time taken with 3/5th speed minus 24hrs 50/v = 50/(3v/5) – 24; so, v = 25/18; Now, suppose after 1st 24 hrs he takes ‘t’ hrs to reach his destination, then vt = (3v/5)(t + 48); vt = (3v/5)(t+48) t = 72 total time = 72+24 = 96 distance = 400/3

|  |
| --- |
| **Question 3**  **CORRECT** |

Tom wants to catch a hare. He is standing 250 yards south

from the hare. The hare starts moving due east.Tom, instead of

moving in the northeast direction,moves in such a way that at every

instant, he is going towards the hare. If speed of tom is one

and one-third times that of the hare, find the distance each

traveled before he caught the hare.

|  |  |
| --- | --- |
|  | 1000 |
| B | 1900 |
| C | 2100 |
| D | 1850 |

**Question 3 Explanation:**

let the distance traveled by the hare be x. so the distance traveled by tom is 250+x. let speed of hare by s. speed of tom=4s/3. (250+x)/(4s/3)=x/s solving we get x=750 so distance traveled by tom is 1000.

|  |
| --- |
| **Question 4**  **WRONG** |

Every day a cyclist meets a train at a particular crossing.

The road is straight before the crossing and both are travelling

in the same direction. Cyclist travels with a speed of 10 Kmph.

One day the cyclist comes late by 25 min. and meets the train 5km

before the crossing. What is the speed of the train?

|  |  |
| --- | --- |
|  | 78km |
|  | 60km |
| C | 48km |
| D | 52km |

**Question 4 Explanation:**

Speed of the train = 60km/hr. Speed of Cyclist travel = 10km/hr. It means, Cyclist travels 5km in 30minutes. If Cyclist comes late by 25 min and meets the train 5km before the crossing means, it shows Train can travel 5Kms in 5minutes. So, speed of train is (5 km/5min) = 1 km/1min = 60km per hour.

|  |
| --- |
| **Question 5**  **WRONG** |

Person needs 6 steps to cover a distance of one slab. If he increases

his foot length (step length) by 3 inches he needs only 5 steps to cover

the slabs length. What is the length of each slab?

|  |  |
| --- | --- |
|  | 7.5 feet |
| B | 8.6 feet |
| C | 9.33 feet |
|  | none |

**Question 5 Explanation:**

let the length of each step be x, distance of each slab is 6x. (6 steps = one slab) …(i) length of each step is increased by 3 inches so distance of each step is now x+3 distance of each slab is 5(x+3) (5 steps = one slab) … (ii) distance of each slab from (i) and (ii) are equal 6x = 5(x+3) x = 15… substituting x in (i) or (ii) we get distance of each step is 90 inches or 90/12 i.e 7.5 feet

|  |
| --- |
| **Question 6**  **WRONG** |

A person meets a train at a railway station coming days at a

particular time. One day he is late by 30 minutes, and he meets

the train 5 kms before the station. If his speed is 12 kmph,

what is the speed of the train?

|  |  |
| --- | --- |
|  | 60 kph |
|  | 65 kph |
| C | 75 kph |
| D | 75 kph |

**Question 6 Explanation:**

Suppose Person meets the train everyday at 3 PM at Station A. His speed is 12kph. So normally he reaches 5 km before the meeting point (pt B) at (5/12 hr = 25 min before) 2:35PM. But if he is late by 30 min, then he will reach that point (pt B) by 3:05 PM. Train is traveling at its normal speed so it covers the distance of 5 Km in 5 min starting from Station A and reaches the meeting point (pt B) at 3:05 PM. So speed of the train is 5KM/5min = 60 kph

|  |
| --- |
| **Question 7**  **WRONG** |

An army 50 miles long marches at a constant rate. A courier standing at

the rear moves forward and delivers the message to the first person and

then turns back and reaches the rear of the army as the army completes

50 miles. Find the distance travelled by the courier?

|  |  |
| --- | --- |
| A | 121.7 mile |
|  | 100.7 mile |
| C | 110.7 mile |
|  | 120.7 mile |

**Question 7 Explanation:**

Let the speed of the army be x and speed of the courier be y. The time taken by the courier to reach the first person be t1 and to return be t2. (y-x)t1 = 50——–(i) (y+x)t2 = 50———(ii) x(t1+t2) = 50———(iii) from (iii):t1+t2=50/x——-(iv) from (ii):t2=50/y+x——-(v) from (iii):t1=50/y-x——-(vi) Putting (v) & (vi) in (iv):50/x=(50/y-x)+(50/y+x) ——> 1/x=(1/y+x)+(1/y-x)—–> Solving y=(1+2^.5)x=(1+1.414)x=2.414x Now distance travelled by courier =(t1+t2)\*y = (50/x) \* 2.414x = 50\*2.414=120.7 mile hence 120.7 mile

|  |
| --- |
| **Question 8**  **WRONG** |

Two men are going along a track of rail in the opposite direction.

One goods train crossed the first person in 20 sec. After 10 min the

train crossed the other person who is coming in opposite direction in 18 sec.

After the train has passed, when the two persons will meet?

|  |  |
| --- | --- |
| A | 50 |
|  | 101 |
| C | 98 |
|  | 90 |

**Question 8 Explanation:**

Let us consider that speed of the train, first man and second man are respectively t, f and s. According to first given condition goods train crossed the first person moving in same direction in 20 sec. so length of the will be 20(t-f) similarly train crossed the second man in 18 sec. so length of the train will be 18(t+s) on comparing these two equations, we get 20(t-f) = 18(t+s) or 2t = 20f + 18s or t = 10f + 9s now it is given that After 10 min the train crossed the other person who is coming in opposite direction so if we consider this way of train as L then the next equation will be L = 600t (here 600 is used for 10 minutes) finally as asked in the question the time required to meet the two man after the train has passed will be given by time = (L-600 f)/(f+s) {here 600f is used for the distance traveled by first man in 10 minutes} = (600t-600f)/(f+s) = [600(10f+9s)-600f]/(f+s) = 600(10f+9s-f)/(f+s) = 600\*9(f+s)/(f+s) = 600\*9 seconds = 600\*9/60 min = 90 minutes

|  |
| --- |
| **Question 9**  **WRONG** |

Ship is away from the shore by 180 miles. A plane is traveling at 10 times

speed of the ship. How long from the shore will they meet?

|  |  |
| --- | --- |
|  | 200 |
| B | 400 |
|  | 600 |
| D | 100 |

**Question 9 Explanation:**

Let the distance traveled by the ship after 180 miles to meet the plane be ‘d’ Speed of the ship be ‘x’ and speed of the ship be ’10x’ Time taken by plane to travel 180+d dist. = time take by ship for ‘d’ dist. (180+d)/10x=d/x 180+d=10d d=180/9=20. So the distance traveled when they meet from the starting point =180+d=200 miles

|  |
| --- |
| **Question 10**  **WRONG** |

Two trains start from stations A and B spaced 50 kms apart at the

same time and speed. As the trains start, a bird flies from one train

towards the other and on reaching the second train, it flies back to

the first train.This is repeated till the trains collide. If the speed

of the trains is 25 km/h and that of the bird is 100km/h.

How much did the bird travel till the collision?

|  |  |
| --- | --- |
|  | 100 km |
|  | 1000 km |
| C | 90 km |
| D | 10000 km |

**Question 10 Explanation:**

Speed = 50 kmph Distance = 50 km Time to collision = distance / speed = 1 hr Speed of bird = 100 kmph Time flying = 1 hr (the bird is flying till the trains collide) Distance travelled = speed \* time = 100 km

## Quants Time Speed & Distance I : 7

|  |
| --- |
| **Question 1**  **WRONG** |

A and B start simultaneously at 8:00 am from 2 cities namely

Delhi and Srinagar respectively separated by a distance of 72 km.

A starts at a uniform speed of 4kmph. B starts at the same time

as A and travels at the rate of 2 kmph for the 1st hour, 2.5 kmph

for 2nd hour, 3 kmph for the 3rd hour and so on. At what time do

they meet?

|  |  |
| --- | --- |
|  | 5:00 pm |
|  | 5:30 pm |
| C | 4:00 pm |
| D | None of these |
| **Question 2**  **WRONG** | |

Shanti's school normally FINISHES AT 4 PM. her mom drives from

home to pick her up, reaching the school exactly at 4 pm. one

day, a half holiday is announced and the School finishes for

the day at 1 pm. Rather than sitting and Waiting , Shanti

decides to start walking towards home. Her mother meets her

along the way and as a result they reach home an hour earlier

than normal. what is the ratio of the Shanti's walking speed to

her mother's driving Speed?

|  |  |
| --- | --- |
| A | 2:5 |
| B | 3:5 |
|  | 1:5 |
|  | 4:2 |

**Question 2 Explanation:**

Consider this way….Shanti walked and as a result she saved the total driving hours= 1 Which means her mom saves half an hour each going up and down since Santi met her on the way. That means both met at 3.30 pm. So Shanti walked what the distance in 2.5 hrs (from 1 pm to 3.30 pm) what her mom would have driven for half an hour.So the ratio of their speeds are 0.5: 2.5 i.e. 1:5.The clue lies in considering the to and fro distance.

|  |
| --- |
| **Question 3**  **CORRECT** |

Ramesh travels 760 Km to his home, Partly by train and partly

by car. He takes 8 hours, if he travels 160 km by train and rest

by car. He takes 12 minutes more, if he travels 240 km by train

and the rest by car. What are the speeds of the train and of the car?

|  |  |
| --- | --- |
| A | Car = 90 kmph, train = 60 kmph |
|  | Car = 100 kmph, train = 80 kmph |
| C | Car = 80 kmph, train = 70 kmph |
| D | Car = 100 kmph, train = 90 kmph |

**Question 3 Explanation:**

Let the speed of train = x km/hr and speed of car= y km/hr Case 1 Distance travelled by train = 160 Km Distance travelled by car = 760-160 = 600 kmTime taken by train =  160/x hr Time taken by car = 600/y hr Total time taken = 160/x+600/y hr160/x+600/y = 8 ————— Equation 1 Case 2 Distance travelled by train = 240 Km Distance travelled by car = 760-240 = 520 km Time taken by train =  240/x hr Time taken by car = 520/y hr Total time taken = 240/x+520/y hr 240/x+520/y  = 8+12/60      (12 minutes=12/60 hr) 240/x+520/y = 41/5 —————  Equation 2 Multiply equation 1 by 3 and equation 2 by 2 and subtract equation 2 from equation 1 1800/y-1040/y = 24-82/5 760/y = 38/5 y = (760X5)/38 = 100 Putting y = 100 in equation 1 160/x+600/100 = 8 x = 80 Speed of Car = 100 km/hr Speed of train = 80 km/hr

|  |
| --- |
| **Question 4**  **WRONG** |

Ram & Shyam started from a point X and Y respectively and started

moving towards each other. After they met Ram took 4 hours to

reach Y and Shyam took 16 hours to reach X. Ram’s speed is 48 kmph.

What is the speed of Shyam?

|  |  |
| --- | --- |
|  | 24kmph |
| B | 56kmph |
|  | 32kmph |
| D | 12kmph |

**Question 4 Explanation:**

Let speed of Shyam be ‘x’ kmph, then Ratio of speed of Ram and Shyam = Square root of (Time taken by Shyam to Reach X after they meet / Time taken by Ram to Reach Y after they meet) => 48/x = Sqrt(16/4) => 48/x = 2 => x=24

|  |
| --- |
| **Question 5**  **CORRECT** |

Without stoppage, a train travels a certain distance with an

average speed of 60 km/h, and with stoppage it covers the same

distance with an average speed of 40 km/h. On an average,

how many minutes per hour does train stop during the journey ?

|  |  |
| --- | --- |
| A | 15mins/hr |
|  | 20 mins/hr |
| C | 25 mins/hr |
| D | 30 mins/hr |

**Question 5 Explanation:**

D1=D2 S1\*T1=S2\*T2 80\*60=60\*(60+x) where x is the stoppage time, 4800=3600+60x x=20min.

|  |
| --- |
| **Question 6**  **WRONG** |

Jack and Jill went up and down a hill. They started from the

bottom and Jack met Jill again 20 miles from the top while Jack

completed the race 1 min a head of Jill. If the hill is 440

miles high and their speed while down journey is 1.5 times the

up journey. How long it took for the Jack to complete the race?

|  |  |
| --- | --- |
|  | 12.6mins |
|  | 12.8mins |
| C | 12.4mins |
| D | 12.2mins |

**Question 6 Explanation:**

Let speed and time of Jack be s1 & t1 & Jill having s2 & t2.Time taken for Jack to travel 440 miles up and 20 miles down= Time taken for Jill to travel 440-20=420 miles up440/s1 + 20/1.5s1 = 420/s2 68/1.5s1= 420/s2 68s2= 63s1 s2 = 63s1/68 —(1)Now from the second given condition- Jack reaches 1 min before Jill. So t2-t1=1 880/s2 – 880/s1 = 1 1/s2 – 1/s2 = 1/880 from equation (1) put value of s2 Solving and putting value of s1 in t1=d/s1 (d=880) t1 = 12.6 min

|  |
| --- |
| **Question 7**  **WRONG** |

A train covered a distance at a uniform speed .if the train had

been 6 km/hr faster it would have been 4 hour less than schedule

time and if the train were slower by 6 km/hr it would have been

6 hours more. Find the distance?

|  |  |
| --- | --- |
|  | 720 km |
| B | 700 km |
| C | 600 km |
|  | 590 km |

**Question 7 Explanation:**

let t be the usual time taken by the train to cover the distance Let d be the distance, s be the usual speedUsual time taken => d/s = t => d=ts d/(s+6) = t-4 ts/(s+6) = t-4 ts = ts+6t-4s-24 6t – 4s – 24 = 0 –> (1)d/(s-6) = t+6 ts = ts-6t+6s-36 -6t + 6s – 36=0 —>(2)Solving (1) nd (2), v gets = 30 km/h t = 24 hrs d = t \* s d = 30 \* 24 = 720 km

|  |
| --- |
| **Question 8**  **CORRECT** |

A train goes from stations A to B. One day there is a technical

problem at the very beginning of the journey & hence the train

travels at 3/5 of it's original speed and so it arrives 2 hours

late. Had the problem occurred after 50 miles had been covered,

the train would have arrived 40 min earlier(i.e., only 120-40 =

80 min late). What is the distance between the 2 stations?

|  |  |
| --- | --- |
|  | 150 miles |
| B | 160 miles |
| C | 170 miles |
| D | 180 miles |

**Question 8 Explanation:**

The train travels 50 miles in 40 min So it travels 50 miles at its original speed in that 40 minutes that means Total distance is 120/3= 40 50\*3= 150

|  |
| --- |
| **Question 9**  **WRONG** |

Albert and Fernandes have two leg swimming Both start from

opposite ends of the pool. On the first leg, the boys pass each

other at 18 m from the deep end of the pool. During the second

leg they pass at 10 m from the shallow end of the pool. Both go

at constant speed but one of them is faster. Each boy rests for

4 seconds at the end of the first leg. What is the length of

the pool?

|  |  |
| --- | --- |
| A | 34 m |
|  | 24 m |
| C | 35 m |
|  | 44 m |

**Question 9 Explanation:**

A covers D-18 m when F covers 18 A covers 2D-10 when Fcovers D+10 equating both we get D^2-44D=0 D=0,44 omitting 0 we get 44

|  |
| --- |
| **Question 10**  **WRONG** |

A train leaves meerut at 5 a.m and reaches delhi at 9 am.

another train delhi at 7 am and reaches meerut at 10.30 am at

what time do the two trains cross each other?

|  |  |
| --- | --- |
|  | 7:56 am |
| B | 7:50 am |
|  | 7:30 am |
| D | 7:36 am |

**Question 10 Explanation:**

suppose trains met t hrs after 7 am. and x is distance between Delhi and meerut.Then (x/3.5)\*t + (x/4)\*(t+2)=x or t/3.5 + (t+2)/4 =1Then t= 7/7.5 hrs or 56 mins.so trains will meet at 7.56 AM.

## Quants Time Speed & Distance I- 8

|  |
| --- |
| **Question 1**  **WRONG** |

A drives a car four times a lap 10,20 30,60 kmph what is the average speed.

|  |  |
| --- | --- |
|  | 20 kmph |
|  | 12 kmph |
| C | 35 kmph |
| D | 37 kmph |

**Question 1 Explanation:**

Let the lap be x km Time taken by him to cover 4x km =x/10 +x/20 +x/30 +x/60 hrs =12x/60 hrs =x/5 hrs Therefore average speed =4x divided by x/5 =4x\*5/x =20 kmph

|  |
| --- |
| **Question 2**  **WRONG** |

Speed of boat in still water 10 km,if speed up stream is 24 km

and speed down stream is 16 what is speed of the river.

|  |  |
| --- | --- |
|  | 0.59 kmph |
|  | 0.69 kmph |
| C | 1 kmph |
| D | 0.9999 kmph |

**Question 2 Explanation:**

Speed upstream = 20/6 = 10/3 kmph = 3.33 kmph Speed downstream = 18/4 = 9/2 kmph = 4.5 kmph Speed of boat in still water = 1/2(Speed downstream+ Speed upstream) = 1/2(4.5 + 3.33) = 3.92 kmph Speed of the water current = 1/2(Speed downstream – Speed upstream) = 1/2(4.5 – 3.33) =0.59 kmph

|  |
| --- |
| **Question 3**  **WRONG** |

A leaves shore P as B leaves Q; they move across the lake at a constant speed.

They meet first time 600 yards from P. Each returns from the opposite

shore without halting, and they meet 200 yards from. How long is the lake?

|  |  |
| --- | --- |
|  | 1850 yards |
| B | 1700 yards |
| C | 1648 yards |
|  | 1600 yards |

**Question 3 Explanation:**

Let, A’s speed x & B’s speed y & distance d 600/x=(d-600)/y d/x+200/x=d/y+(d-200)/y Solving those eqns. d = 1600 yards

|  |
| --- |
| **Question 4**  **WRONG** |

There are two balls touching each other circumferentially.

The radius of the big ball is 4 times the diameter of the small all.

The outer small ball rotates in anticlockwise direction circumferentially

over the bigger one at the rate of 16 rev/sec. The bigger wheel also

rotates anticlockwise at N rev/sec. What is 'N' for the horizontal

line from the centre of small wheel always is horizontal.

|  |  |
| --- | --- |
|  | 28rev/sec |
|  | 128rev/sec |
| C | 228rev/sec |
| D | 78rev/sec |

**Question 4 Explanation:**

two balls touching circumferentially. and radius of big ball=4(diameter of small ball) =4(2r)=8r so N\*2\*3.14\*r=16\*2\*3.14\*8\*r by solving we get N=128rev/sec

|  |
| --- |
| **Question 5**  **CORRECT** |

Albert and Fernandes have two leg swimming race.

Both start from opposite ends of the pool. On the first leg,

the boys pass each other at 18 m from the deep end of the pool.

During the second leg they pass at 10 m from the shallow

end of the pool. Both go at constant speed but one of them is faster.

Each boy rests for 4 seconds at the end of the first leg.

What is the length of the pool?

|  |  |
| --- | --- |
| A | 36 |
|  | 44 |
| C | 85 |
| D | 37 |

**Question 5 Explanation:**

A covers D-18 m when F covers 18 A covers 2D-10 when Fcovers D+10 equating both we get D^2-44D=0 D=0,44 omitting 0 we get 44

|  |
| --- |
| **Question 6**  **WRONG** |

There are 4 mothers, 4 daughters and the colour of their dresses,

and they are aged 1, 2, 3 & 4. Details of the dresses are given &

then it asked about the remaining dresses?

|  |  |
| --- | --- |
| A | Data inadequate |
| B | 14 |
|  | 15 |
|  | None |
| **Question 7**  **WRONG** | |

Sam and Mala have a conversation. Sam says I am certainly

not over 40. Mala says I am 38 and you are at least 5 years

older than me. Now, Sam says you are at least All the statements

by the two are false.How old are they really?

|  |  |
| --- | --- |
|  | 37 |
| B | 40 |
| C | 45 |
|  | 42 |

**Question 7 Explanation:**

Since all are false we can conclude: 1)Sam is over 40, i.e 41,42… 2)mala is not 38 and sam is atmost 4 years older than mala. 3)Mala is atmost 37(since in the 2nd statement mala cant be 38) So mala is 37 and sam is 41

|  |
| --- |
| **Question 8**  **WRONG** |

A car travels at a speed of 60 km/h and returns with a

speed of 40 km/h. Calculate the average speed for the

whole journey.

|  |  |
| --- | --- |
| A | 36 |
|  | 48 |
| C | 56 |
|  | 60 |

**Question 8 Explanation:**

(2xy)/(x+y) 2\*40\*60/100=48 km/h

|  |
| --- |
| **Question 9**  **WRONG** |

How long will a train 100 m long and travelling at a speed

of 45 kmph,take to corss a platform of length 150 m?

|  |  |
| --- | --- |
|  | 20 sec |
| B | 29 sec |
| C | 27 sec |
|  | cannot be determined |

**Question 9 Explanation:**

speed =45\*5/18 = 25/2 m/sec time= (100+150)/25/2 time=250\*2/25 time =20sec

|  |
| --- |
| **Question 10**  **WRONG** |

What is the time taken by a train running at 54 km/hr to

cross a man standing on a platform, the length of the

train being 180 m?

|  |  |
| --- | --- |
| A | 6 seconds |
|  | 12 seconds |
|  | 16 seconds |
| D | 18 seconds |

**Question 10 Explanation:**

speed in meters/seconds=54\*1000/3600=15m/s; time = length/speed; time = (180m)/(15m/s) = 12 seconds..

## Quants Problem on Ages

## Quants Problem on Ages I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

Joe's age, Joe's sister's age and Joe’s fathers age sums up to a century.

When son is as old as his father, Joe's sister will be twice as old as

now. When Joe is as old as his father then his father is twice as old

as when his sister was as old as her father.Age of her father ?

|  |  |
| --- | --- |
|  | 35 |
| B | 78 |
| C | 55 |
| D | 40 |
|  | 50 |

**Question 1 Explanation:**

Joe + sister + father = 100

After x years let us consider Joe’s age is equal to his father Joe + x = father

Therefore,

s ⇒ i s t e r + x = 2 x s i s t e r

sister = x

Joe + sister = father Therefore,

2 × father = 100 Hence, Father = 50

|  |
| --- |
| **Question 2**  **WRONG** |

The Master says to his grandmaster that me and my three cousins

have ages in prime nos. only. Summation of our ages is 50.

Grandmaster who knows the age of the master instantly tells

the ages of the three cousins. Tell the ages of three cousins.

( 1 is not considered as prime no.)

|  |  |
| --- | --- |
|  | 3,5,11 years |
|  | 3,5,12 years |
| C | 34,5,11 years |
| D | 3,5,81 years |

**Question 2 Explanation:**

: sum of ages of all 4 cousin is 50

5+3+11+31=50

ages can be 3,5,11, yrs

|  |
| --- |
| **Question 3**  **WRONG** |

There are two families Alens and smiths. They have two children each.

There names are A,B,C,D whose ages are different and ages are less

then or equal to 11. The following conditions are given:-

i) A's age is three years less then his brother's age .

ii) B is eldest among the four.

iii) C is half the age of the eldest in Alens family.

iv) The difference in sum of the ages of Alens children and

smiths children is same asthat of five years ago.

**Find the ages of all the children.**

|  |  |
| --- | --- |
|  | 10 |
| B | 3 |
|  | 0 |
| D | 1 |

**Question 3 Explanation:**

B- 10, D-9, A-6, C-5

soln- (B+C)- (A+D)=0

[(B-5)+(C-5)]-[(D-5)+(A-5)]=0

|  |
| --- |
| **Question 4**  **CORRECT** |

When Arthur is as old as his father Hailey is now, he shall be 5 times

as old as his son Clarke is now. By then, Clarke will be 8 times older

than Arthur is now. The combined ages of Hailey and Arthur are 100 years.

How old is Clarke?

|  |  |
| --- | --- |
| A | 88.23785 |
|  | 88.2353 |
| C | 78.2353 |
| D | 96 |

**Question 4 Explanation:**

Sol: let father’s present age=x, arthur’s age=y and clark’s age=z

x=5z

x+y=100

z+(x-y)=8y

solving above three eqs, x= 88.2353

|  |
| --- |
| **Question 5**  **WRONG** |

My father’s age was x in the year x2. I am obviously talking

about 20th century. In which year was my father born?

|  |  |
| --- | --- |
|  | 2001 |
| B | 1999 |
|  | 1982 |
| D | 1979 |

**Question 5 Explanation:**

: x = 44 as 442 = 1936 and the square of any other integer will not fall in

between 1900 and 2000. i.e my father was 44 in the year 1936. ? my father was

born in the year 1892.

|  |
| --- |
| **Question 6**  **WRONG** |

10Father's age is three years more than three times the son's age.

After three years, father's age will be ten years more than twice

the son's age. What is the father's present age?

|  |  |
| --- | --- |
|  | 39 |
|  | 33 |
| C | 34 |
| D | 40 |

**Question 6 Explanation:**

if the present age be x years.

father’s will be (3x+3)years..

so, (3x+3+3)=2(x+3)+10

or, x=10

so the fathers present age =(3x+3)=(3\*10+3)years =33years..

|  |
| --- |
| **Question 7**  **WRONG** |

"You see," said Mrs.Murphy,"Paddy is now one and one-third times

as old as he was when he took to drink, and little Jimmy, who was

forty months old when paddy took to drink is now two years more than

half as old as I was when Paddy took to drink , so when little Jimmy

is as old as Paddy was when he took to drink.our three ages combined

will amount to just one hundred years" How old is little Jimmy?

|  |  |
| --- | --- |
| A | 155.5 months |
|  | 175.7 months |
| C | 275.5 months |
|  | 175.5 months |

**Question 7 Explanation:**

: Paddy ——- Jimmy —— I

x —– 40 —— N >> when Paddy took to drink4x/3 —— 40+(x/3) —- M >>Now(N/2)+2= 40+(x/3) => N = 76+(2x/3)

M= 76+(2x/3)+(x/3)=76+xSo total age=(4x/3) + 40 +(x/3) +76+x=1200

=> 8x/3= 1200-116=1084

x= 406.5

Jimmy is now= 40+135,5=175.5 months

|  |
| --- |
| **Question 8**  **CORRECT** |

Some guy holding a glass of wine in his hand looking around

in the room says, "This is same as it was four years ago,

how old are your two kids now?" Other guy says "Three now,

Pam had one more in the meanwhile." Pam says, "If you multiply

their ages, answer is 96 and if you add the ages of first two kids,

addition is same as our house number." The first guy says,

"You are very smart but that doesn't tell me their ages." Pam says,

"It's very simple, just think." What are the ages of three kids?

|  |  |
| --- | --- |
|  | 8,6,2 |
| B | 8,6,3 |
| C | 7,6,2 |
| D | 8,7,2 |

**Question 8 Explanation:**

the age of three kids is 8,6,2. Because the multiplication

of three children is 96 and there is no younger child before four years.

the multiples of 96 are as follows:-

12,8,1; 16,6,1; 24,4,1;

8,6,2; 12,4,2; 8,4,3; 6,4,4; 8,3,4.

from the statement

“This is same as it was four years ago, how old are your two kids now?”.

we can conclude that

1)the two children should be kids means not above 5 or 6 when he saw

them before 4 years ago and

2)the age of children

should not be equal to 4 now because he had seen two kids b4r 4 years.

from all the above conclusions we can conclude that their ages is 8,6,2

|  |
| --- |
| **Question 9**  **WRONG** |

Father says my son is five times older than my daughter.

my wife is 5 times older that my son. I am twice old from

my wife and altogether (sum of our ages) is equal to my mother's age

and she is celebrating her 81 birthday. so what is my son's age?

|  |  |
| --- | --- |
| A | 11 years |
|  | 13 years |
|  | 5 years |
| D | 6 years |

**Question 9 Explanation:**

: let daughter’s age be x

son’s age= 5x

wife’s age=25x

his age= 50 x

sum= 81= x+5x+25x+50x

hence, x=1

now daughter’s age is x=1

sons’ age is 5x=5

son is 5 years old

|  |
| --- |
| **Question 10**  **WRONG** |

A boss tells 1/6 th of his life in child hood,1/12 of his

in youth and 1/7 of his in bachelor,five years after his election

a son was born whom was died four years ago at half his final age.

find the boss age.

|  |  |
| --- | --- |
|  | 74 |
| B | 56 |
|  | 48 |
| D | 12 |

**Question 10 Explanation:**

a/6+a/12+a/7 +5……

## Quants Problem on Ages I: 3

|  |
| --- |
| **Question 1**  **CORRECT** |

A conducter in the bus ask the man how old the boy is.the man replied

that my son is five times older than my daughter and my wife is five

times older than my son and i am twice older to my wife and our ages

summed upto my granmother whose age is 81 years.can u tell me the son age?

|  |  |
| --- | --- |
| A | 9 |
|  | 5 |
| C | 4 |
| D | 6 |

**Question 1 Explanation:**

x+5x+25X+50X=81

81X=81

x=1 therefore son age is 5 years old

|  |
| --- |
| **Question 2**  **WRONG** |

Find out who is oldest and who is youngest from the following statements...

a)eitherA or B r the oldest

b)either C is the oldest or B is the youngest.

|  |  |
| --- | --- |
|  | A is the oldest and B is the Youngest |
| B | A is the oldest and c is the Youngest |
|  | c is the oldest and B is the Youngest |
| D | none |

**Question 2 Explanation:**

A is the oldest and B is the Youngest

|  |
| --- |
| **Question 3**  **WRONG** |

Impressed by admiration of the boy by stranger, the father said

"My son is five times as old as my daughter and my wife is five times

as old as my son. I'm double the age of my wife and my grandmother is

as old as the sum of ages of all of us and she is celebrating her 81st birthday."

what is the age of the boy?

|  |  |
| --- | --- |
|  | 5 yrs |
|  | 7 yrs |
| C | 8 yrs |
| D | 10 yrs |

**Question 3 Explanation:**

It should be 5 years.

|  |
| --- |
| **Question 4**  **WRONG** |

A, B & C participate in a race & one of them wins. They belong to three

communities-M, N, one community.

A SAYS:I would have won the race if C had not interfered me

at the last movement. 2. C always speaks truth. C is the winner.

B SAYS:A wins the race. 2. C is not a 'N'.

C SAYS:I hadn't interfered with A at the last movement. 2. B wins the race.

Tell, who's who?

|  |  |
| --- | --- |
| A | Axj |
|  | Axy |
|  | Axg |
| D | Wrong |
| **Question 5**  **WRONG** | |

Sons age is 5 times daughters.mother is five times son.father is

5 times wife. Total of all age is Grandpas who is celebrating 81st B`day.

|  |  |
| --- | --- |
|  | 5 yrs |
| B | 8 yrs |
| C | 6 yrs |
|  | 7 yrs |

|  |
| --- |
| **Question 6**  **WRONG** |

One-sixth of my life", said my boss, "I spent as a child, next

one-twelfth as an old boy, one-seventh & 5 more years in politics

& socialization. This brought me upto when Jimmy born. Jimmy was elected

for the governer four years ago, when he was half my present age."

and tutorials.How old is my boss?

|  |  |
| --- | --- |
|  | 84 |
| B | 85 |
|  | 87 |
| D | 96 |

**Question 6 Explanation:**

J =

(B/2) + 4

(B/6) + (B/12) + (B/7) + 5 + J = B

=> B = 84

|  |
| --- |
| **Question 7**  **WRONG** |

Four persons A,B,C,D were there. All were of different weights.

All Four gave a statement.Among the four statements only the person

who is lightest in weight of all

others gave a true statement.

A Says : B is heavier than D.

B Says : A is heavier than C.

C Says : I am heavier than D.

D Says : C is heavier than B.

Find the lightest & List the persons in ascending order according to their weights

|  |  |
| --- | --- |
|  | A is the lightest |
|  | B is the lightest |
| C | C is the lightest |
| D | D is the lightest |

**Question 7 Explanation:**

: A says B>D

B says A>C

C says C>D

D says C>BSince the person with lightest weight tells the truth

C lies (If C tells the truth, then C is not the lightest and then C lies)

===> D>C is the true statement.

So D is also not the lightest person and D lies.

B>C

So from A and B only one is telling the truth and that is not B because

B>C, so B is not the lightestA is the lightest

|  |
| --- |
| **Question 8**  **CORRECT** |

There is log weighing 30kgs. The log having twice thickness and

twice short as first one will weigh howmuch ??

|  |  |
| --- | --- |
| A | 100 kg |
| B | 58 kg |
| C | 59 kg |
|  | 60 kg |

**Question 8 Explanation:**

: let d be the diameter and h be the height of the first cylinder

then 2d will be the diameter and 1/2 h will be the height of the second cylinder

volume of 1st cylinder= phi/4 d^2 h

volume of 2nd cylinder= phi/4 (2d)^2 (1/2h)= 1/2 phi (d)^2 h

1/4:1/2

the weight is 60 kg

|  |
| --- |
| **Question 9**  **CORRECT** |

John had decided to divide his RS.1000/- for his four children

according to their ages. The elder child should be a RS.20/- extra

for each than his younger child . What will be the share of Mahesh

who is the youngest?

|  |  |
| --- | --- |
|  | 220 |
| B | 240 |
| C | 245 |
| D | 110 |

**Question 9 Explanation:**

Let their shares are Rs x, x+20,x+40 , x+40

then

x+x+20+x+40+x+60 =1000

4x= 880

x= 220

so Mahesh ,the youngest child got Rs. 220.

|  |
| --- |
| **Question 10**  **WRONG** |

P says to Q "I am thrice as old as you were when i was as old

as you are". If the sum of their present age is 100 years,

then the present age of Q?

|  |  |
| --- | --- |
|  | 60 |
|  | 40 |
| C | 30 |
| D | 20 |

**Question 10 Explanation:**

P Q

Past x y

Present 3y x

The above stated ages are unnderstood if the

question is clear to you.

Now, Sum of their present ages is 100 so,3y+x=100;And since equal no. of years has passed between

the Past and Present, so

3y-x=x-y;On solvinf these two equations we getx=40, y=20.

So present age of Q is 40(i.e. x) and P is 60(i.e.

3y).

## Quants Time & Work

## Quants Time & Work I: 1

|  |
| --- |
| **Question 1** |

If A and B can do a piece of work in 7.5 days. If B works 1/2 of

work and remaining work was completed by A, taking total time of

20 days to complete the work.

If b is more efficient then B can do work in how many days?

|  |  |
| --- | --- |
| A | 11 |
| B | 10 |
| C | 20 |
| D | 8 |

**Question 1 Explanation:**

10 days1/A + 1/B = 2/15 or (A+B)/AB= 2/15 —-(i)(1/2)/(1/A) + (1/2)/(1/B) = 20 or A/2 + B/2 = 20 or A+B= 40 —-(ii)

Substituting A+B= 40 from (ii) in (i), we get AB= 300

Now finding the factors of 300, whose sum is 40, we have 10 and 30

As B is more efficient than A, B can do the work in 10 days.

|  |
| --- |
| **Question 2**  **WRONG** |

An inlet pipe fill a tank in 5 hrs and outlet pipe empty same tank

in 36 hrs working individually.how many additional number of outlet

pipes of same capacity required to be opened so that tank never overflows?

|  |  |
| --- | --- |
| A | 4 |
|  | 8 |
|  | 7 |
| D | 10 |

**Question 2 Explanation:**

Inlet pipe fills the tank in 5 hr and outlet pipe empties the tank

in 36 hr.

So inlet pipe is 36/5 = 7.2 times efficient than , ensure that the

an outlet pipe.

Therefore , in order to tank never overflows , we will need total

8 outlet pipes.

Already we have 1 outlet pipe , thus we need only (8-1) = 7 outlet pipes

|  |
| --- |
| **Question 3**  **WRONG** |

Shanti's school normally FINISHES AT 4 PM. her mom drives from home

to pick her up, reaching the school exactly at 4 pm.

one day, a half-holiday is announced and the School finishes for the

day at 1 pm. Rather than sitting and Waiting, Shanti decides to start

walking towards home.

Her mother meets her along the way and as a result they reach home an hour

earlier than normal.

what is the ratio of the Shanti's walking speed to her mother's driving Speed?

|  |  |
| --- | --- |
|  | 1:5 |
|  | 3:9 |
| C | 7:10 |
| D | 3:5 |

**Question 3 Explanation:**

Consider this way….Shanti walked and as a result she saved the total driving hours= 1

Which means her mom saves half an hour each going up and

down since Santi met her on the way.

That means both

met at 3.30 pm. So Shanti walked what the distance in 2.5 hrs

(from 1 pm to 3.30 pm) what her mom would have driven for half an hour.So the ratio of their speeds are 0.5: 2.5 i.e. 1:5.The clue lies in considering the to and fro distance.Hope it is clear now.

|  |
| --- |
| **Question 4**  **WRONG** |

In a grass field if 40 cows could eat for 40 days.The same grass

field can feed 30 cows for 60 days.how long will it feed 20 cows?

|  |  |
| --- | --- |
|  | 80 |
|  | 85 |
| C | 70 |
| D | 60 |

**Question 4 Explanation:**

80Here if number of cows decrease by 10 has increasing the

number of days by 20therefore,

40cows for 40days

30cows for 60days

20cows for 80daysAns: 80or you can solve by ratio

40C : 40D –> 1:1

30C : 60D –> 1:2

20C : 80D –> 1:4ans:80

|  |
| --- |
| **Question 5**  **CORRECT** |

5 skilled workers can build a wall in 20days; 8 semi-skilled workers

can build a wall in 25 days; 10 unskilled workers can build a wall

in 30days. If a team has 2 skilled, 6 semi-skilled and

5 unskilled workers, how long will it take to build the wall?

|  |  |
| --- | --- |
| A | 12 |
|  | 15 |
| C | 14 |
| D | 18 |

**Question 5 Explanation:**

Ans : 15days

For Skilled

5 workers ——–20 days

5 workers 1 day work= 1/20

1 worker’s 1 day work= 1/(5\*20)Similarly,

For Semi-Skilled——

1 worker’s 1 day work= 1/(8\*25)For Unskilled——

1 worker’s 1 day work= 1/(10\*30)For 2 skilled,6 semi-skilled and 5 unskilled

workers

One day work= 2\*[1/(5\*20)] +6\*[1/(8\*25)] + 5\*[ 1/(10\*30)] = 1/15

Therefore no. of days taken= 15

|  |
| --- |
| **Question 6**  **WRONG** |

Rajesh can finish 1/5 of his home work in one hour. Seema can finish 3/7 of

her homework in 90 minutes and Ramya can finish 3/4 of her homework in

three and a half hours. If all of them start their home work at 12.00 PM

and can go to play as soon as they all finish their homework.

When can they start to play, if they take a break at 3.30 PM for 30 minutes?

|  |  |
| --- | --- |
| A | 5:10 pm |
|  | 6:30 pm |
|  | 5:30 pm |
| D | 5:45 pm |

**Question 6 Explanation:**

Starting homework at 12 PM and Taking a break at 3:30 PM,

we came to know that each of them have already spent

3 hrs and 30 minute i.e 210 min

After taking break, they started to do their homework at 4 PM

1. Rajesh can finish 1/5 of his work in 1 hr. i.e in 60 min

He can finish 1 work in 60\* 5 = 300 min

Remaining time to complete his hm work = 300-210= 90 min

Starting again at 4 PM,he will finish his homework at 5:30 PM

2. Sema can finish 3/7 of her homework in 90 min

She will finish 1 work in 90\*(7/3) = 210 min

Therefore she finished her work at 3:30 PM

3.

Ramya can finish 3/4 of her work in 210 minShe will finish 1 work in 210\*(4/3 ) min= 280 minRemaining time left for Ramya to complete her work =280 – 210 = 70 min

Starting to do homework again at 4 PM,she will complete her work at

5:10 PM

Since Rajesh takes longer time to finish the work

(completing the work at 5:30 PM), hence they all can start

to play at 5:30 PM. That’s the only time they all will meet

|  |
| --- |
| **Question 7**  **WRONG** |

3 person can fill tank in 25 min, a can fill in 30 min , b can fill

in 35 min and c can empty the 5 gallon per min then

what is the capacity of tank?

|  |  |
| --- | --- |
|  | 230 |
|  | 250 |
| C | 200 |
| D | 180 |

**Question 7 Explanation:**

the answer is approximately 230 gallons and if u want exact then

it comes 228.25explanation is given below:

3 person together fill tank in 25 min hence,

calculate the time of person C that in how much time

he empty the tank so,(1/A)+(1/B)-(1/C)=1/25i.e, (1/30)+(1/35)-(1/C)=1/25 ………. we get,1/C=23/1050,while, its given the C can empty 5 gallon per min. therefore(23/1050)=5and capacity of tank will get if we solve above expression,

we get 228.25

|  |
| --- |
| **Question 8**  **WRONG** |

If Rita spends every day 40 minutes for watering the plants

how much time does Rita spend watering the plants in 20 days?

|  |  |
| --- | --- |
| A | 12hours |
|  | 13.33hours |
| C | 12.5hours |
|  | 15.5hours |
| E | 14.33hours |
| **Question 9**  **WRONG** | |

If a pipe A can fill a tank in 40 minutes and pipe B fill the

same tank in 30 minutes. How long will it take for both pipes

together to fill the tank?

|  |  |
| --- | --- |
| A | 17 |
|  | 16 |
| C | 15 |
|  | 120/7 |
| E | 13 |

**Question 9 Explanation:**

Time taken by both pipes together to fill the tank = 1/(1/40 +1/30) = 120/7 min

|  |
| --- |
| **Question 10**  **WRONG** |

3 men finish painting a wall in 8 days. Four boys do the same job in

7 days. In how many days will 2 men and 2 boys working together paint

two such walls of the same size?

|  |  |
| --- | --- |
|  | 6 6/13 days |
| B | 3 3/13 days |
|  | 9 2/5 days |
| D | 12 12/13 days |

**Question 10 Explanation:**

1 man’s 1 day work=1/24

1 boy’s 1 day work=1/28

2 men’s 1 day work=(1/24)\*2=1/12

2 boys ‘s 1 day work = (1/28)\*2=1/14

2 men and 2 boys work together=1/12+1/14

=(7+6)/84

=13/84

no of days taken by 2 men and 2 boys=84/13

6 6/13

Option (a) is the ans

## Quants Time & Work I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

A completes a work in 2 days, B in 4 days, C in 9 and D in 18 days.

They form the group of two such that difference is maximum between

them to complete the work. What is the difference in the number of

days they complete that work?

|  |  |
| --- | --- |
|  | 14/3 days |
|  | 12/5 days |
| C | 14/5 days |
| D | 13/3 days |

**Question 1 Explanation:**

If C and D form a pair and A and B form a pair the difference is maximum. Now C and D together can complete the work = 9 × 18 9 + 18 9×189+18 = 6 days. A and B together can complete the work = 2 × 4 2 + 4 2×42+4 = 4/3 days. Difference = 6 – 4/3 = 14/3 days.

|  |
| --- |
| **Question 2**  **WRONG** |

Ramesh can finish a work in 20 days and Sushil in 25 days.

They both work together for 5 days and then Sushil goes away.

In how many days will Ramesh complete the remaining work?

|  |  |
| --- | --- |
|  | 8 days |
| B | 9 days |
| C | 10 days |
|  | 11 days |

**Question 2 Explanation:**

(5 + x)/20 + 5/25 = 1 => x = 11 days

|  |
| --- |
| **Question 3**  **WRONG** |

5 men are equal to as many women as are equal to 8 boys.

All of them earn Rs.90 only. Men’s wages are?

|  |  |
| --- | --- |
|  | Rs.6 |
| B | Rs.5 |
|  | Rs.4.50 |
| D | Rs.5.5 |

**Question 3 Explanation:**

5M = xW = 8B5M + xW + 8B —– 90 Rs.5M + 5M + 5M —– 90 Rs.15M —— 90 Rs. => 1M = 6Rs.

|  |
| --- |
| **Question 4**  **WRONG** |

A can do a piece of work in 12 days. He worked for 15 days and

then B completed the remaining work in 10 days. Both of them

together will finish it in.

|  |  |
| --- | --- |
|  | 12 1/2 days |
| B | 25 days |
| C | 6 days |
|  | 12 days |

**Question 4 Explanation:**

5/25 + 10/x = 1 => x = 251/25 + 1/25 = 2/2525/2 = 12 1/2 days

|  |
| --- |
| **Question 5**  **WRONG** |

A and B can do a piece of work in 21 and 24 days respectively.

They started the work together and after some days A leaves the

work and B completes the remaining work in 9 days. After how

many days did A leave?

|  |  |
| --- | --- |
| A | 5 |
|  | 7 |
| C | 8 |
|  | 6 |
| **Question 6**  **WRONG** | |

Ram, who is half as efficient as Krish, will take 24 days to

complete a work if he worked alone. If Ram and Krish worked

together, how long will they take to complete the work?

|  |  |
| --- | --- |
| A | 16 days |
| B | 12 days |
|  | 8 days |
|  | 18 days |

|  |
| --- |
| **Question 7**  **CORRECT** |

Ram starts working on a job and works on it for 12 days and

completes 40% of the work. To help him complete the work, he

employs Ravi and together they work for another 12 days and

the work gets completed. How much more efficient is Ram than Ravi?

|  |  |
| --- | --- |
| A | 50% |
| B | 200% |
| C | 60% |
|  | 100% |
| **Question 8**  **WRONG** | |

A and B working together can finish a job in T days. If A works

alone and completes the job, he will take T + 5 days. If B works

alone and completes the same job, he will take T + 45 days.

What is T?

|  |  |
| --- | --- |
| A | 25 |
| B | 60 |
|  | 15 |
|  | None |

|  |
| --- |
| **Question 9**  **WRONG** |

13 kigs and 6 libs can produce 510 tors in 10 hrs, 8 kigs and 14 libs

can produce 484 tors in 12 hrs. Find the rate of production of tors for

kigs and libs. Express the answer in tors/hr?

|  |  |
| --- | --- |
| A | 8.4 tors/hr. |
| B | 6 tors/hr. |
|  | 5.4 tors/hr. |
|  | 4.4 tors/hr. |

**Question 9 Explanation:**

: Let, Kigs—> x & Libs—> y 13x+6y = 510/10 8x+14y = 484/12 So, x=236/67 & y=349/402 x+y=1765/402=4.39 (approx.) Ans =4.4 tors/hr.

|  |
| --- |
| **Question 10**  **WRONG** |

Grass in lawn grows equally thick and in a uniform rate. It takes 24 days

for 70 cows and 60 days for 30 cows to eat the whole of the grass.

How many cows are needed to eat the grass in 96 days.?

|  |  |
| --- | --- |
|  | 40 |
|  | 20 |
| C | 35 |
| D | 45 |

**Question 10 Explanation:**

g – grass at the beginning r – rate at which grass grows, per day y – rate at which one cow eats grass, per day n – no of cows to eat the grass in 96 days g + 24\*r = 70 \* 24 \* y g + 60\*r = 30 \* 60 \* y g + 96\*r = n \* 96 \* y Solving, n = 20.

## Quants Time & Work I: 3

|  |
| --- |
| **Question 1**  **WRONG** |

Albert and Fernandes have two leg swimming race. Both start from

opposite ends of the pool. On the first leg, the boys pass each other

at 18 m from the deep end of the pool. During the second leg they pass

at 10 m from the shallow end of the pool. Both go at constant speed but

one of them is faster. Each boy rests for 4 seconds at the end of the first

leg. What is the length of the pool?

|  |  |
| --- | --- |
|  | 44m |
|  | 45m |
| C | 22m |
| D | 33m |

**Question 1 Explanation:**

The solution is :Let the length of swimming pool be : D

let their speed be x and y. So according to question the fast swimmer (let x)

would start

from shallow end.

Thus

Let they first meet after time: t 1

x × t 1 = D –18

(1)

y × t 1 =18

(2)

(2) / (1)we get

yx =18( D –18)

— (3)

Let t2 be the time after which they meet 2nd time (the 4 sec delay is

cancelled as both

wait for 4 sec)

So

x × t 2 =2 D –10

—- (4)

(as x travelled one length complete to deep end + length from

deep end to 10 m before

shallow end)

4 y × t 2 = D +10

—– (5)

(as y travelled one length complete to shallow end + 10 m from shallow end)

(5) / (4)we get

yx =( D +10)(2 D –10)

—– (6)

from (3) and (6)

18( D –18)=( D +10)(2 D –10)

solving we get

D x (D – 44) = 0

Since D cannot be zero

So D = 44 m answer.

|  |
| --- |
| **Question 2**  **CORRECT** |

12 persons can complete the work in 18 days. after working for 6 days,

4 more persons added to complete the work fast. in how many more days

they will complete the work?

|  |  |
| --- | --- |
| A | 6 days |
|  | 9 days |
| C | 12 days |
| D | 14 days |

**Question 2 Explanation:**

Total work 12 x 18 =216 units

After 6 days, work finished 6 x 12 =72 units Remaining work 216 – 72=144 units

Remaining days= 144(12+4)

Answer is 9 days

|  |
| --- |
| **Question 3**  **CORRECT** |

There are three trucks A, B, C. A loads 10 kg/min. B loads 13 1/3 kg/min.

C unloads 5 kg/min. If three simultaneously works then what is the time

taken to load 2.4 tones?

|  |  |
| --- | --- |
| A | 3hrs 10min |
|  | 2hrs 10min |
| C | 4hrs 20min |
| D | 6hrs 11min |

**Question 3 Explanation:**

Work done in 1 min =10 + 403 – 5= 553 kg/min

For 1 kg = 3/55 min

For 2.4 tonnes = 3/55 x 2.4 x 1000 = 130 mins = 2hrs 10min

|  |
| --- |
| **Question 4**  **WRONG** |

A man walks at 4 km/hr on plain, then at 3 km/hr uphill and then

returns through the same road at 6 km/hr downhill and at 4 km/hr

on the plain. It takes altogether 6 hours. So what distance

he covered in one way?

|  |  |
| --- | --- |
|  | 12km |
|  | 14km |
| C | 22km |
| D | 6km |

**Question 4 Explanation:**

Let the distance covered one way on plain be x ,uphill be y

time = distance travelled/speed

x/4 + y/3 + y/6 + x/4 = 6

x/2 + y/2 = 6

x+y=12

12km

|  |
| --- |
| **Question 5**  **CORRECT** |

The quarter of the time from midnight to present time added to the

half of the time from the present to midnight gives the present time.

What is the present time?

|  |  |
| --- | --- |
|  | 9hr 36min |
| B | 10hr 36min |
| C | 9hr |
| D | 6hr 36min |

**Question 5 Explanation:**

let the present time be x

then according to the ques

x/4+(24-x)/2 = x

so x=9hr 36min

|  |
| --- |
| **Question 6**  **WRONG** |

there are 3 custoners who wants to take a hair cut and shave.

there are 2 barbers who takes one quarter of an hour for a hair cut,

and 5 minutes for a shave. both the barbers want to finish off and go

quickly to their homes. in what time can do it?

|  |  |
| --- | --- |
| A | 60min |
|  | 1 hr 30min |
| C | 36min |
|  | 30min |

**Question 6 Explanation:**

Let us take 3 customers as A,B,C.

Let us take 2 Barbers as X,Y.

First X cuts hair for A for 15 min ………………………………………. (1)

Alternately Y completes shave for B,C in 10 minutes……………………..(2)

Then completion of shave Y starts Haircut for B or C for 15 minutes………………………(3)

So Total time upto now for Y is 25 minutes

After X completion of hair cut to A he starts cutting for B or C…………………………….(4)

Lastly A has to be shaved which will be finished by Y for 5 minutesSo if u See Both Barbers are spending 30 minutes each

|  |
| --- |
| **Question 7**  **CORRECT** |

2 men take turns walking and riding one horse that they share...

walking speed 4km/hr..riding speed 12km/hr..one rides for some time

and ties horse for the other walking fellow and continues walking......

they keep going on like this alternately ..find time that the horse rests?

|  |  |
| --- | --- |
| A | 3hr |
|  | 2hr |
| C | 8hr |
| D | 12hr |

**Question 7 Explanation:**

If total distance is 24 kms, thenFirst person will ride for 1 hr up to 12 kms point.

leaves horse there and walks for next 3 hrs up to 24 kms point.

second person will walk for 3 hrs up to 12 kms point.

Takes horse for next 1 hr to reach at 24 kms point.Hence horse rests for 2 hrs in between.

|  |
| --- |
| **Question 8**  **WRONG** |

A alone can do a piece of work in 6 days and B alone in 8 days.

A and B undertook to do it for Rs. 3200. With the help of C,

they completed the work in 3 days. How much is to be paid to C?

|  |  |
| --- | --- |
|  | 600 |
|  | 400 |
| C | 800 |
| D | 450 |

**Question 8 Explanation:**

C’s 1 day’s work =((1/3)-(1/6)+(1/8))=(1/3)-(7/24)=1/24

A’s wages : B’s wages : C’s wages =(1/6):(1/8):(1/24)=4:3:2

C’s share (for 3 days) = Rs.((3\*(/24)3200))=400

|  |
| --- |
| **Question 9**  **WRONG** |

A’ and ‘B’ started a business in partnership investing Rs 20000/-

and Rs 15000/- respectively. After six months ‘C’ jointed them with

Rs 20000/-. What will be B’s share in the total profit of Rs 25000/-

earned at the end of two years from the starting of the business?

|  |  |
| --- | --- |
|  | 3600 |
| B | 7200 |
| C | 8500 |
|  | 7500 |

**Question 9 Explanation:**

A:B:C = (20000×24):(15000×24):(20000×18) =4 : 3 : 3

B’s Share = 3×250004+3+3 = 7500

|  |
| --- |
| **Question 10**  **CORRECT** |

T, U, V are 3 friends digging groups in fields.

If T & U can complete i groove in 4 days &, U & V can

complete 1 groove in 3 days & V & T can complete in 2 days.

Find how many days each takes to complete 1 groove individually?

|  |  |
| --- | --- |
| A | 7 days |
| B | 21 days |
|  | 24 days |
| D | 27 days |

**Question 10 Explanation:**

t+u=1/4, u+v=1/3, v+t=1/2

so 2(t+u+v)=1/4+1/3+1/2=3+4+6/12=13/12.

so (t+u+v)= 13/24.

so t = 13/24-1/3 = 13-8/24= 5/24.,

So T takes 24/5 days to complete the work

Similarly, u takes 24 days and v takes 24/7 days

## Quants Time & Work I- 4

|  |
| --- |
| **Question 1**  **WRONG** |

12 persons can complete the work in 18 after working for 6 days,

4 more persons added to complete the work fast. in how many more

days they will complete the work?

|  |  |
| --- | --- |
|  | 9 |
| B | 8 |
| C | 7 |
|  | 10 |

**Question 1 Explanation:**

work = 12\*18 men days=216men days work done=12\*6=72 men days work left=216-72=144 men days now total men is 12+4=16 men. let they take x days to complete 144 men days work =>16\*x men day=144 men day => x=144/16=9 days

|  |
| --- |
| **Question 2**  **CORRECT** |

There are three trucks A, B, C. A loads 10 kg/min. B loads 13

1/3 kg/min. C unloads 5 kg/min. If three simultaneously works

then what is the time taken to load 2.4 tones?

|  |  |
| --- | --- |
| A | 115mins |
|  | 130mins |
| C | 134mins |
| D | 135mins |

**Question 2 Explanation:**

a loaded in 1 min =10kg b loaded in 1 min=40/3kg c unloaded in 1 min=5kg so a,b,c are loaded in 1 min=55/3kg so 1 kg loaded by a,b,c in time =3/55min now, 2.4 tons loaded by a,b,c in time= (3/55)\*2.4\*1000=130min

|  |
| --- |
| **Question 3**  **WRONG** |

A completes a work in 2 days, B in 4 days, C in 9 and D in

18 days. They form group of two such that difference is maximum

between them to complete the What is difference in the number

of days they complete that work?

|  |  |
| --- | --- |
|  | 14 days |
|  | 14/3 days |
| C | 15 days |
| D | 16 days |

**Question 3 Explanation:**

If C and D form a pair and A and B form a pair the difference is maximum. Now C and D together can complete the work = (9×18/9+18) = 6 days. A and B together can complete the work = (2×4/2+4) = 4/3 days. Difference = 6 – 4/3 = 14/3 days.

|  |
| --- |
| **Question 4**  **WRONG** |

60 buffaloes will have food for 120 days. After 10 days,

27 buffaloes die due to an epidemic. For how many days will

the remaining food last?

|  |  |
| --- | --- |
|  | 300 |
|  | 200 |
| C | 180 |
| D | 240 |

**Question 4 Explanation:**

Buffaloes Days 60 120 33 ? Total consumption = 60 x 120 = 7200 unit. For first 10 days, 60 buffaloes were there and consumption = 60 x 10 = 600 unit Remaining food quantity = 7200-600 = 6600 unit W.K.T 27 buffaloes died after 10 days, so the number of buffaloes left = 60-27 = 33 buffaloes Number of days taken to consumed remaining food =6600/33=200 days.

|  |
| --- |
| **Question 5**  **WRONG** |

Wasim takes two hours to arrange 180 plates. Tasha takes half

an hour to arrange the twice the number of plates. Working

together, how many hours will they take to arrange 24300 plates?

|  |  |
| --- | --- |
|  | 25 hours |
| B | 20 hours |
|  | 30 hours |
| D | 15 hours |

**Question 5 Explanation:**

Wasim can arrange 180 plates in 2 hours. Therefore in 1 hour he will arrange 90 plates. Similarly Tasha can arrange 360 plates (twice the number) in 1/2 hour. Therefore in 1 hour she will arrange 720 plates. Working together they can arrange 810 plates (90+720) in 1 hour. Hence the time taken by both of them to arrange 24300 plates is, 24300/810 = 30 hours.

|  |
| --- |
| **Question 6**  **WRONG** |

X, Y and Z are toy makers. X takes 16 minutes, Y takes 12 minutes

and Z takes 8 minutes to make a toy. If they work each day for

12 hours, then on an average, how many toys each one can make per day?

|  |  |
| --- | --- |
|  | 91 |
| B | 78 |
|  | 65 |
| D | 36 |

**Question 6 Explanation:**

X—->16 min Y—> 12 min Z—-> 8 min In 1 hour; X will make —>(60/16) toysIn 12 hours = (60/16) x 12 = 45 toys In 1 hour; Y will make —->(60/12) toys In 12 hours = (60/12) x 12 = 60 toys In 1 hour; Z will make —->(60/8) In 12 hours = (60/8) x 12 = 90 toys Average no.of toys that can be made in one day = (45+60+90)/3 = 65.

|  |
| --- |
| **Question 7**  **WRONG** |

A can do a piece of work in 15 days and B can do a piece of

work in 45 days. If they work on alternate days, starting from A,

then how many days are required to complete the total work?

|  |  |
| --- | --- |
|  | 11 |
| B | 23 |
|  | 22.33 |
| D | none |

**Question 7 Explanation:**

Total work=LCM(15,45)=45 units. A —> 15 days = 3 units/day B —> 45 days = 1 unit/day Given that, they are working on alternate days, first day –> A = 3 units second day –> B = 1 unit Therefore, for every 2 days = 4 units of work will be completed. for 4 days = 8 units 20th may =40units 22 day = 44 units ( 3+1) Now only 1 unit of work is remaining which is done by A = 1/3The number of days they take to complete the work = 22.33 days.

|  |
| --- |
| **Question 8**  **WRONG** |

A pipe can fill a bath in 7.5 minutes and another can fill

it in 15 minutes. A person opens both the pipes simultaneously.

When the bath should have been full, he finds that the waste pipe

was open. He then closes the waste pipe and in 2 minutes more,

the bath is full. In what time, would the waste pipe empty it?

|  |  |
| --- | --- |
|  | 25/2 |
|  | 30 |
| C | 40 |
| D | 80/3 |

**Question 8 Explanation:**

Total capacity of tank = LCM(7.5,15) = 15 litresA –> 7.5 min = 2 lit/min B –> 15 min = 1 lit/min A + B = 3 lit/min When both the pipes are opened together, they can fill the tank in 5 min(15 liters /3 liters per min) It was noticed that the waste pipe was open when the tank was about to get full and it was closed after which it took 2 more minutes to fill the tank. From this we can say, the waste pipe was open throughout the filling process, Hence, 2 minutes of filling = 5 minutes of leaking 1 minute of filling = 5/2 minutes of leaking therefore 5 minutes of filling = 5 x (5/2) = 25/2 mins.

|  |
| --- |
| **Question 9**  **WRONG** |

A tank has a leak that can empty it in 4 hours. A pipe that

admits 20 liters of water per hour into the tank is turned on

and now the tank is emptied in 5 hours. What is the capacity

of the tank in liters?

|  |  |
| --- | --- |
| A | 360 |
|  | 400 |
|  | 480 |
| D | 520 |

**Question 9 Explanation:**

A –> -4 hrs (emptying) B –> 20 lit/hr (filling) A + B = 5 hrs (emptying) Going through options, a. 360 Assume the tank capacity = 360 litres A –> -4 hrs = (360/-4) = -90 lit/hr(emptying) B –> 18 hrs = (360/20) = 20 lit/hr(filling) A + B = -90 + 20 = -70 litres Time taken to empty = 360/(-70) = 5.14 more than 5 hrs (not satisfies) b. 400 Assume the tank capacity = 400 litres A –> -4hrs = 400/(-4) = -100 lit/hr (emptying) B –> 20 hrs = (400/20) = 20 lit/hr (filling) A + B= -100 + 20= -80 litres Time taken to empty = 400/(-80) = 5 hrs exactly(satisfies). Time taken to empty = 360/(-70) = 5.14 more than 5 hrs (not satisfies) b. 400 Assume the tank capacity = 400 litres A –> -4hrs = 400/(-4) = -100 lit/hr (emptying) B –> 20 hrs = (400/20) = 20 lit/hr (filling) A + B= -100 + 20= -80 litres Time taken to empty = 400/(-80) = 5 hrs exactly(satisfies).

|  |
| --- |
| **Question 10**  **WRONG** |

Four pipes W, X, Y and Z can fill a tank in 20, 25, 40, 50 hours

respectively. W was opened at 6:00 am, X at 8:00 am, Y at 9:00 am

and Z at 10:00 am. When will the tank be full?

|  |  |
| --- | --- |
|  | 11:09 a.m. |
| B | 02:42 p.m. |
| C | 06:09 p.m. |
|  | 03:09 p.m. |

**Question 10 Explanation:**

Total capacity of tank=LCM(20,25,40,50)=200litres W–>20 hrs=10 lit/hr x–>25 hrs= 8lit/hr Y–>40 hrs=5 lit/hr Z–>50 hrs=4 lit/hr W.K.T pi pe W is opened at 6.00 am and when it is 10.00 am,W would have worked for 4 hours For 1 hour pipe W admits 10 litres of water. so, in 4 hours W contributes=4\*10= 40 litres pi pe X is opened at 8.00 am and when it is 10.00 am,X would have worked for 2 hours For 1 hour pipe X admits 8 litres of water. so, in 2 hours W contributes=2\*8= 16 litres pe Y is opened at 9.00 am and when it is 10.00 am,W would have worked for 1 hour For 1 hour pipe Y admits 5 litres of water. Therefore when it is 10.00 am,the water in the tank will be=40+16+5=61 litres. Already 61 litres is in the tank so the remaining work=200-61=139 litres. Now pipe Z is also opened which admits 4 litres in an hour. In 1 hour,the water contributed by all the pipes=10+8+5+4=27 litres. Therefore to do the remaining work time taken=139/27=5.09hrs 10.00am+5.09 hrs=3.09 pm 10.00am+5.09 hrs=3.09 pm

## Quants Time & Work I- 5

|  |
| --- |
| **Question 1**  **WRONG** |

A and B together take 12 days to complete a work. B and C

together take 20 days to complete the same work. What is the

difference between number of days taken by A and C when they

worked alone to complete the whole work?

|  |  |
| --- | --- |
|  | 24 |
| B | 30 |
| C | 48 |
|  | none |

**Question 1 Explanation:**

A+B=12 days—-(1) B+C=20 days—-(2) two equations and three unknown variables. Hence answer cannot be determined.

|  |
| --- |
| **Question 2**  **CORRECT** |

36 girls take 48 days to complete a work which can be completed

by 24 boys in 36 days. 72 boys started working and after 6 days,

20 boys left and 40 girls joined them. How many days will they

take to complete the remaining work?

|  |  |
| --- | --- |
| A | 9 |
| B | 7 |
|  | 6 |
| D | 8 |

**Question 2 Explanation:**

36 girls\*48 days=24boys\*36days 2g=b g/b=1/2(girl=1 unit & boy=2 unit) Given that 72 boys worked for 6 days,so work completed=72\*6\*2=864 units. total work=36\*1\*48=1728 units. Remaining work=1728-864=864 units. now,20 boys left and 40 girls joined; therefore,52 boys and 40 girls are working currently viz.,52\*2+40=144 units Time taken to complete the remaining work=864/144=6 days.

|  |
| --- |
| **Question 3**  **WRONG** |

A and B can finish a work individually in 21 and 42 days respectively.

How many days are required to complete the work by working on

alternate days?

|  |  |
| --- | --- |
| A | 14 |
|  | 35 |
|  | 28 |
| D | none of these |

**Question 3 Explanation:**

Total work=LCM(21,42)=42 units A—>21 days=2 units/day B—>42 days=1 unit/dayA+B=3 units/day W.K.T they both are working on alternate days. 1st day–>A=2 units 2nd day–>B=1unit Therefore,for every 2 days 3 units of work is completed. 4th day=6 units 2nd day–>B=1unit Therefore,for every 2 days 3 units of work is completed. 4th day=6 units 6th day=9 units 8th day=12 units 10th day=15 units Similarly,on 20th day=30 units 30th day = 45 units but we have only 42 units of work Hence,the work would have been completed before two days viz.,30-2=28 days.

|  |
| --- |
| **Question 4**  **WRONG** |

There is well of depth 30m and frog is at bottom of the well.

He jumps 3m in one day and falls back 2m in the same day.

How many days will it take for the frog to come out of the well?

|  |  |
| --- | --- |
|  | 12 |
|  | 28 |
| C | 34 |
| D | 54 |

**Question 4 Explanation:**

frog jumps 3 m in day & falls back 2 m at night so,frog will be 3-2=1 m up in a day.thus, in 27 days it will be 27 m up on 28 th day it will be at top i.e 27+3 = 30 m & willnot fall down.

|  |
| --- |
| **Question 5**  **WRONG** |

3 trucks A, B, C. A loads 10 kg/min. B loads 13 1/3 kg/min.

C unloads 5kg/min. If three simultaneously works then

what is the time taken to load 2.4 tones?

|  |  |
| --- | --- |
|  | 1hrs,10min |
|  | 2hrs,10min |
| C | 5hrs,10min |
| D | 3hrs,10min |

**Question 5 Explanation:**

work done in 1 min =10+40/3-5=55/3 kg/min for 1 kg=3/55 min for 2.4 kg=3/55\*2400=130mins=2hrs,10min

|  |
| --- |
| **Question 6**  **WRONG** |

A certain no. of workers can do a piece of work in 25 days,

in what time will another set of equal no. of men do a piece

of work as great supposing that 2 men of the first set can do

as much work in a hour as 3 men in the second set can do in a hour?

|  |  |
| --- | --- |
| A | 60days |
| B | 75days |
|  | 90days |
| D | 105days |
|  | none |

**Question 6 Explanation:**

x persons of first group can do work in 25 days.2 men of first group = 3 men of second group , then x persons of second group = 2x/3 persons of first group.x persons of first group can do work in 25 days. 2x/3 persons of first group can do work in 25 \*3/2 = 75/2 = 37.5 days …. none of given options

|  |
| --- |
| **Question 7**  **WRONG** |

If three tapes are filling a tank of capacity of 500lit with

speed of 30lit/sec, 48lit/sec and 36lit/sec. Find after

how long time tank will fill?

|  |  |
| --- | --- |
|  | 500/114sec |
| B | 400/114sec |
| C | 700/14sec |
|  | 250/114sec |

**Question 7 Explanation:**

In 1 sec =30lit+36+48=114 so 500 lit ==500/114sec.

|  |
| --- |
| **Question 8**  **WRONG** |

30 men take 20days to complete a job working 9hrs a day.

How many hours a day should 40 men work to complete the job?

|  |  |
| --- | --- |
| A | 8hrs |
|  | 7 1/2hrs |
| C | 7 hrs |
| D | 9hrs |
|  | none |

**Question 8 Explanation:**

m1\*t1\*w2=m2\*w1\*t2 t2=(30\*20\*9)/(40\*20)=7.5

|  |
| --- |
| **Question 9**  **WRONG** |

If Rita spends every day 40 minutes for watering the plants,

how much time does Rita spend watering the plants in 20 days?

|  |  |
| --- | --- |
| A | 12hours |
|  | 13.33hours |
| C | 12.5hours |
|  | 15.5hours |

**Question 9 Explanation:**

ita spend watering the plants in 20 days = 20\*40/60 = 40/3 hrs = 13.33 hrs

|  |
| --- |
| **Question 10**  **WRONG** |

In a Grass field if 40 cows could eat for 40 days.the same grass

field could eat 30 cows for 60 days.how long will it feed 20 cows?

|  |  |
| --- | --- |
|  | 120 days |
| B | 65 days |
|  | 70 days |
| D | none |

**Question 10 Explanation:**

If P is present grass amount g is growth of grass per day C is grass consumed by one cow per day then P+40g = 1600\*C P+60 g = 1800\*Csolving these eqns, we get g = 10C and P= 1200\*CHence If d is no. of days taken by 20 cows, then 1200\*C + d\*10\*C = 20\*d\*C hence d= 120 days

## Quants Time & Work I- 6

|  |
| --- |
| **Question 1**  **WRONG** |

If a pipe A can fill a tank in 40 minutes and pipe B fill the

same tank in 30 minutes. How long will it take for both pipes

together to fill the tank?

|  |  |
| --- | --- |
|  | 17min |
| B | 20min |
| C | 36min |
|  | 48min |

**Question 1 Explanation:**

A can fill in 1 min = 1/40 B can fill in 1 min = 1/30 so in 1 min A+B =1/40+1/30=7/120 so 1/(7/120)=120/7

|  |
| --- |
| **Question 2**  **WRONG** |

One person works for 8 days and take holyday of 9 days.

If he starts work from Monday.in which days his 12th holiday?

|  |  |
| --- | --- |
|  | sunday |
| B | monday |
| C | tuesday |
|  | none |

**Question 2 Explanation:**

Sunday (Mon to Mon=8 day)working day (Tue to Thu=9 day)holiday (Thu to Thu=8 day)working day now Fri=10,sat=11,sun=12th holiday

|  |
| --- |
| **Question 3**  **WRONG** |

3 men finish painting a wall in 8 days. Four boys do the

same job in 7 days. In how many days will 2 men and 2 boys

working together paint two such walls of the same size?

|  |  |
| --- | --- |
|  | 6 6/13 days |
| B | 3 3/13 days |
| C | 9 2/5 days |
|  | 12 12/13 days |

**Question 3 Explanation:**

1 man’s 1 day work=1/24 1 boy’s 1 day work=1/28 2 men’s 1 day work=(1/24)\*2=1/12 2 boys ‘s 1 day work = (1/28)\*2=1/14 2 men and 2 boys work together=1/12+1/14 =(7+6)/84 =13/84 no of days taken by 2 men and 2 boys=84/13 6 6/13

|  |
| --- |
| **Question 4**  **WRONG** |

Anand finishes a work in 7 days, Bittu finishes the same

job in 8 days and Chandu in 6 days. They take turns to finish

the work. Anand on the first day, Bittu on the second and

Chandu on the third day and then Anand again and so on.

On which day will the work get over?

|  |  |
| --- | --- |
|  | 3rd |
| B | 6th |
| C | 9th |
|  | 7th |

**Question 4 Explanation:**

on 7 th day. They completed 146/168 work in 6 days working one by one on eacg day.On 7 th day , 22/168 work is left which will be completed by Anand on 7th day.

|  |
| --- |
| **Question 5**  **WRONG** |

A family X went for a vacation. Unfortunately it rained for

13 days when they were there. But whenever it rained in the

mornings, they had clear afternoons and vice versa. In all

they enjoyed 11 mornings and 12 afternoons. How many days

did they stay there totally?

|  |  |
| --- | --- |
|  | 14 |
| B | 15 |
| C | 17 |
|  | 18 |

**Question 5 Explanation:**

11mornings and 12 afternoons = 23 half days since 13 days raining means 13 half days. so 23-13 =10 halfdays ( not effecetd by rain ) so 10 halfdays =5 fulldays total no. of days = 13+5 =18 days

|  |
| --- |
| **Question 6**  **WRONG** |

If 4 examiner can check some papers working 8 days 5 hours per day,

then how many hours can be taken for 2 examiners to check double

papers in 20 days?

|  |  |
| --- | --- |
|  | 7 |
|  | 8 |
| C | 9 |
| D | 45 |

**Question 6 Explanation:**

M1\*D1\*H1/W1=M2\*D2\*H2/W2 4\*8\*5/1=2\*20\*H2/2 H2=8.

|  |
| --- |
| **Question 7**  **CORRECT** |

A person is prisoned for 60 days . In that 60 days he earns rs.170.

If he works he will get payed Rs.7 per day. If he doesn't work Rs.3

he should pay to that prison.Find out how many days he worked.

|  |  |
| --- | --- |
|  | 170 |
| B | 175 |
| C | 130 |
| D | 120 |

**Question 7 Explanation:**

He worked 35 days. He has not worked for 25 daysWorked 35\*7=245 Less Not worked 25\*3=75So 245-75=170

|  |
| --- |
| **Question 8**  **WRONG** |

One fast typist type some matter in 2hr and another slow

typist type the same matter in 3hr. If both do combinely

in how much time they will finish.

|  |  |
| --- | --- |
|  | 2hr 12 min |
|  | 1hr 12 min |
| C | 3hr 15 min |
| D | 7hr 12 min |

**Question 8 Explanation:**

work done by fast typist=(1/2)per hour work done by slow typist=(1/3)per hour combined work=(1/2+1/3)=5/6 per hour so they can finish it together in 6/5th of an hour(i.e)(6/5\*60)=1hr 12 min

|  |
| --- |
| **Question 9**  **WRONG** |

T, U, V are 3 friends digging groups in fields. If T & U can

complete i groove in 4 days &, U & V can complete 1 groove in

3 days & V & T can complete in 2 days. Find how many days each

takes to complete 1 groove individually

|  |  |
| --- | --- |
|  | 24/7 days |
|  | 24/5 days |
| C | 45/7 days |
| D | none |

**Question 9 Explanation:**

t+u=1/4, u+v=1/3, v+t=1/2 so 2(t+u+v)=1/4+1/3+1/2=3+4+6/12=13/12. so (t+u+v)= 13/24. so t = 13/24-1/3 = 13-8/24= 5/24., So T takes 24/5 days to complete the work Similarly, u takes 24 days and v takes 24/7 days…

|  |
| --- |
| **Question 10**  **CORRECT** |

Person A can complete the job in 10 days, Person B can complete

the job in20 days. If both together work then in how many days

they will finish d work ?

|  |  |
| --- | --- |
| A | 3/20 days |
| B | 25/3 days |
|  | 20/3 days |
| D | none |

**Question 10 Explanation:**

A=1/10,B=1/10 THEN BOTH TOGETHER WORK IN (1/10+1/20)=3/20 i.e,20/3 days

## Quants Profit and Loss & Mixtures and Allegations

## Quants Profit and Loss & Mixtures and Allegations I: 1

|  |
| --- |
| **Question 1**  **WRONG** |

Profit and loss problem: I bought a book for Rs 60 , I sold off to a

friend for Rs 70 but after a while i felt sorry , that i sold it and

bought it back for Rs 80, how much loss did I incur?

|  |  |
| --- | --- |
|  | 12 |
| B | 30 |
| C | 20 |
|  | 10 |

**Question 1 Explanation:**

cp of book=60

sp of book=70

profit=10

again cp=80

then loss =80-70=10

|  |
| --- |
| **Question 2**  **WRONG** |

Lucia is a wonderful grandmother.Her age is b/w 50 to 70.

Each of her sons have as many sons as they have brothers.

Their combined number gives Lucia's present age?what is her age?

|  |  |
| --- | --- |
|  | a)85 |
| B | b)55 |
| C | c)84 |
|  | d)64 |

**Question 2 Explanation:**

If she has x sons

each son has x-1 brothers.

Total no of grandchildren=x(x-1)

Total No OF Sons+Grandchildren= x+x(x-1)=x^2

=>Lucia’s age is a perfect square between 50 and 70.

The only number that satisfies this condition is 64.

|  |
| --- |
| **Question 3**  **WRONG** |

If a 10 lit. mixture contains milk and water in the ratio 2:1 then,

how much more mixture should be added to change the ratio to 1:2 ?

|  |  |
| --- | --- |
|  | 8 |
| B | 9 |
|  | 10 |
| D | 11 |

**Question 3 Explanation:**

If you add the same mixture again,the ratio will still remain the same.

The question should be how much water to be addedIn 10 litres, let quantity of milk = 2x and quantity of water = x

=> 2x + x = 10

=> x = 10/3 , 2x = 20/3Let y litres of water be added to make the ratio 1:2

=> (20/3) / (10/3 + y) = 1 / 2

=> 40/3 = 10/3 + y

=> y = 10 litersTherefore,10 liters of water to be added.

|  |
| --- |
| **Question 4**  **WRONG** |

Suresh invested a sum of Rs. 15000 at 9 percent per annum

Simple interest and Rs. 12000 at 8 percent per annum compound interest

for a period of 2 years. What amount of interest did

Suresh earn in 2 years?

|  |  |
| --- | --- |
|  | 5120 |
| B | 3574 |
| C | 4893 |
|  | 4696.8 |

**Question 4 Explanation:**

S.I = PTR/100

S.I =15000\*9\*2/100

S.I= 2700

C.I =P(1+r/100)^n -P

C.I= 12000(1+8/100)^2-12000

C.I=1996.8

total amount in 2 years

as interest = S.I +C.I

= 2700+1996.8

=4696.8

|  |
| --- |
| **Question 5**  **WRONG** |

Tea worth Rs. 126 per kg and Rs. 135 per kg are mixed with a

third variety in the ratio 1 : 1 : 2. If the mixture is worth

Rs. 153 per kg, the price of the third variety per kg will be:

|  |  |
| --- | --- |
| A | Rs. 169.50 |
|  | Rs. 170 |
|  | Rs. 175.50 |
| D | Rs. 180 |
| **Question 6**  **WRONG** | |

A milk vendor has 2 cans of milk. The first contains 25% water

and the rest milk. The second contains 50% water.

How much milk should he mix from each of the containers so as

to get 12 litres of milk such that the ratio of water to milk is 3 : 5?

|  |  |
| --- | --- |
| A | 4 litres, 8 litres |
|  | 6 litres, 6 litres |
| C | 5 litres, 7 litres |
|  | 7 litres, 5 litres |

|  |
| --- |
| **Question 7**  **WRONG** |

In what ratio must a grocer mix two varieties of tea worth

Rs. 60 a kg and Rs. 65 a kg so that by selling the mixture at

Rs. 68.20 a kg he may gain 10%?

|  |  |
| --- | --- |
|  | 3 : 2 |
| B | 3 : 4 |
|  | 3 : 5 |
| D | 4 : 5 |
| **Question 8**  **WRONG** | |

If the list price of a book is reduced by Rs. 5, then a person can

buy 5 more books for Rs. 300. The original cost of the book is

|  |  |
| --- | --- |
| A | Rs. 15 |
|  | Rs. 20 |
|  | Rs. 25 |
| D | Rs. 30 |

**Question 8 Explanation:**

If x is earlier price, then300/(x-5)- 300/x = 5

solving this , we get, x=20 or -15 out of which only 20 is acceptable.

|  |
| --- |
| **Question 9**  **WRONG** |

A shopkeeper sells 18 mangoes for the purchase price of 20 mangoes.

The percent profit made by the shopkeeper is.

|  |  |
| --- | --- |
|  | 10% |
|  | 11.11% |
| C | 9.09% |
| D | 12% |

**Question 9 Explanation:**

let c.p of 1 mango Re 1.

then c.p of 18 mangoes= Rs 18

c.p of 20 mangoes Rs 20 = s.p of 18 mangoes

profit= s.p of 18 mangoes – c.p of 18 mangoes

=20 – 18

= 2

profit %= 2/18\*100

=11.11 ans

|  |
| --- |
| **Question 10**  **WRONG** |

A merchant marks his goods up by 75% above his cost price.

What is the maximum % Amount that he can offer so that he ends

up selling at no profit or loss?

|  |  |
| --- | --- |
| A | 75% |
|  | 46.67% |
| C | 300% |
|  | 42.85% |

## Quants Profit and Loss & Mixtures and Allegations I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

The price of an article reduces to 576 after two successive discounts.

The markup is 80% above the cost price of Rs. 500.What is the new

profit percentage if instead of two successive discounts the markup

price was further increased successively two times by the same percentage?

|  |  |
| --- | --- |
| A | 259.2% |
|  | 59.2% |
|  | 159.2% |
| D | can’t be determined |

**Question 1 Explanation:**

Cost price (CP) = 500

Selling Price (SP) = 576

Markup price (MP) = 900Again SP = MP [( 1 – r/100)2] [r – rate of discount in %]? 576 = 900 (1 – r/100)2

? 24/30 = (1 – r/100)

? r = 20%

Again, new SP = MP (1 + r/100)2

= 900 (1 + 20/100)2

= 1296New, profit percentage = [(SP – CP)/CP] X 100

= [( 1296 – 500 ) / 500 ] x 100 = 159.2%

|  |
| --- |
| **Question 2**  **CORRECT** |

A milkman purchases the milk at Rs. x per litre and sells

it at Rs. 2x per litre still he mixes 2 litres water with

every 6 litres of pure milk. What is the profit percentage?

|  |  |
| --- | --- |
| A | 116% |
|  | 166.66% |
| C | 60% |
| D | 100% |

**Question 2 Explanation:**

Let the cost price of 1-liter pure milk be Re.1, then{6 liters (milk) → C.P = Rs. 62 liters (water) → C.P = Rs. 0→CP = Rs.6 only6 liters (milk) → C.P = Rs. 62 liters (water) → C.P = Rs. 0→CP = Rs.6 only8 litre mixture =>SP => 8 x 2 = Rs. 16Profit % = 16 − 66×100 = 10006 = 166.66%

|  |
| --- |
| **Question 3**  **WRONG** |

The percentage profit earned by selling an article for Rs. 1920

is equal to the percentage loss incurred by selling the same

article for Rs. 1280. At what price should the article be sold

to make 25% profit?

|  |  |
| --- | --- |
|  | Rs. 2000 |
|  | Rs. 2200 |
| C | Rs. 2400 |
| D | Data inadequate |

**Question 3 Explanation:**

Let C.P. be Rs. x.Then,= >1920−xx\*100=x−1280x\*1001920-xx\*100=x-1280x\*100=> 1920 – x = x – 1280=> 2x = 3200=> x = 1600Required S.P. = 125% of Rs. 1600 =Rs(125/100\*1600) = Rs2000

|  |
| --- |
| **Question 4**  **WRONG** |

If books bought at prices ranging from Rs. 200 to Rs. 350 are

sold at prices ranging from Rs. 300 to Rs. 425, what is the

greatest possible profit that might be made in selling eight books?

|  |  |
| --- | --- |
| A | 600 |
| B | 1200 |
|  | 1800 |
|  | none of these |

**Question 4 Explanation:**

Least Cost Price = Rs. (200 \* 8) = Rs. 1600.Greatest Selling Price = Rs. (425 \* 8) = Rs. 3400.Required profit = Rs. (3400 – 1600) = Rs. 1800.

|  |
| --- |
| **Question 5**  **WRONG** |

Bhajan Singh purchased 120 reams of paper at Rs 80 per ream.

He spent Rs 280 on transportation, paid octroi at the rate

of 40 paise per ream and paid Rs 72 to the coolie. If he

wants to have a gain of 8 %, what must be the selling price per ream?

|  |  |
| --- | --- |
|  | 90 |
| B | 89 |
| C | 87.48 |
|  | 86 |

**Question 5 Explanation:**

Total investment = Rs. (120 \* 80 + 280 + (40/100) \* 120 + 72).

= Rs. (9600 + 280+48 + 72) = Rs, 10000.

Sell price of 120 reams = 108% of Rs. 10000 = Rs. 10800.

Sell Price per ream = Rs. [10800/120] = Rs. 90.

|  |
| --- |
| **Question 6**  **WRONG** |

A dealer sold two of his cattle for Rs. 500 each. On one of

them he lost 10% on the other, he gained 10%. His gain or

loss percent in the entire transaction was:

|  |  |
| --- | --- |
| A | 10% loss |
|  | 1% loss |
| C | 1% gain |
|  | Neither loss nor profit |

**Question 6 Explanation:**

Loss%= (common gain or loss % / 10)2 = (10/10)² % = 1%.

|  |
| --- |
| **Question 7**  **CORRECT** |

By mixing two qualities of pulses in the ratio 2: 3 and selling

the mixture at the rate of Rs 22 per kilogram, a shopkeeper

makes a profit of 10 %. If the cost of the smaller quantity

be Rs 14 per kg, the cost per kg of the larger quantity is:

|  |  |
| --- | --- |
| A | Rs 23 |
| B | Rs 25 |
|  | Rs 24 |
| D | None of these |

**Question 7 Explanation:**

Cost Price of 5 kg = Rs.(14\*2 + x\*3) = (28 + 3x).Sell price of 5 kg = Rs. (22×5) = Rs. 110.[{110 – (28 + 3x)}/(28 + 3x) ]\* 100 =10[82-3x/28 + 3x]= 1 / 10820 – 30x = 28 +3x33x = 792x = 24

|  |
| --- |
| **Question 8**  **WRONG** |

Rahul went to purchase a Nokia mobile handset, the shopkeeper

told him to pay 20% tax if he asked the bill. Rahul manages to

get the discount of 5% on the actual sale price of the mobile

and he paid the shopkeeper Rs. 3325 without tax. Besides he

manages to avoid to pay 20% tax on the already discounted price,

what is the amount of discount that he has gotten?

|  |  |
| --- | --- |
| A | 750 |
|  | 375 |
|  | 875 |
| D | 525 |

**Question 8 Explanation:**

CP = 100, SP (with tax) =120New SP = 100 – 5 = 95Effective discount = 120 – 95 = 25So, at SP of 95 —-> discount = 25and at SP of 3325 —–> discount = 2595×3325 = 875

|  |
| --- |
| **Question 9**  **WRONG** |

A person with some money spends1/3 for cloths, 1/5 of the remaining

for food and 1/4 of the remaining for travel. He is left with Rs 100/- .

How much did he have with him in the beginning?

|  |  |
| --- | --- |
|  | 250 |
|  | 255 |
| C | 360 |
| D | 245 |

**Question 9 Explanation:**

Let initial amt be x

He spent 1/3 for cloths =x/3 and remaining

amt be 2x/3

He spent 1/5 of remaining for food =(2x/3)/5 = 2x/15 and remaining

amt be 8x/15

He spent 1/4 of remaining for clothes =(8x/15)/4= 2x/15 and remaining

amt be 6x/15

Given remaining amt at last 6x/15 =100

x=250

|  |
| --- |
| **Question 10**  **WRONG** |

From a vessel, 1/3rd of the liquid evaporates on the first day.

On the second day 3/4th of the remaining liquid evaporates. What

fraction of the volume is present at the end of the second day.

|  |  |
| --- | --- |
| A | 5% |
|  | 50% |
| C | 100% |
|  | 10% |

**Question 10 Explanation:**

liquid on 1st day 1-1/3=2/3

liquid remained on 2nd day 2/3-3/4=1/2

ANS=1/2 or 50%

## Quants Profit & Loss and Mixtures & Allegations I: 3

|  |
| --- |
| **Question 1**  **CORRECT** |

How many kgs of wheat costing Rs.24/- per kg must be mixed with 30 kgs

of wheat costing Rs.18.40/- per kg so that 15% profit can be obtained

by selling the mixture at Rs.23/- per kg?

|  |  |
| --- | --- |
| A | 14 |
|  | 12 |
| C | 13 |
| D | 15 |

**Question 1 Explanation:**

S.P. of 1 kg mixture = Rs.23. Gain = 15%.

C.P. of 1 kg mixture = Rs.[(100/115) x 23] = Rs.20

Let the quantity of wheat costing Rs.24 is x kgs.

Using weighted average rule = x ×24+30×18.4 x +30=20 Solving we get x = 12

|  |
| --- |
| **Question 2**  **WRONG** |

In the Garbar Jhala, Ahmadabad a shopkeeper first raises the price

of Jewellery by x% then he decreases the new price by x%. After one

such up down cycle, the price of a Jewellery decreased by Rs. 21025.

After a second updown cycle the jewellery was sold for Rs. 484416.

What was the original price of the jewellery.

|  |  |
| --- | --- |
| A | 5225, 841 |
| B | 525455, 841 |
|  | 5247225, 841 |
|  | 525625, 841 |

**Question 2 Explanation:**

Let the original price be “p”:

I cycle:

Up by x% means new price is p

+ px 100

Down by x% on current price means new price is ( p

+ px 100 ) – ( p + px 100 ) × x 100

Price after one up down cycle is (p – 21025)

Thus, ( p

+ px 100 ) – ( p + px 100 ) × x 100

=$(p–21025)=p’—– (1)

II cycle:

Up by x% means new price is p ′

+ p ′ x 100

Down by x% on current price means new price is

( p ′

+ p ′ x 100 ) – ( p ′ + p ′ x 100 ) × x 100

Price after second up down cycle is 484416.

Thus,( p ′

+ p ′ x 100 ) – ( p ′ + p ′ x 100 ) × x 100

=484416 ——- (2)

Putting value of p’ = p – 20125 in equation (2) and dividing (1) & (2) to eliminate x. We

get a quadratic equation in p:

p 2 –526466 p –(21025) 2 =0

The equation has real roots in the form 525625, 841.

|  |
| --- |
| **Question 3**  **WRONG** |

An Eraser,Pencil,Notebook together costs $1.00. Notebook costs

more than the cost of 2 Pencils. 3 Pencil costs more than 4 Erasers.

3 Erasers costs more than a Notebook.How much does a pencil costs?

|  |  |
| --- | --- |
|  | 0.27 |
| B | 0.45 |
| C | 0.74 |
|  | 0.26 |

**Question 3 Explanation:**

0.26$ cost for one pencil

|  |
| --- |
| **Question 4**  **WRONG** |

The profit made by a company in one year is enough to give 6%

return on all shares. But as the preffered shares get on return

of 7.5%, so the ordinary shares got on return of 5%. If the value

of preferd shares is Rs 4,000000, then what is the value of ordinary shares?

|  |  |
| --- | --- |
| A | 600 |
|  | 6000 |
| C | 6000 |
|  | 6000000 |

**Question 4 Explanation:**

Preferred share value is 40 lakh.

Return on this value = 7.5% of 40 lakh = (7.5/100) × 40 = 3 lakh

Let, value of ordinary shares be x lakh.

So, return on ordinary share value = 5x/100 lakh

Total profit P = (3 + 5x/100) lakh ———————–1

The same profit could also have been spent on 6% return to all shares.

Total share value = (40 + x) lakh

∴ P = (40 + x) × (6/100) ———————-2

⇒ 240 + 6x = 300 + 5x

⇒ x = 60 lakh = 6000000

|  |
| --- |
| **Question 5**  **WRONG** |

A person sells 2 items for Rs. 12 each. For one he profits 25%

and for the other he losses 20%. Altogether did he loss or gain?

And by how much?

|  |  |
| --- | --- |
|  | 0.6 |
| B | 0.5 |
| C | 0.7 |
|  | 0.9 |

**Question 5 Explanation:**

Cost price of the item for which he losses = Rs. 12\*100/80 = Rs. 15.

Cost price of the item for which he Gains = Rs. 12\*100/125 = Rs 9.6.

? Total cost price is Rs. 24.6 and total sell price is

Rs. 24.

So altogether he losses by Rs. 0.6.

|  |
| --- |
| **Question 6**  **WRONG** |

The minute and the hour hand of a watch meet every 65 minutes.

How much does the watch lose or gain time and by how much?

|  |  |
| --- | --- |
|  | 5/11 minutes |
| B | 4/11 minutes |
|  | 5/13 minutes |
| D | 8/11 minutes |

**Question 6 Explanation:**

in correct clock, minute hand gains 55 minutes spaces over hour hand.

To meet with hour hand second time it has to gain 60 minutes over

hour hand so55 minutes in 60 minutes

60 minutes gain in —–(60/55)\*60=3600/55

means in every 65 minutes it gains 5/11 minutes.

|  |
| --- |
| **Question 7**  **WRONG** |

A coffee seller has two types of coffee Brand A costing 5 bits

per pound and Brand B costing 3 bits per pound. He mixes two brands

to get a 40 pound mixture. He sold this at 6 bits per pound.

The seller gets a profit of 33 1/2 percent. How much he has used

Brand A in the mixture?

|  |  |
| --- | --- |
| A | 47 |
|  | 30 |
| C | 35 |
|  | 38 |

**Question 7 Explanation:**

Total mixture=40 pound

selling price of 40 pound mixture=(40\*6)=240bit

cost price=(240\*100)/(100+33.5)=179.77=180bit

cost per pound=(180/40)=4.5bit

using alligation formulae:-

(n1/n2)=(5-4.5)/(4.5-3)=3:1

so A=30..

|  |
| --- |
| **Question 8**  **WRONG** |

Farmer Jones sold a pair of cows for Rs.210, on one he made a profit

of ten percent and on the other he lost ten percent. Altogether he made a

profit of five percent. How many did each cow originally cost him?

|  |  |
| --- | --- |
| A | 162 |
|  | 150 |
|  | 98 |
| D | 45 |

**Question 8 Explanation:**

Say original cost of first cow is Rs.A and cost of second cow be Rs.B

On one cow Jones made a profit of 10%

⇒ He sold it for 1.10 × A

On the other cow Jones made a loss of 10%

⇒ He sold it for 0.90 × B

Total selling price = 1.10A + 0.90B = 210 …… (Eq.1)

Given, Jones gets 5% profit overall

⇒ 1.05 × (A + B) = 210

⇒ A + B = 200 …… (Eq.2)

1.10 × Eq.2 – Eq.1

⇒ 0.20B = 10

⇒ B = Rs.50

∴ A = 200 – B

⇒ A = 200 – 50 = Rs.150

|  |
| --- |
| **Question 9**  **WRONG** |

Two travelers, one with 64 barrels of wine, other with 20 barrels of wine.

They don't have enough money to pay duty for the same. First traveler pays

40 francs and gives his 5 barrels, Second traveler gives his 2 barrels but

gets 40 francs in exchange. What's value of each barrel,

and duty for each barrel?

|  |  |
| --- | --- |
|  | 244 |
|  | 140 |
| C | 156 |
| D | 234 |

**Question 9 Explanation:**

Cost of 2 barrels=40 francs=> 1 barrel=20 francs.

First Traveler: pays 40 francs and 5 barrels=40+(5\*20)=140 francs.

therefore value of each barrel is 20 francs and duty is 140 francs

|  |
| --- |
| **Question 10**  **WRONG** |

An Eraser, Pencil, Notebook together costs $1.00. Notebook

costs more than the cost of 2 Pencils. 3 Pencil costs more than

4 Erasers. 3 Erasers costs more than a Notebook.

How much does a pencil costs?

|  |  |
| --- | --- |
|  | 25 |
| B | 22 |
|  | 19 |
| D | 21 |

**Question 10 Explanation:**

Given:

P + E + N = 100 cents

N > 2 P

3 P > 4 E

3 E > N

3 P > 4 E → 2 P > 8/3 E

N > 2 P → N > 8/3 E

N < 3 E (given)

Therefore: 8/3 E < N < 3 E

3P > 4 E → P > 4/3 E

2P < N → P < N/2

N < 3 E → N/2 < 3/2 E

Therefore: 4/3 E < P < 3/2 E

Converting those to sixths, we have

16/6 E < N < 18/6 E or N = roughly 17 / 6 E

8/6 E < P < 9/6 E or P = roughly 8.5 / 6 E

Now try some values for E:

E P N Total

6 8.5 17 31.5

12 17 34 63

18 25.5 51 94.5

That's close to 100, so with a bit of fiddling, we can make it:

E = 19 P = 26 N = 55 Total = 100

Checking the conditions:

N > 2 P ? … 55 > 2 \* 26 ? … .. 55 > 52 … yes

3 P > 4 E ? . 3 \* 26 > 4 \* 19 ? . 78 > 76 .. yes

3 E > N ? … 3 \* 19 > 55 ? … .. 57 > 55 … yes

Answer:

Eraser: 19 cents

## Quants Profit and Loss & Mixtures and Allegations I: 4

|  |
| --- |
| **Question 1**  **WRONG** |

Sugar at Rs.5/kg is mixed with another variety of sugar costing

RS.6/kg in the ratio 1:5 and sold at 20% profit. What is the

selling price of sugar?

|  |  |
| --- | --- |
|  | 7 |
|  | 7.2 |
| C | 8 |
| D | 6.4 |

**Question 1 Explanation:**

Cost of 1kg variety-1 sugar = Rs. 5Cost of 5kg variety-2 sugar = 5×6= Rs. 30Cost of 6kg (1+5) mix variety sugar = Rs. 35Cost of 1kg mix variety sugar = Rs. (35/6)Therefore,Selling price at 20% profit = (35/6)×1.2= Rs. 7/kg.

|  |
| --- |
| **Question 2**  **WRONG** |

In a solution,75% is orange juice and remaining is water. From

this, if 20% is taken out, what will be the percentage of orange

juice in the final solution?

|  |  |
| --- | --- |
|  | 70.55 |
| B | 70 |
| C | 69 |
|  | 71 |

**Question 2 Explanation:**

If the the initial volume = xVolume of orange juice = 75%x                                     = 0.75x20% of orange is removed, the remaining volume of orange = 80%Volume of orange left = 80% \* 0.75x = 0.6xThe remaining volume of solution = x – 20%(0.75x) = 0.85xPercentage of orange in the final solution = 0.6x/0.85x \* 100  = 70.588%

|  |
| --- |
| **Question 3**  **WRONG** |

If a 10 lit. mixture contains milk and water in the ratio 2:1

then, how much more mixture should be added to change the ratio

to 1:2 ?

|  |  |
| --- | --- |
| A | 20 |
|  | 30 |
|  | 5 |

**Question 3 Explanation:**

If you add the same mixture again, the ratio will still remain the same. The question should be how much water to be addedIn 10 litres, let quantity of milk = 2x and quantity of water = x => 2x + x = 10 => x = 10/3 , 2x = 20/3Let y litres of water be added to make the ratio 1:2 => (20/3) / (10/3 + y) = 1 / 2 => 40/3 = 10/3 + y => y = 10 litersTherefore,10 liters of water to be added.

|  |
| --- |
| **Question 4**  **CORRECT** |

How many kgs of wheat costing 24/- per kg must be mixed with

30 kgs of wheat costing Rs.18.40/- per kg so that 15% profit

can be obtained by selling the mixture at Rs.23/- per kg?

|  |  |
| --- | --- |
| A | 10 |
| B | 11 |
|  | 12 |
| D | 13 |

**Question 4 Explanation:**

let we are mixing x kg of rs 24… so price is=24x+30\*18.40=24x+552 the net weight becomes=30+x 15% profit .. then (115/100)(24x+552)=23\*(30+x) from this equation solve x and the ans will be 12 kg

|  |
| --- |
| **Question 5**  **CORRECT** |

There are two containers on a A and B. A is half full of wine,

while B, which is twice A's size, is one quarter full of wine.

Both containers are filled with water and the contents are

poured into a third container C. What portion of container C's

mixture is wine?

|  |  |
| --- | --- |
| A | 50 % of wine |
|  | 33.33 % of wine |
| C | 16.66% of wine |
| D | 75% of wine |

**Question 5 Explanation:**

1/2+2\*1/4=1litre of wine; total amount=1+2=3ltr of wine and water; so 1/3

|  |
| --- |
| **Question 6**  **WRONG** |

A man mixes 10 litres of alcohol with 40 litres of water.

After selling one-fourth of this mixture, he adds alcohol to

replenish the quantity that he has sold. What is the current

proportion of alcohol to water?

|  |  |
| --- | --- |
| A | 1:2 |
|  | 2:3 |
| C | 4:5 |
|  | 2:3 |

**Question 6 Explanation:**

Initially, alcohol = 10 litres and water = 40 litres Removing 1/4 of total 50 litres => 12.5 litres (in the ratio of 1:4 => 2.5 litres:10 litres) => alcohol water 7.5 l 30 l Then adding 12.5 litres of alcohol => 20 l 30 l Now ratio of alcohol to water will be: 2:3

|  |
| --- |
| **Question 7**  **CORRECT** |

Lifestyle shopkeeper allows a discount of 50% for a formal

shirt but still gains 10%. Find the marked price (in Rs.) of

that shirt which cost him Rs.10,000.

|  |  |
| --- | --- |
|  | Rs. 22000 |
| B | Rs. 21000 |
| C | Rs. 20000 |
| D | Rs. 18000 |

**Question 7 Explanation:**

Given,discount of 50%,profit of 10% and C.P. =10,000 So, S.P.=1.1 x C.P. = 11000 We know,Discount = M.P. – S.P. => 50% of M.P. = M.P. – S.P. => 0.5 M.P. = 11000 => M.P. = 22000

|  |
| --- |
| **Question 8**  **WRONG** |

In two milkshakes, the ratio of chocolate sauce to milk is in the

ratio 2:5 and 3:4. If 4 liters of the first milkshakes and 6 liters

of the second milkshakes are mixed together to form a new milkshake,

then what will be the ratio of chocolate sauce to milk in the new milkshake?

|  |  |
| --- | --- |
|  | 11:22 |
|  | 13:22 |
| C | 1:1 |
| D | 16:5 |

**Question 8 Explanation:**

We are considering the ratio of choclate to milk in the 2 shakes as:- I II c : m c : m 2 : 5 3 : 4 Now we are taking 4 liters from I st & 6 liters from II nd =>choc content:- (2/7\*4)+ (3/7\*6)=26/7 And milk content:- (5/7\*4+(4/7\*6)=44/7 So, ratio of choc to milk in new shake is: 26/7 : 44/7 => 13:22

|  |
| --- |
| **Question 9**  **WRONG** |

A man bought a certain number of pens and sold them at a gain of 1%.

Had he sold them at a loss of 1%, he would have lost Rs.1 when

compared to the selling price for a gain of 1%. Which of the following

statements is true?

|  |  |
| --- | --- |
| A | The cost price is Rs. 50. |
|  | The selling price is Rs. 50. |
|  | The profit is Rs. 50 |
| D | The cost price depends on the value of x. |

**Question 9 Explanation:**

We’ll go from options, option 1: CP = Rs.50 Given, Profit = 1%SP = 1.01CP = Rs.50.5 Instead, If loss = 1% SP = .99CP = Rs.49.5 A difference of Rs.1 ( as given in question) This is correct answer. Hence the answer is ” The cost price is Rs. 50″.

|  |
| --- |
| **Question 10**  **WRONG** |

In a wholesale shop the average revenue was Rs.5000 per day

over a 30 day period. During this period the daily revenue on

all Sundays (total 4 days) was Rs.6000 per day. What was the

average daily revenue on all days except Sundays in Rs?

|  |  |
| --- | --- |
|  | 4532 |
|  | 4846 |
| C | 5100 |
| D | 5467 |

**Question 10 Explanation:**

Given average is 5000 for 30 days => Total revenue=150000 And total revenue for 4 sundays =4\* 6000=24000 So, remaining revenue for 26 days =150000-24000=126000. Now,average for 26 days =126000/26=4846.15

## Quants Profit and Loss & Mixtures and Allegations I- 5

|  |
| --- |
| **Question 1**  **CORRECT** |

A shopkeeper purchased an article at 20% discount on list price,

he marked up his article in such a way that after selling the article

at 20% discount, he gained 20% on SP. what % is SP of the list price?

|  |  |
| --- | --- |
|  | 96 |
| B | 45 |
| C | 47 |
| D | 43 |

**Question 1 Explanation:**

let us take list price =x cp=80%(x) sp=120%(80%)x then it is 96%

|  |
| --- |
| **Question 2**  **WRONG** |

A man bought 15 mango at Rs.36 for 5 mango and sold all of

them at four mango for Rs.45. How much did the man earn or

lose in this transaction?

|  |  |
| --- | --- |
| A | 35.20 |
|  | 60.75 |
|  | 50 |
| D | 70 |

**Question 2 Explanation:**

Rs.36 for 5 mango therefore for 15 mango cost Rs.108 he sold Rs.45 for 4 mango therefore for 12 mango cost = 45\*3 = 135 for 1 mango cost = 45/4 = 11.25 for 3 mango cost = 11.25 \* 3 = 33.75 for 15 mango = (12 mango + 3 mango) = 135 + 33.75 = 168.75 therefore he earn the money of ( 168.75 – 108 ) = Rs. 60.75

|  |
| --- |
| **Question 3**  **WRONG** |

A share is purchased at a rate of 23.60 and sold at a rate of 36.40.

If brokerage at the time of buy and sell is 50 paisa per 100 rupee,

then net profit will be.

|  |  |
| --- | --- |
|  | 12.50 |
| B | 36 |
|  | 13.20 |
| D | 11 |

**Question 3 Explanation:**

total buy-sell = 23.60 + 36.40 = 60 brokerage = 60\*50/100 = 30 paisa profit = 36.40 – 23.60 = 12.80 so net profit = 12.80 – 0.30 = 12.50

|  |
| --- |
| **Question 4**  **WRONG** |

What is the ratio between the highest and the lowest selling price,

assuming that the factories are selling only one product?

|  |  |
| --- | --- |
| A | 2 : 1 |
| B | 7 : 2 |
|  | 15 : 8 |
|  | 11 : 2 |
| E | 13 : 5 |

**Question 4 Explanation:**

Selling price per factory is calculated using the annual sales divided by the number of good products sold (faulty products are not sold, hence need to be disregarded when calculating the number of products sold). Therefore, the selling price in factory 1 is 14.432 million / (943 – 41) = 16,000 dollars. The selling price in factory 2 is 18.48 million / (616 – 9) = 30,000 dollars. The selling price in factory 3 is 16.422 million / (714 – 15) = 23,000 dollars. The selling price in factory 4 is 22.94 million / (1245 – 98) = 20,000 dollars. Hence, the highest selling price is 30,000 dollars and the lowest price is 16,000 dollars. The ratio between these prices is 30,000:16,000, or 30:16, or 15:8.

|  |
| --- |
| **Question 5**  **CORRECT** |

A shopkeeper sells 18 mangoes for the purchase price of 20 mangoes.

The percent profit made by the shopkeeper is.

|  |  |
| --- | --- |
| A | 10% |
|  | 11.11% |
| C | 9.09% |
| D | 12% |

**Question 5 Explanation:**

let c.p of 1 mango Re 1. then c.p of 18 mangoes= Rs 18 c.p of 20 mangoes Rs 20 = s.p of 18 mangoes profit= s.p of 18 mangoes – c.p of 18 mangoes =20 – 18 = 2 profit %= 2/18\*100 =11.11

|  |
| --- |
| **Question 6**  **CORRECT** |

One dozen apple and 5 pounds of mango are currently the same price.

If the price of one pound mango rises by 5% and the price of one

dozen apple goes up by 10%. How much will it cost to buy a dozen

of apple and 5 pounds of mango?

|  |  |
| --- | --- |
| A | 12.5% |
| B | 5% |
|  | 7.5% |
| D | 13% |
| E | 10% |

**Question 6 Explanation:**

let cost of One dozen apple or 5 pounds of mango is Rs 100. new cost of One dozen apple = 100\*1.1= Rs 110 and new cost of 5 pounds of mango = 100\*1.05 = Rs 105. earlier cost of One dozen apple and 5 pounds of mango = 2\*100 = Rs 200 New cost of One dozen apple and 5 pounds of mango = 110+105 = Rs 215 increase in cost = Rs 15. % age increase = 100\*15/200 = 7.5 %

|  |
| --- |
| **Question 7**  **WRONG** |

Selling a car gains 25% on SP. What %gain on CP?

|  |  |
| --- | --- |
| A | 15 |
|  | 25 |
|  | 33.33 |
| D | 47.5 |

**Question 7 Explanation:**

Let SP=RS.100 Gain =Rs.25 CP=Rs.75 %age gain pn CP=(25/75)\*100=33.33%

|  |
| --- |
| **Question 8**  **WRONG** |

If the list price of a book is reduced by Rs. 5, then a person

can buy 5 more books for Rs. 300. The original cost of the book is

|  |  |
| --- | --- |
| A | Rs. 15 |
|  | Rs. 20 |
|  | Rs. 25 |
| D | Rs. 30 |

**Question 8 Explanation:**

If x is earlier price, then300/(x-5)- 300/x = 5 solving this , we get, x=20 or -15 out of which only 20 is acceptable.

|  |
| --- |
| **Question 9**  **WRONG** |

At 20% discount, a cycle is sold at a selling price of 2500 Rs.

What is the actual price?

|  |  |
| --- | --- |
| A | 3250 |
| B | 3336 |
|  | 1450 |
|  | 3125 |

**Question 9 Explanation:**

C.P = (100/100-Loss%)S.P = 100/80\*2500 here, Discount = Loss = 3125

|  |
| --- |
| **Question 10**  **WRONG** |

A coffee seller has two types of coffee Brand A costing 5 bits

per pound and Brand B costing 3 bits per pound. He mixes two

brands to get a 40 pound mixture. He sold this at 6 bits per

pound. The seller gets a profit of 33 1/2 percent. How much he

has used Brand A in the mixture?

|  |  |
| --- | --- |
|  | 30 |
|  | 25 |
| C | 36 |
| D | 47 |

**Question 10 Explanation:**

Total mixture=40 pound selling price of 40 pound mixture=(40\*6)=240bit cost price=(240\*100)/(100+33.5)=179.77=180bit cost per pound=(180/40)=4.5bit using alligation formulae:- (n1/n2)=(5-4.5)/(4.5-3)=3:1 so A=30..

## Quants Profit and Loss & Mixtures and Allegations I- 6

|  |
| --- |
| **Question 1**  **WRONG** |

A man says that he gained 10 percent as profit in selling a suitable

cloth material. He says if he had purchased the same one 10 percent

cheaper than it was actual and if he had sold it for 20% profit

he gets 25paise less. find at what price he sold the suit.?

|  |  |
| --- | --- |
|  | 11 |
|  | 13.5 |
| C | 12.1 |
| D | 10 |

**Question 1 Explanation:**

let cp = 100 then sp = 110; when cp= 90 then sp = 108; Now when 200p less sp = 108 So 25 p less, sp = 108/200\*25=13.5

|  |
| --- |
| **Question 2**  **WRONG** |

Then 4 liters in the solution is replaced with water.

Then 6 and 8 liters respectively. At the end of the 4th

operation , the ratio of wine to water is.

|  |  |
| --- | --- |
| A | 4! / (5) 4 |
|  | 4! / (5 4 – 4! ) |
| C | 8! / 10 4 |
|  | 8! / (10 4 – 8! ) |
| E | None of these |

**Question 2 Explanation:**

4!/(5^4-4!)

|  |
| --- |
| **Question 3**  **WRONG** |

A vender sold two things at same cost of 12 RS with one item

at 25%profit and other at 20%loss,by this transaction he

made profit or loss by how much?

|  |  |
| --- | --- |
|  | 0.60 |
| B | 0.50 |
| C | 10 |
|  | 20 |

**Question 3 Explanation:**

TOTAL = LOSS OF 60 PAISECP when profit of 25% = 9.60 CP when loss of 20% = 15 Total CP = 24.60 Total SP = 24.00 Total loss = 0.60

|  |
| --- |
| **Question 4**  **WRONG** |

There are some chicken in a poultry. They are fed with corn.

One sack of corn will come for 9 days. The farmer decides to

sell some chicken and wanted to hold 12 chicken with him.

He cuts the feed by 10% and sack of corn comes for 30 days.

So initially how many chicken are there?

|  |  |
| --- | --- |
|  | 36 |
| B | 40 |
|  | 41 |
| D | 46 |

**Question 4 Explanation:**

x chicken \* 9 days = 10.8 chicken \* 30days x=10.8\*30/9 = 36 he had 36 chicken)x chicken eat 1 sack per 9 days then he keeps 12, but cuts the feed by 10%, so the 12 chicken now eat as 12-10%=10.8 chicken would have before so 10.8 chicken eat a sack per 30 days

|  |
| --- |
| **Question 5**  **WRONG** |

A 20 litre mixture of milk and water contains milk and water

in the ratio 3 : 2. 10 liters of the mixture is removed and

replaced with pure milk and the operation is repeated once more.

At the end of the two removals and replacement, what is the ratio

of milk and water in the resultant mixture?

|  |  |
| --- | --- |
| A | 20:36 |
|  | 22.0 |
|  | 18.:2 |
| D | none |

**Question 5 Explanation:**

As per the given statement 20lts is of the ratio 3:2. so it will be having milk and water in the amount of 12 : 8 Now when you remove the 10 liters of this mixture that will also be in the ratio of 3:2 now 10 lts ratio of 3:2 is 6 lts of milk and 4 lts of water So after removing the ratio of the new mixture will be milk : water = 6:4Now by adding 10 lts of pure milk the ratio will become as 16:4 Now again 10 lts of this mixture is removed for the last time now looking at the ratio the mixture should be removed in the ratio of 16:4 in the sense 4:1.So the amount of milk and water that is removed from the given mixture is 8:2 Now the final mixture after removing will be of the amount 8 : 2 Adding 10 lts of milk again to it we arrive at the final volume 18 : 2. .`. the final volume is given as 18 : 2.

|  |
| --- |
| **Question 6** |

In what ratio must coffee at Rs 93 per Kg be mixed with coffee

at Rs 108 per Kg so that the mixture be worth Rs 100 per Kg?

|  |  |
| --- | --- |
| A | 7:8 |
| B | 8:7 |
| C | 9:2 |
| D | none |
| **Question 7**  **CORRECT** | |

Mr. Sugan professes to sell his goods at cost price,

but he gives 600g instead of 400g due to a problem in

the weighing machine. What is his profit or loss percentage?

|  |  |
| --- | --- |
| A | 60% loss |
| B | 50% profit |
|  | 33.33% loss |
| D | 66.66% profit |

**Question 7 Explanation:**

Here, we can say, instead of 400g, he gives 600g. So obviously it’s a loss. So, we can write a- C.P.(400g) = S.P.(600g) SP = 2/3 CP S.P Hence, Harlilal suffers a loss. %Loss = [(C.P. – S.P.)/C.P]. x 100 %Loss = 1/3 x 100 = 33.33% Therefore, 33.33% loss is the correct answer.

|  |
| --- |
| **Question 8**  **WRONG** |

A, B and C jointly thought of engaging themselves in a business

venture. It was agreed that A would invest Rs. 6500 for 6 months,

B, Rs. 8400 for 5 months and C, Rs. 10,000 for 3 months. A wants

to be the working member for which, he was to receive 5% of the

profits. The profit earned was Rs. 7400.Calculate the share of B

in the profit?

|  |  |
| --- | --- |
| A | 1900 |
|  | 2660 |
|  | 2800 |
| D | 2840 |

**Question 8 Explanation:**

Here, we can find the RATIO in which they are investing as:- (65 months):(8400 x 5 months):(10,000 x 3 months) 13:14:10 And we know, total profit = 7400 A’s share:- 5% of 7400 = 370, which we have to reduce from total profit obtained as A’s salary for being a working member. remaining, 7400 – 370 = Rs.7030 So,B’s share = 14/37 x 7030 = Rs.2660

|  |
| --- |
| **Question 9**  **WRONG** |

Find the average of 91.5, 92.5, 90.5, 94.5 and 93.5?

|  |  |
| --- | --- |
|  | 92.5 |
|  | 91 |
| C | 93 |
| D | 93.5 |

**Question 9 Explanation:**

When the numbers are in arithmetic progression, the middle term is the average hence 92.5

|  |
| --- |
| **Question 10**  **WRONG** |

What is the maximum percentage discount that a merchant can

offer on her marked price so that she ends up at selling at

no profit or loss, if she had initially marked her goods

up by 50%?

|  |  |
| --- | --- |
|  | 50% |
| B | 20% |
| C | 25% |
|  | 33.33% |

**Question 10 Explanation:**

Here,no profit no loss => SP = CP,yes…? It’s given,from CP to MP: 50% increase,i.e.,in fraction form,1/2 increase So, we have to find %discount from MP to SP and we know here SP=CP, ie,1/3 in percentage form is 33.33%.

## Quants Divisibility

## Quants Divisibility I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

How many numbers are divisible by 4 between 1 to 100

|  |  |
| --- | --- |
| A | 31 |
|  | 25 |
|  | 24 |
| D | 22 |

**Question 1 Explanation:**

: There are 25 numbers which are divisible by 4 till 100. (100/4 = 25). But we should

not consider 100 as we are asked to find the numbers between 1 to 100 which are

divisible by 4. So answer is 24.

|  |
| --- |
| **Question 2**  **WRONG** |

Find the maximum value of n such that 50! is perfectly divisible by 2520^n .

|  |  |
| --- | --- |
|  | 8 |
| B | 5 |
|  | 7 |
| D | 3 |

**Question 2 Explanation:**

2520 = 2 3 ×3 2 ×5×7

Here 7 is the Highest prime So find the number of 7’s in 50! only. Number of 7’s in 50! =

[507]+[507 2 ]

= 7+1 = 8

For n(max) = 8, 50! is perfectly divisible by 2520 8 .

|  |
| --- |
| **Question 3**  **WRONG** |

In a class there are less than 500 students . when it is divided

by 3 it gives a whole number. similarly when it is divided by 4,5 or 7

gives a whole number. find the no. of students in the class?

|  |  |
| --- | --- |
|  | 420 |
| B | 455 |
|  | 487 |
| D | 520 |

**Question 3 Explanation:**

Take LCM of all numbers or multiply all the 4 multiples. 3\*4\*5\*7=420.

|  |
| --- |
| **Question 4**  **WRONG** |

A family I know has several children. Each boy in this family

has as many sisters as brothers but each girl has twice as many

brothers as sisters. How many brothers and sisters are there?

|  |  |
| --- | --- |
|  | 2 |
| B | 0 |
|  | 4 |
| D | 6 |

**Question 4 Explanation:**

Lets assume no. of girls = x and boys = y

y = (x+1) ———– (i)

As each boy have equal no. of sisters and brothers and he is not included in brothers.

so, 1 is for him in (x+1).y = 2(x-1) —— (ii)

as each girl have (x-1) sisters.

By solving eq. (i) and(ii)

girls = 3 and boys = 4

|  |
| --- |
| **Question 5**  **WRONG** |

If A = x 3 y 2 and B= xy 3 , then find the HCF of A, B

|  |  |
| --- | --- |
| A | x 2× y 2 |
|  | x × y 3 |
|  | x × y 2 |
| D | none |

**Question 5 Explanation:**

A= x 3 × y 2B = x × y 3To find the HCF of the above

numbers, take minimum power of x and y in both the numbers.HCF =

Common terms from both A & B and minimum powers = x × y 2

|  |
| --- |
| **Question 6**  **WRONG** |

For a natural number 'n', 7n^2 + 7n is divisible by which of

the following?

|  |  |
| --- | --- |
| A | 14 only |
| B | 7 only |
|  | 21 only |
|  | 7 and 14 both |

**Question 6 Explanation:**

7n^2 + 7n(n+1) is divisible by 7 and 14 both,

as n(n+1) is always even.

Hence, option 4 is correct.

|  |
| --- |
| **Question 7**  **WRONG** |

Find the largest 4 digit number that is divisible by 7?

|  |  |
| --- | --- |
|  | 9996 |
| B | 9997 |
|  | 9995 |
| D | 9993 |

**Question 7 Explanation:**

Divide 9999(largest 4 digit number) by 7 and get

remainder ‘R’

R = 3

therefore the required number is (9999-R)=

( 9999-3) = 9996

|  |
| --- |
| **Question 8**  **WRONG** |

For how many values of  'x' is the number 254178x divisible by 8.

|  |  |
| --- | --- |
|  | 4 |
| B | 8 |
|  | 1 |
| D | All of the above |

**Question 8 Explanation:**

A number is divisible by 8 if last three digits of a

number are divisible by 8.

The given number is divisible by 8 only when x is 4.

only 1 value of x exists.

|  |
| --- |
| **Question 9**  **WRONG** |

N = 8^200. Find the remainder when N is divided by 7.

|  |  |
| --- | --- |
| A | 0 |
|  | 1 |
| C | 3 |
|  | 5 |

**Question 9 Explanation:**

Remainder when 8 is divided by 7 is 1.

Therefore remainder when 8^200 is divided by 7 =

Remainder when 1^200 is divided by 7.

Hence, option 2

|  |
| --- |
| **Question 10**  **WRONG** |

If n is an integer, when (2n + 2)2 is divided by 4 the remainder

is ?

|  |  |
| --- | --- |
|  | 0 |
| B | 1 |
| C | 2 |
|  | 3 |
| E | 4 |

**Question 10 Explanation:**

We first expand (2n + 2)2(2n + 2)2 = 4n 2 + 8 n + 4Factor 4 out.= 4(n 2 + 2n + 1)(2n + 2)2 is divisible by 4 and the remainder is

equal to 0. The answer is A

## Quants Divisibility I – 3

|  |
| --- |
| **Question 1**  **WRONG** |

Three friends divided some bullets equally. After all of them

shot 4 bullets the total no.of remaining bullets is equal to

that of one has after division. Find the original number divided.

|  |  |
| --- | --- |
|  | 18 |
|  | 20 |
| C | 40 |
| D | 34 |

**Question 1 Explanation:**

let 3X be the number of bullets intially they had.. so after division each will have X bullets. so after shooting 4 bullets .X-4+X-4+X-4=X; 2X=12; X=6; so the initial number of bullets is 18

|  |
| --- |
| **Question 2**  **WRONG** |

What is the smallest number that should be added to 27452 to

make it exactly divisible by 9?

|  |  |
| --- | --- |
| A | 1 |
| B | 2 |
|  | 7 |
|  | 8 |
| E | 9 |

**Question 2 Explanation:**

If a number is divisible by 9, the sum of its digits must be a multiple of 9. Here, 2+7+4+5+2=20, the next multiple of 9 is 27. 7 must be added to 27452 to make it divisible by 9.

|  |
| --- |
| **Question 3**  **CORRECT** |

What least number must be added to 1056, so that the sum is

completely divisible by 23 ?

|  |  |
| --- | --- |
|  | 2 |
| B | 3 |
| C | 18 |
| D | 21 |

**Question 3 Explanation:**

23) 1056 (45 92 — 136 115 — 21 — Required number = (23 – 21) = 2.

|  |
| --- |
| **Question 4**  **WRONG** |

The largest 4 digit number exactly divisible by 88 is:

|  |  |
| --- | --- |
|  | 9944 |
| B | 9768 |
| C | 9988 |
|  | 8888 |
| E | None of these |

**Question 4 Explanation:**

Largest 4-digit number = 999988) 9999 (113 88 —- 119 88 —- 319 264 — 55 — Required number = (9999 – 55) = 9944.

|  |
| --- |
| **Question 5**  **CORRECT** |

Which one of the following numbers is exactly divisible by 11?

|  |  |
| --- | --- |
| A | 235641 |
| B | 245642 |
| C | 315624 |
|  | 415624 |

**Question 5 Explanation:**

(4 + 5 + 2) – (1 + 6 + 3) = 1, not divisible by 11.(2 + 6 + 4) – (4 + 5 + 2) = 1, not divisible by 11.(4 + 6 + 1) – (2 + 5 + 3) = 1, not divisible by 11.(4 + 6 + 1) – (2 + 5 + 4) = 0, So, 415624 is divisible by 11.

|  |
| --- |
| **Question 6**  **WRONG** |

If *n* is a natural number, then (6*n2* + 6*n*) is always divisible by

|  |  |
| --- | --- |
| A | 6 only |
|  | 6 and 12 both |
| C | 12 only |
|  | by 18 only |

**Question 6 Explanation:**

(6n2 + 6n) = 6n(n + 1), which is always divisible by 6 and 12 both, since n(n + 1) is always even.

|  |
| --- |
| **Question 7**  **WRONG** |

How many natural numbers are there between 23 and 100 which are

exactly divisible by 6 ?

|  |  |
| --- | --- |
| A | 8 |
| B | 11 |
| C | 12 |
|  | 13 |
|  | None of these |

**Question 7 Explanation:**

Required numbers are 24, 30, 36, 42, …, 96This is an A.P. in which a = 24, d = 6 and l = 96Let the number of terms in it be n.Then tn = 96 a + (n – 1)d = 9624 + (n – 1) x 6 = 96(n – 1) x 6 = 72(n – 1) = 12n = 13Required number of numbers = 13.

|  |
| --- |
| **Question 8**  **WRONG** |

On dividing a number by 357, we get 39 as remainder. On dividing

the same number 17, what will be the remainder ?

|  |  |
| --- | --- |
| A | 0 |
|  | 3 |
|  | 5 |
| D | 11 |

**Question 8 Explanation:**

Let x be the number and y be the quotient. Then,x = 357 x y + 39= (17 x 21 x y) + (17 x 2) + 5= 17 x (21y + 2) + 5)Required remainder = 5.

|  |
| --- |
| **Question 9**  **WRONG** |

What least number must be subtracted from 13601, so that the

remainder is divisible by 87 ?

|  |  |
| --- | --- |
| A | 23 |
|  | 31 |
|  | 29 |
| D | 37 |

**Question 9 Explanation:**

87) 13601 (156 87 —- 490 435 —- 551 522 — 29 — Therefore, the required number = 29.

|  |
| --- |
| **Question 10**  **CORRECT** |

Which of the following numbers is divisible by each one of

3, 7, 9 and 11 ?

|  |  |
| --- | --- |
| A | 639 |
|  | 2079 |
| C | 3791 |
| D | 37911 |

**Question 10 Explanation:**

639 is not divisible by 72079 is divisible by each of 3, 7, 9, 11.

## Quants Numbers and Decimal Fractions

## Quants Numbers and Decimal Fractions I: 2

|  |
| --- |
| **Question 1**  **WRONG** |

How many 4 digit numbers contain number no.2?

|  |  |
| --- | --- |
| A | 3170 |
|  | 3172 |
| C | 3174 |
|  | 3168 |

**Question 1 Explanation:**

Total number of 4 digit numbers are 9000 (between 1000 and 9999).

We find the numbers without any two in them. So total numbers are 8 x 9 x 9 x 9= 5832

So numbers with number two in them = 9000 – 5832 = 3168

|  |
| --- |
| **Question 2**  **CORRECT** |

How many three digit numbers abc are formed where at least two

of the three digits are same?

|  |  |
| --- | --- |
| A | 221 |
| B | 331 |
| C | 320 |
|  | 252 |

**Question 2 Explanation:**

Total 3 digit numbers = 9 x 10 x 10 = 900

Total number of 3 digit numbers without repetition = 9 x 9 x 8 = 648

So number of three digit numbers with at least one digit repeats = 900 – 648=252

|  |
| --- |
| **Question 3**  **WRONG** |

What is the next number of the following sequence 7, 14, 55, 110, ....?

|  |  |
| --- | --- |
|  | 121 |
| B | 123 |
|  | 132 |
| D | 111 |

**Question 3 Explanation:**

Next number = Previous number + Reverse of previous number So

7 ,7+7=14, 14+41 = 55, 55+55 = 110, 110+011 = 121

|  |
| --- |
| **Question 4**  **WRONG** |

161?85?65?89 = 100, then use + or - in place of ? and take + as m,

- as n then find value of m-n?

|  |  |
| --- | --- |
| A | -5 |
| B | -3 |
|  | -1 |
|  | 0 |

**Question 4 Explanation:**

161 – 85 – 65 + 89 = 100

so m’s =1, n’s = 2 => (m – n)= – 1

|  |
| --- |
| **Question 5**  **WRONG** |

Rahul took a part in cycling game where 1/5 ahead of him and 5/6 behind

him excluding him. what is total number of participants?

|  |  |
| --- | --- |
|  | 31 |
|  | 35 |
| C | 40 |
| D | 45 |

**Question 5 Explanation:**

Let the total no of participants including Rahul = x Excluding rahul=(x-1)

15( x −1)+56( x −1) = x

31x – 31=30x

Total no. of participants x =31.

|  |
| --- |
| **Question 6**  **CORRECT** |

Find the unit digit of product of the prime number up to 50 ?

|  |  |
| --- | --- |
| A | 1 |
|  | 0 |
| C | 100 |
| D | -1 |

**Question 6 Explanation:**

No need to write all the primes upto 50. There are two primes 2, 5 gives

unit digit of

0. So the entire

product has unit digit 0.

|  |
| --- |
| **Question 7**  **CORRECT** |

If [x^(1/3)] - [x^(1/9)] = 60 then find the value of x?

|  |  |
| --- | --- |
|  | 49 |
| B | 51 |
| C | 23 |
| D | 59 |

**Question 7 Explanation:**

Let t = x 1/9

So,

t 3 − t =60

Therefore, (t-1) x t x (t + 1) = 60 =3 x 4 x 5. therefore, t = x 1/9 =4.

hence, x = 49

|  |
| --- |
| **Question 8**  **WRONG** |

A family X went for a vacation. Unfortunately it rained for 13

days when they were there.But whenever it rained in the mornings,

they had clear afternoons and vice versa. In all they enjoyed 11 mornings

and 12 afternoons. How many days did they stay there totally?

|  |  |
| --- | --- |
|  | 18 |
|  | 22 |
| C | 23 |
| D | 19 |

**Question 8 Explanation:**

Total they enjoyed on 11 mornings and 12 afternoons = 23 half days

It rained for 13

days. So 13 half days.

So total days = (13 + 23) / 2 = 18

|  |
| --- |
| **Question 9**  **WRONG** |

125 small but identical cubes are put together to form a large cube.

This large cube is now painted on all six faces. (i) How many of the smaller

cubes have no face painted at all?

|  |  |
| --- | --- |
|  | 64 |
| B | 8 |
| C | 36 |
|  | 27 |

**Question 9 Explanation:**

No face painted will be in the interior part of the cube. Interior

part will be a cube of

side (5 – 2) = 3.

Hence no. of cubes with no face painted ll be 3 3

= 27

|  |
| --- |
| **Question 10**  **WRONG** |

7528 : 5306 :: 4673 : ?

|  |  |
| --- | --- |
|  | 2051 |
| B | 2551 |
|  | 2451 |
| D | 2452 |

**Question 10 Explanation:**

As there is a difference of 2222. 7528 – 2222 = 5306.

So 4673 – 2222 = 2451

## Quants Numbers and Decimal Fractions I- 3

|  |
| --- |
| **Question 1**  **WRONG** |

x^2 – y^2 =16 and xy = 15 so find out x + y ?

|  |  |
| --- | --- |
|  | 16 |
|  | 22 |
| C | 28 |
| D | 30 |

**Question 1 Explanation:**

x 2 – y 2

= 16 ( x + y )( x – y ) = 16

|  |
| --- |
| **Question 2**  **CORRECT** |

Census population of a district in 1981 was 4.54 Lakhs, while in year

2001 it was 7.44 Lakhs. What was the estimated mid-year population of

that district in year 2009?

|  |  |
| --- | --- |
| A | 10.6 Lakhs |
| B | 9.6 Lakhs |
|  | 8.7 Lakhs |
| D | 7.6 Lakhs |

**Question 2 Explanation:**

1981 ⇒4.54

2001 ⇒7.44

Difference ( year ) = 20 Difference ( population )

= 2.9 So population per year =

2.920 =

0.145

2009 ⇒

x=?

Hence x = 7.44 + 8×0.145 =8.6 Lakhs

|  |
| --- |
| **Question 3**  **WRONG** |

Four persons A,B,C,D were there. All were of different weights.

All Four gave a statement.Among the four statements only the person

who is lightest in weight of all others gave a true statement.

A Says : B is heavier than D.

B Says : A is heavier than C.

C Says : I am heavier than D.

D Says : C is heavier than B.

Find the lightest and List the persons in ascending order

according to their weights ?

|  |  |
| --- | --- |
| A | B |
|  | C |
|  | A |
| D | D |

**Question 3 Explanation:**

A says B > D B says A > C

C says C > D

D says C > B

S ⇒ i n c e t h e p e r s o n w i t h l i g h t e s

t w e i g h t t e l l s t

h e t r u t h

C lies ( If C tells the truth, then C is not the lightest and then C lies )

D > C is the true statement.

So D is also not the lightest person and D lies.

B>C

So from A and B only one is telling the truth and that is not B because

B > C, so B is not

the lightest

A is the lightest

|  |
| --- |
| **Question 4**  **CORRECT** |

y, \_?, q, m, i 1. w?

|  |  |
| --- | --- |
|  | u |
| B | v |
| C | w |
| D | x |

**Question 4 Explanation:**

Difference of 3 is in between two alphabets i + 3 = m (j,k,l)

m + 3 = q (n,o,p)

q + 3 = u (r,s,t)

u is the answer.

|  |
| --- |
| **Question 5**  **WRONG** |

What is the next number in the series 3,7,13,19?

|  |  |
| --- | --- |
| A | 21 |
|  | 23 |
| C | 27 |
|  | 29 |

**Question 5 Explanation:**

Prime numbers from 3 on wards are 3, 5, 7, 11, 13, 17, 19, 23, 29 . . .

Write alternate

primes numbers starting from 3.

3, 7, 13, 19, 29

Answer is 29

|  |
| --- |
| **Question 6**  **WRONG** |

The sum of series represented as 1/(1×5)+1/(5×9)+1/(9×13)+−−−−+1/(221×225) is?

|  |  |
| --- | --- |
| A | 56226 |
|  | 76225 |
|  | 56225 |
| D | 56236 |

**Question 6 Explanation:**

11×5

+ 15×9 + 19×13 + – – – – 1221×225

= 14×

[ (5–1)1×5 + (9–5)5×9 + (13–9)9×13 + – – – – (225–221)221×225 ]

= 14×[(1–15)+(15–19)+(19–113)+…(1221–1225)] = 14×(1–1225)

= 14×224225

= 56225

|  |
| --- |
| **Question 7**  **WRONG** |

The number of zeros at the end of the product of all prime numbers

between 1 and 1111 is?

|  |  |
| --- | --- |
| A | 6 |
| B | 4 |
|  | 3 |
|  | 1 |

**Question 7 Explanation:**

Prime numbers between 1 & 1111 are 2,3,5,7,11,…

There is no other prime no. ending with 5 as unit digit, except one ‘5’ 2 x 5 =

10 gives

only one zero in the product of all prime numbers So, number of zeros

at the end of the

product = 1

|  |
| --- |
| **Question 8**  **WRONG** |

A card board of size 34 × 14 has to be attached to a wooden box

and a total of 35 pins are to be used on the each side of the card box.

find the total number of pins used?

|  |  |
| --- | --- |
|  | 136 |
| B | 247 |
|  | 456 |
| D | 178 |

**Question 8 Explanation:**

Total 35 pins are there and 4 sides of card board.

So 35 x 4 = 140

Now in the rectangle 4 vertices have 4 pins which is common to the sides.

So 140 – 4 = 136.

|  |
| --- |
| **Question 9**  **CORRECT** |

A bird keeper has got P pigeons, M mynas and S sparrows.

The keeper goes for lunch leaving his assistant to watch the birds.

Suppose p = 10, m = 5, s = 8 when the bird keeper comes back,

the assistant informs the x birds have escaped. The bird keeper exclaims:

"Oh no! All my sparrows are gone."

How many birds flew away?

When the bird keeper comes back, the assistant told him that x birds have escaped.

The keeper realized that atleast 2 sparrows have escaped.

What is minimum no of birds that can escape?

|  |  |
| --- | --- |
| A | 1 pigeon, 8 myna and 2 sparrows |
| B | 10 pigeon, 5 myna and 3 sparrows |
|  | 10 pigeon, 5 myna and 2 sparrows |
| D | 11 pigeon, 5 myna and 2 sparrows |

**Question 9 Explanation:**

This question can be solved using the pigeonhole principle.

answer for the first question is 23 (10 + 5 + 8 ).

Since if all the birds are escaped, then only he can be sure that all

sparrows are gone.

And for the second one, answer is 17 (10 p + 5 m + 2 s ).

If 17 birds escaped then best case such that least number of sparrows

escaped will be

like 10 pigeon, 5 myna and 2 sparrows escaped.

|  |
| --- |
| **Question 10**  **CORRECT** |

A cube is divided into 729 identical cubelets. Each cut is made parallel

to some surface of the cube . But before doing that the cube is colored

with green color on one set of adjacent faces ,red on the other set of

adjacent faces, blue on the third set. So, how many cubelets are there

which are painted with exactly one color?

|  |  |
| --- | --- |
| A | 311 |
| B | 304 |
|  | 294 |
| D | 293 |

**Question 10 Explanation:**

Total cubes created are 729

So a plane of big cube has 9 x 9 cubes

Out of that (n – 2) x (n – 2) = 7 x 7 = 49 are painted only one side and a

cube has

six

sides = 6 x 49 = 294

## Quants Numbers and Decimal Fractions I- 4

|  |
| --- |
| **Question 1**  **WRONG** |

How many boys are there in the class if the number of boys in the

class is 8 more than the number of girls in the class, which is five

times the difference between the number of girls and boys in the class?

|  |  |
| --- | --- |
|  | 40 |
|  | 22 |
| C | 29 |
| D | 33 |

**Question 1 Explanation:**

Let number of boys = b Number of girls = g then

given

b = 8+g = 5(b – g) b =5 x 8

b = 40

|  |
| --- |
| **Question 2**  **WRONG** |

Mr. T has a wrong weighing pan. One arm is lengthier than other.

1 kilogram on left balances 8 melons on right, 1 kilogram on right

balances 2 melons on left. If all melons are equal in weight,

what is the weight of a single melon?

|  |  |
| --- | --- |
|  | 200 gm |
|  | 300 gm |
| C | 450 gm |
| D | 100 gm |

**Question 2 Explanation:**

Let additional weight on left arm be x.

Weight of melon be m

x + 1 = 8 x m – – – – – – (1)

x + 2 x m = 1 – – – – – – (2)

Solving 1 & 2 we get.

Weight of a single Melon = 200 gm.

|  |
| --- |
| **Question 3**  **WRONG** |

. a, b, b, c, c, c, d, d, d, d, . . . . . . Find the 288th

letter of this series?

|  |  |
| --- | --- |
|  | y |
| B | a |
|  | x |
| D | c |
| E | z |

**Question 3 Explanation:**

Observe that each letter appeared once, twice, thrice …. They form an

arithmetic progression.

1+2+3…… We know that sum of first n natural numbers = n ( n +1)2

So n ( n +1)2 ≤ 288

For n = 23, we get 276. So for n = 24, the given series crosses 288. Ans is X

x

|  |
| --- |
| **Question 4**  **WRONG** |

If ABC = C 3 and CAB = D 3 , Then find D 3 ÷ B 3

|  |  |
| --- | --- |
|  | 73 |
| B | 64 |
|  | 65 |
| D | 55 |

**Question 4 Explanation:**

ABC = C 3

So, look for a number, that has a 3 digit cube, and the last digit of

the cube is same as the

number itself: 5 3 = 125

So, CAB = 512 = 8 3 D = 8 and B = 2 8 3 ÷2 3

Answer = 64.

|  |
| --- |
| **Question 5**  **WRONG** |

Find the unit digit of product of the prime number up to 50 .

|  |  |
| --- | --- |
|  | -100 |
| B | -2 |
| C | 1 |
|  | 0 |
| E | none |

**Question 5 Explanation:**

Prime number up to 50 are 2,3,5,7,11,…,43,47

Product = 2×3×5×7×11×−−−×43×47

There’s a term 2×5=10 So unit digit of product = 0

|  |
| --- |
| **Question 6**  **WRONG** |

Complete the series.. 2 2 12 12 30 30 ?

|  |  |
| --- | --- |
| A | 58 |
|  | 56 |
|  | 53 |
| D | 51 |

**Question 6 Explanation:**

It follows the series as: 1×2= 2

2×1= 2

3 x 4 = 12

4 x 3 = 12

5 x 6 = 30

6 x 5 = 30

7 x 8 = 56

This is the required number for the series.

|  |
| --- |
| **Question 7**  **CORRECT** |

If 5/2 artists make 5/2 paintings using 5/2 canvases in 5/2 days

then how many artistsr required to make 25 paintings using 25 canvases

in 25 days?

|  |  |
| --- | --- |
|  | 25 |
| B | 52 |
| C | 45 |
| D | 63 |

**Question 7 Explanation:**

5/2=25/X

x=50/5;

x=10;

5/2=25/10;That is 5/2 artists r required to make 25 paintings.

|  |
| --- |
| **Question 8**  **WRONG** |

X^(1/3) - X^(1/9) =60. Solve for X?

|  |  |
| --- | --- |
|  | 5^9 |
|  | 4^9 |
| C | 6^9 |
| D | 10^9 |

**Question 8 Explanation:**

: Let t=x^1/9 (^ means power raised to);

so, the given eq changes to..

t^3 – t =60 ,

i.e; t(t-1)(t+1)=60

=3\*4\*5 ;

therefore, t=x^1/9=4 ;

hence, x=4^9

|  |
| --- |
| **Question 9**  **WRONG** |

X Z Y+X Y Z = Y Z X. Find the three digits?

|  |  |
| --- | --- |
|  | 960 |
| B | 956 |
|  | 954 |
| D | 463 |

**Question 9 Explanation:**

X=4,Y=9,Z=5….459+495=954

|  |
| --- |
| **Question 10**  **WRONG** |

In a badminton tournament a team is eliminated from the tournament

if it losses 2 games. If there are 51 teams then what is the maximum

number of games required to select the champion?

|  |  |
| --- | --- |
|  | 102 |
| B | 105 |
| C | 199 |
|  | 101 |

**Question 10 Explanation:**

To eliminate the 50 teams 50\*2 = 100 games are required. And the champion

team may lose in at

most 1 game. ? Max. no. of games required = 101.

## Quants Numbers and Decimal Fractions I- 5

|  |
| --- |
| **Question 1**  **WRONG** |

It is a typical Tap problem. There are two taps, which are

used to fill the tank and one tap to empty the tank. First tap

fill the tank in 10 min., while the second takes quarter of an hour

to fill the tank if both are operated independently. Third tap is

capable of emptying the tank in seven and a half minutes. If all the

taps are opened simultaneously (when the tank is empty) how long (if ever)

will it take for the tank to get filled completely?

|  |  |
| --- | --- |
| A | 10 minutes |
|  | 8 minutes |
| C | 5 minutes |
|  | 9 minutes |

**Question 1 Explanation:**

Tank filled by by Pipe A in 1 minute = 1/10

Tank filled by Pipe B in 1 minute = 1/20

Leakage in 1 minute = 1/40

So, Total work done in 1 minute = 1/10+1/20-1/40

=1/8

Work done in 1 minute is 1/8

Time taken for filling the tank is 8 minutes

|  |
| --- |
| **Question 2**  **WRONG** |

 There are two containers on a table. A and B . A is half full of wine,

while B, which is twice A's size, is onequarter full of wine . Both containers

are filled with water and the contents are poured into a third container C.

What portion of container C's mixture is wine ?

|  |  |
| --- | --- |
| A | 8/3 |
| B | 3/5 |
| C | 4/3 |
|  | 2/3 |
|  | 1/3 |

**Question 2 Explanation:**

Let size of A be 2x and that of 4x. A has wine in x portion and B has in

one fourth of 4x means x. so water is in x+3x portion . When poured in C.

it has 2x as wine and 4x as water . So Portion of wine is 2x/6x is 1/3 part.

|  |
| --- |
| **Question 3**  **WRONG** |

A wall clock loses 10 minutes every 1 hour. In 1 hour by

the wall clock , a table clock gets 10 minutes ahead of it.

In 1 hour by the table clock an alarm clock falls 5 minutes

behind it. In 1 hour of the alarm clock, a wristwatch gets

5 minutes ahead it. At noon, all 4 timepieces were set correctly.

To the nearest minutes, what time will the wrist show when the

correct time is 6 p.m. on the same day ?

|  |  |
| --- | --- |
|  | 6 pm |
| B | 7.30 pm |
|  | 6.24 pm |
| D | 5.20 am |

**Question 3 Explanation:**

wall clock = 10 min loses in 1 hour

table clock = 10 min ahead of wall clock that’s means it’s showing right time

now

alarm clock =5 min falls behind table clock

wristwatch=5 min ahead of alarm clock that’s means it will show right timenow come on ans

we seen that wristwatch showing the right time so wrist show 6 pm on the same day

|  |
| --- |
| **Question 4**  **WRONG** |

Meera was playing with her brother using 55 blocks.She gets bored

playing and starts arranging the blocks such that the no. of blocks in

.each row is one less than that in the lower row. Find how many

were there in the bottom most row?

|  |  |
| --- | --- |
| A | 25 |
|  | 36 |
|  | 10 |
| D | 78 |

**Question 4 Explanation:**

let the the no of block in bottom is n.as,in the upper row the block no is

1 lesser than the lower low.so,

n\*(n+1)/2=55

(n-10)(n+11)=0

so,n=10

|  |
| --- |
| **Question 5**  **WRONG** |

Alpha, Beta , gamma, delta and epsilon are friends and have birthdays

on consecutive days though may not be in order. Gamma is as many days

old to Alpha as Beta is younger to Epsilon. Delta is two days older then

Epsilon. Gamma’s Birthday is on Wednesday. Tell whose birthday is when?

|  |  |
| --- | --- |
| A | Thursday |
|  | Tuesday |
|  | Friday |
| D | Wednesday |

**Question 5 Explanation:**

Saturday Gamma: Wednesday Delta: Tuesday Epsilon: Thursday

|  |
| --- |
| **Question 6**  **WRONG** |

After world war II three departments did as follows  First department

gave some tanks to 2nd & 3rd departments equal to the number they are having.

Then 2nd department gave some tanks to 1st & 3rd departments equal to the

number they are having. Then 3rd department gave some tanks to

2nd &1st departments equal to the number they are having.

Then each department has 24 tanks. Find the initial number

of tanks of each department?

|  |  |
| --- | --- |
|  | A-39 B-22 C-24 |
|  | A-39 B-21 C-12 |
| C | A-96 B-15 C-17 |
| D | A-30 B-36 C-15 |

**Question 6 Explanation:**

start from downwards 24,24,24

take half from both depart me t and give it 2 3rd

means

12,12,48

then for second 6,6+12+24,24=6,42,24

then for first6+21+12,21,12=39,21,12

|  |
| --- |
| **Question 7**  **WRONG** |

. Mr. T has a wrong weighing pan.One arm is lengthier than other.

1 kilogram on left balances 8 melons on right.1 kilogram on right

balances 2 melons on left.If all melons are equal in weight,

what is the weight of a single melon?

|  |  |
| --- | --- |
| A | 350 gm. |
| B | 300 gm. |
|  | 200 gm. |
|  | 250 gm. |

**Question 7 Explanation:**

: Each mellon is 200gm and the left pan is 600gm more weight than right

pan.

Let the left pan has x kg more weight than right and the melon is m kg each.

from the first case :1kg+more weight in left pan=weight of 8 melon in the right

pan

1.1+x=8m

From the second case :weight of 2 melon+more weight of left pan=1 kg

2.2m+x=1

Solving eqn 1 and 2

m=1/5kg or 200gm

x=3/5kg or 600 gm.

so the weight of each melon is 200 gm.

|  |
| --- |
| **Question 8**  **WRONG** |

Four thieves went to the museum to stole the diamonds first thief

stole half of them and while going he took another two and left.

Second, third and fourth did the same and there was zero diamonds

at the end. How many diamonds initially at the beginning?

|  |  |
| --- | --- |
|  | 60 |
|  | 70 |
| C | 80 |
| D | 56 |

**Question 8 Explanation:**

Initially there were 60 diamonds .

first took 32 diamonds and 28 are left.

others took 16,8,4 respectively such that no diamond is left.60 diamonds

at the beginning

|  |
| --- |
| **Question 9**  **CORRECT** |

A women with dollar bills goto the shopping he spent half of the money

she had for shopping as she was so kind she gave one dollar to the beggar.

she went to the hotel and spent half of the remaning and she gave 2 dollars

to the waiter,the she buy some goods with half of the remaining and she gave

3 dollars to the receptionist. how much money she had in the begining?

|  |  |
| --- | --- |
|  | 42 |
| B | 45 |
| C | 52 |
| D | 47 |

**Question 9 Explanation:**

come in the reverse order 1+3=4and twice of it 8+2=10 and twice of it 20+1=21 and

twice of it 42.

|  |
| --- |
| **Question 10**  **WRONG** |

Mr and Mrs ABC purchase suit and hats for 15 Rs. then from remaining

money Mrs. ABC purchase A dress. She shaid " My dress cost is more than

1 Rs from your hat's cost. she also added "if we divide our

money and then purchase and cost of my hat is 3 and 1/2 times

yours hat then we had spend equal money"

" if that " condition fallows what is price of his hat?

b. Total amount spend ?

|  |  |
| --- | --- |
|  | 6,22 |
| B | 22,6 |
|  | 7,23 |
| D | 14,7 |

**Question 10 Explanation:**

hat= 6 Rs , Total = 22 Rs.

## Quants Numbers and Decimal Fractions I- 6

|  |
| --- |
| **Question 1**  **CORRECT** |

No. of animals is 11 more than the no. of birds. If the no.

of birds were the no. of animals and no. of animals were the no.

of birds( ie., interchanging no.s of animals and birds.),

the total no. of legs get reduced by one fifth (1/5).

How many no. of birds and animals were there?

|  |  |
| --- | --- |
| A | 12,13 |
| B | 14,15 |
|  | 11,12 |
| D | 3,4 |

**Question 1 Explanation:**

: let no of birds be x then animals = x+11 ….

total no of legs = 2x + 4(x+11)

after interchanging legs = 4x+2(x+11)

now diff is

2x+4(x+11) – 4x+2(x+11) = 1 (2x+4(x+11) )/5

u will get x=11

birds:11,animals:22

|  |
| --- |
| **Question 2**  **CORRECT** |

In a soap company a soap is manufactured with 11 parts.For making

one soap you will get 1 part as scrap. At the end of the day u have

251 such scraps. From that how many soaps can be manufactured?

|  |  |
| --- | --- |
| A | 36 soaps |
| B | 26 soaps |
| C | 30 soaps |
|  | 25 soaps |

**Question 2 Explanation:**

The 251 scraps will be used to make 22 soaps with remaining 9 scraps.

again the 22 soaps will produce 22 scraps. so 22+9=31 scraps

which makes 2 soaps with remaining 9 scraps. Again the 2 soaps will

produce 2 scraps. so we have 11 scraps which can be used to make

1 soap with 1 scrap as remaining. Therefore totally,22+2+1=25 soaps.

|  |
| --- |
| **Question 3**  **WRONG** |

There is a 5digit no. 3 pairs of sum is eleven each.Last digit is 3 times

the first one. 3 rd digit is 3 less than the second. 4 th digit is 4 more

than the second one. Find the digit?

|  |  |
| --- | --- |
| A | 25274 |
|  | 25296 |
| C | 25223 |
|  | 25298 |

**Question 3 Explanation:**

25296

Let the 5 digit no be: a b c d e

last digit is 3 times first: e=3a

3rd digit less than second: c=b-3

4th digit is 4 more than second: d=4+bnow a,b,b-3,4+b,3a

3pairs of sum is 11

therefore

a+b=11——–eqn1

b-3+b+4=11—-eqn2

|  |
| --- |
| **Question 4**  **WRONG** |

There are five thieves, each loot a bakery one after the other such

that the first one takes 1/2 of the total no. of the breads plus 1/2

of a bread. Similarly 2nd, 3rd,4th and 5th also did the same.

After the fifth one no. of breads remained are 3.

Initially how many breads were there?

|  |  |
| --- | --- |
|  | 127 |
|  | 321 |
| C | 452 |
| D | 102 |

**Question 4 Explanation:**

suppose total no. of breads =x

for 1st thief:x/2+1/2=(x+1)/2

remaining breads=x-(x+1)/2=(x-1)/2

2nd thief:((x-1)/4)+1/2=(x+1)/4

remaining bread=(x-1)/2-(x+1)/4=(x-3)/4

3rd thief:((x-3)/8)+1/2=(x+1)/8

remaining bread=((x-3)/4)-(x+1)/8=(x-7)/8

4th thief:((x-7/16)+1/2)=x+1/16

remainig bread:(x-7/8)-(x+1/16)=(x-15)/16

5th thief:((x-15/32)+1/2)=(x+1)/32

hence x+1(1/2+1/4+1/8+1/16+1/32)+3=x

x=127

|  |
| --- |
| **Question 5**  **WRONG** |

There are some chicken in a poultry. They are fed with corn.

One sack of corn will come for 9 days. The farmer decides to sell

some chicken and wanted to hold 12 chicken with him. He cuts the

feed by 10% and sack of corn comes for 30 days. So initially

how many chicken are there?

|  |  |
| --- | --- |
| A | 78 days |
|  | 45 days |
|  | 30 days |
| D | 42 days |

**Question 5 Explanation:**

: x chicken \* 9 days = 10.8 chicken \* 30days

x=10.8\*30/9 = 36

he had 36 chicken)x chicken eat 1 sack per 9 days

then he keeps 12, but cuts the feed by 10%,

so the 12 chicken now eat as 12-10%=10.8 chicken would have before

so 10.8 chicken eat a sack per 30 days

|  |
| --- |
| **Question 6**  **WRONG** |

In an election, candidate A got 75% of the total valid votes.

If 15% of the total votes were declared invalid and the total

numbers of votes is 560000, find the number of valid vote

polled in favour of candidate.

|  |  |
| --- | --- |
| A | 357600 |
|  | 356000 |
| C | 367000 |
|  | 357000 |

**Question 6 Explanation:**

Total number of invalid votes = 15 % of 560000

= 15/100 × 560000

= 8400000/100

= 84000

Total number of valid votes 560000 – 84000 =

476000

Percentage of votes polled in favour of candidate

A = 75 %

Therefore, the number of valid votes polled in

favour of candidate A = 75 % of 476000

= 75/100 × 476000

= 35700000/100

= 357000

|  |
| --- |
| **Question 7**  **WRONG** |

If a worker in a factory receives one rupee on the first day

from the second days onwards his wage is increased by one rupee

every day. What is the total amount of wage he receives after

40 days?

|  |  |
| --- | --- |
|  | Rs.720/- |
|  | Rs.820/- |
| C | Rs.810/- |
| D | Rs.740/- |

**Question 7 Explanation:**

sum of n natural number = n(n+1)/2

= 40(41)/2

= Rs.820/-

|  |
| --- |
| **Question 8**  **WRONG** |

A bell in a clock rings once at 1 O'clock, twice at 2 O'clock,

thrice at 3 O'clock and so on.. Then how many times it rings in

a day.

|  |  |
| --- | --- |
| A | 150 |
|  | 146 |
| C | 136 |
|  | 156 |

**Question 8 Explanation:**

sum of n natural number = n(n+1)/2

= 12(13)/2 = 78

= 2 times (78) = 156

|  |
| --- |
| **Question 9**  **WRONG** |

What is the sum of natural numbers between 20 and 100.

|  |  |
| --- | --- |
|  | 4860 |
|  | 4840 |
| C | 4880 |
| D | None of these |

**Question 9 Explanation:**

a = first number

l = last number

Sn = n/2[a + l]

between 20 and 100 numbers = 81 => 100 – 20 = 80 + 1 = 81

Sn = 81/2 × 120 = 81 × 60 = 4860

|  |
| --- |
| **Question 10**  **CORRECT** |

Two people run around circular track and take 42 sec and 30 sec

to make one complete round. If they start together after how

much amount of time will they meet again in the same place?

|  |  |
| --- | --- |
|  | 3 min 30 sec |
| B | 4 min 40 sec |
| C | 3 min 20 sec |
| D | 2 min 50 sec |

**Question 10 Explanation:**

LCM ( 42, 30) = 210

They will meet in 210 seconds,

which is 3 min 30 sec.