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Quantitative Aptitude -

MindTree Study materials

QUANTS-

Topics	Subtopics	Expected Questions

Basic Mathematics	• Divisibility • HCF and LCM • Numbers, decimal fractions and power	6 - 8 Questions
Applied Mathematics	• Profit & Loss ,Simple & Compound Interest • Time, Speed and Distance • Work & Time • Ration & Allegation	8 - 10 Questions
Engineering Mathematics	• Logarithms • Permutation and Combinations • Probability	8 - 10 Questions

COMPUTER Programming

Topics	Subtopics	Expected Questions
Basic Programming	• Data Types • Iteration, Recursion, Decision • Procedure, functions and scope	10 - 12 Questions
Data Structures	• Arrays, Linked Lists, Trees, Graphs • Stacks, Queues • Hash Tables • Heaps	6 - 8 Questions
OOPs	• Polymorphism • Abstraction • Encapsulation	4 - 6 Questions
Miscellaneous	• Searching and Sorting • Complexity Theory • Core Computer Science	4 - 5 Questions

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ENGLISH

Topics	Subtopics	Expected Questions
Vocabulary	• Synonyms • Antonyms • Sentence based Synonyms • Sentence based Antonyms	7 - 8 Questions
Grammar	• Subject-Verb Agreement • Tenses and Articles • Prepositions and Conjunctions • Speech and Voices	10 - 12 Questions
Comprehension	• Inferential and Literal Comprehension • Contextual Vocabulary • Comprehension ordering	5 Questions

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Computer Science

Topics	Subtopics	Expected Questions
OPERATING SYSTEM & COMPUTER ARCHITECTURE	• Basics of OS • Computer Architecture • Process Management and Synchronisation • Memory and I/O Management	10-11 Questions
DBMS - DataBase Management	• Data model • Relational Algebra and SQL	8-9 Questions

Systems	• Normalisation, Architecture, Indexing	
Computer Networks	• Basics of networking and communication • OSI, TCP/IP layers and protocols • Network Devices and Routing Algorithms	5 -6 Questions

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LOGICAL REASONING

Topics	Subtopics	Expected Questions
Deductive Reasoning	• Coding deductive logic • Blood Relation • Directional Sense • Objective Reasoning • Selection decision tables	5 Questions
Inductive reasoning	• Analogy and Classification pattern recognition • Coding pattern and Number series pattern recognition	5 Questions
Abductive Reasoning	• Logical word sequence • Data sufficiency	6 Questions

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MindTree Score vs Correct Questions

Percentile	<50	50-60	60-70	70-80	80-90	90-95	95+
English Score(800)	470	495	525	540	560	620	670
Quants Score(800)	480	500	550	575	615	640	685
Logical Score(800)	460	495	515	535	570	600	680
Computer Programming Score(800)	350	390	435	480	520	565	595
Computer Science Score(800)	380	415	440	470	500	535	580

If you take lesser time than designated for a question for e.g. if there are 16 question in quants and total time is 18 mins.

Thus, total time for one question = 67 seconds.

If for quants any question is solved 10 seconds before i.e 57 seconds you get +15 points.

Similarly, if it is solved after 77 seconds - 5 points.

Score	300	400	500	550	600	650	700	750	820
English(18 Ques)	5	9	11	13	14	15	16	17	18 Ques
Quants(16 Ques)	6	8	10	11	12	14	14	15	16 Ques
Reasoning(14 Ques)	2	5	7	9	11	12	12	13	14 Ques
Computer Programming(25 Ques)	6	9	11	15	20	20	21	22	25 Ques
Computer Science(26 Ques)	6	10	15	17	19	20	21	23	26 Ques

Set 1

MindTree resets percentile score each year on 1st January.

1. The cost price of 10 articles is equal to the selling price of 9 articles. find the profit percent.
a. 101/9 % b. 100/9 % c. 102/9 % d. 103/9 %

Ans: 100/9 %

Let Cost Price be x and selling price be y
Then given that cost price of 10 articles is equal to the selling price of 9 articles
That means 10x=9y
Y= 10x/9
Profit percent = ((selling price – cost price)/cost price) * 100
= 100/9 %

2. The ratio of radii of two right circular cylinders is 6:7 and their heights are in the ratio 5:9. The ratio of their respective curved surface areas is
a. 14:15 b. 17:19 c. 23:29 d. 10:21

Ans: 10 : 21

Curved surface area of a cylinder = 2 * Pi * r * h
Ratio = (6/7) * (5/9) = 10:21

3. In how many ways can the 7 letters A,B,C,D,E,F and G be arranged so that C and E never together.
a. 5040 b. 6480 c. 3600 d. 1440

Ans: 3600

C and E never together = Total arrangements – C and E together
Total arrangements are 7!
C and E together = pack c and e into one unit + 5 other alphabets = 6! 2! (2! Is two arrange c and e internally)
C and E never together = Total arrangements – C and E together = 7! – 6! 2! = 3600

4. How many numbers are there in all from 4000 to 4999 (both 4000 and 4999 included) having at least one of their digits repeated?

a. 356 b. 216 c. 496 d. 504

Ans: 496

Atleast one of their digits repeated = Total numbers – None of the digits repeated
Total numbers from 4000 to 4999 = 1000
None of the digits repeated = _ _ _ _
There are total 4 places
1st place is filled with 4 only. So only one choice
2nd place is filled with any 9 digits except 4 as we have used 4 in 1st place. So 9 choices
Similarly 3rd place is filled with any 8 digits. So we have 8 choices
4th place is filled with any 7 digits. So we have 7 choices.
So total arrangements = 1 * 9 * 8 * 7 = 504
Ans= 1000 – 504 = 496

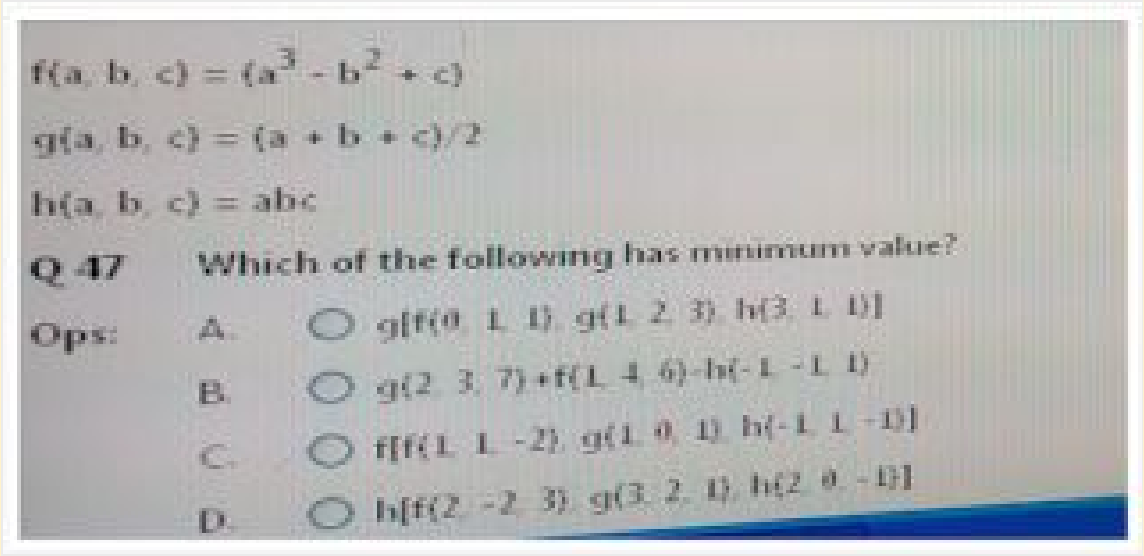
5. if 1/2x +1/4x+1/8x=14 Then the value of x is:
a. 8 b. 12 c. 4 d. 16

Ans: x = 16

6. Which of the following expressions will always be true?

Ans: D

Verify from options



Ans(C)

8. Find the value of h[f(1,2,3), g(2,1,-2), h(1,-1,-1)].

a. 0.5 b. none c. 1 d. 0

Ans(D)

9. A trapezium with an area of 5100 cm2 has the perpendicular distance between the two parallel sides of 60m . if one of the parallel sides be 40m. find the length of the other side.

a. 130 m b. 110 m c. 120 m d. 145 m

Ans: 130 m

Area of a trapezium = (1/2) (a+b) h

10. Find the simple interest on Rs. 306.25 from March 3rd to July 27th(In the same year) at 3.75 percent.

a. Rs. 4.57 b. Rs. 4.59 c. Rs. 4.53 d. Rs 4.58

Ans: 4.59

from March 3rd to July 27th(In the same year) = 146 days

(306.25 * 146 * 3.75)/ (365 * 100) = 4.59

11. Dhruv and Naksh drive at the speeds of 36 Kmph and 54 kmph respectively. If Naksh takes 3 hours lesser than what Dhruv takes for the same distance. Then distance is :

a. 324 km b. 524 km c. 320 km d. 420 km

Ans: 324 km

Let dhruv takes t hours then naksh takes t-3 hours
Because distance is same in both cases
So 36 * t = 54 (t-3)
t=9
ans: 36 * 9 = 324 km

12. The radius of wheel of axis's car is 50 cm. What is the distance that the car would cover in 14 revolutions?
a. 11 m b. 22 m c. 33 m d. 44 m

Ans: 44 m

Distance covered in one revolution is equal to wheel surface area = 2 * Pi * r
Distance covered in 14 revolutions = 14 (2 * (22/7) * 50) = 44000 cm= 44 m

13. P can do a piece of work in 5 days of 8 hours each and Q can do in 4 days of 6 hours each. How long will they take do it working 5 hours a day?
a. 2 days b. 3 days c. 4 days d. 5 days

Ans: 3 days

P can do in 5* 8 hours= 40 hours
Q can do in = 24 hours
Working together in one hour = (1/40) + (1/24) = 1/15
Total work can be finished in 15 hours
They 5 hours a day so total number of days = 15/5 = 3 days

14. Libra had three diamond weighing equal. One of the diamond fell and broke into 4 equal pieces weighing 20gm each. what was the total weight of three diamonds.
a. 200 gm b. 280 gm c. 320 gm d. 240 gm

Ans: 20 * 4 * 3 = 240 gm

16. if the antecedent and consequent of a ratio are increased by 5 and 6 respectively then the ratio is 5:6. find the original ratio. a. 5:6 b. 1:2 c. 2:3 d. 3:4
Ans: let's say original ratio is x:y

(x+5)/(y+6) = 5/6
Then x/y = 5/6

17. Rohit and Rahul start from the same point and move away from each other at right angle. After 4 hours they are 80 km apart. if the speed of Rohit is 4 kmph more than Rahul. what is the speed of Rohit?
a. 16 kmph b. 20 kmph c. 12 kmph d. none

Ans: x is the speed of rahul then (x+4) will be rohit speed

802 = (4x)2 + ((x+4)4)2
X=12
Rohit speed = 12 + 4 = 16kmph

18. Abhimanyu and supreet can together finish a work in 50 days. They worked together for 35 days and then supreet left. After another 21 days, Abhimanyu finished the remaining work. In how many days Abhimanyu alone can finish the work?
a. 70 days b. 75 days c. 80 days d. 60 days

Ans: 35 days worked together + 21 days abhimayu worked = finished the work

35(1/50) + 21(x) = 1
X=70 days
19. if two fair dice are thrown simultaneously. then what is the probability that sum of the numbers appearing on the top faces of the dice is less than 4? a. 6/14 b. none c. 1/12 d. 3/18
Ans: possible cases are (1,1) (1,2) and (2,1) = 3

3/36 = 1/12

20.

21. 3 individuals john wright, greg chappell and gary kristen are in the race for the appointment of new coach of team india. The probabilities of their appointment are 0.5, 0.3 and 0.2 respectively. If john wright is appointed then probability of ganguly appointed as a captain will be 0.7 and corresponding probability if greg chappell or gary kristen is appointed are 0.6 and 0.5 respectively. find the overall probability that ganguly will appointed as a captain.

a. 0.63 b. 0.35 c. 0.18 d. 0.89

Ans: 0.63

22. A man spends Rs 660 on tables and chairs. the price of each table is Rs. 150 and the price of each chair is Rs. 20. If he buys maximum number of tables, what is the ratio of chairs to tables purchased?

a. 2: 5 b. 3:5 c. 2:3 d. 3:4

4 tables + 3 chairs =660

Chairs to tables ratio is 3:4

23. two packets are available for sale.

packet a: peanuts 100 gms for Rs 48 only

packet b: peanuts 150 gms for Rs 72 only

which is a better buy?

a. both have the same value b. packet b c. data insufficient d. packet a

Ans: a. both have the same value

Packet-a : 1 gm cost = 48/100

Packet-b : 1 gm cost = 72/150

24.find the surface area of a piece of metal which is in the form of a parallelogram whose base is 10 cm and height is 6.4 cm

a. 64 cm2 b. 65 cm2 c. 45 cm2 d. 56 cm2

Ans:

25. Sridevi is younger than Rajeev by 4 years. if their ages are in the ratio of 7:9. how old is Sridevi?

Ans: if Sridevi is x then Rajeev will be (x+4)

x/(x+4) = 7/9

x=14

26. A sum of Rs. 900 amounts to Rs. 950 in 3 years at simple interest. If the interest rate is increased by 4%, it would amount to how much?

27. two trains for Palwal leave Kanpur at 10a.m and 10:30 am and travel at the speeds of 60 kmph and 75 kmph respectively. After how many kilometres from Kanpur will the two trains be together?

Ans: 150 km

28. (x + 1/x) = 6 the value of (x5 + 1/x5) = ?

Ans: 6726

29. In how many ways can 44 people be divided into 22 couples?

Ans: Short cut how many ways n people be divided into n/2 couples

(n!)/{(2!)n/2 (n/2)!} so ans is b. (44!)/{(2!)22 (22!)}

30. Find the remainder when (x3 + 4 x2 + 6 x - 2) is divided (x+5)

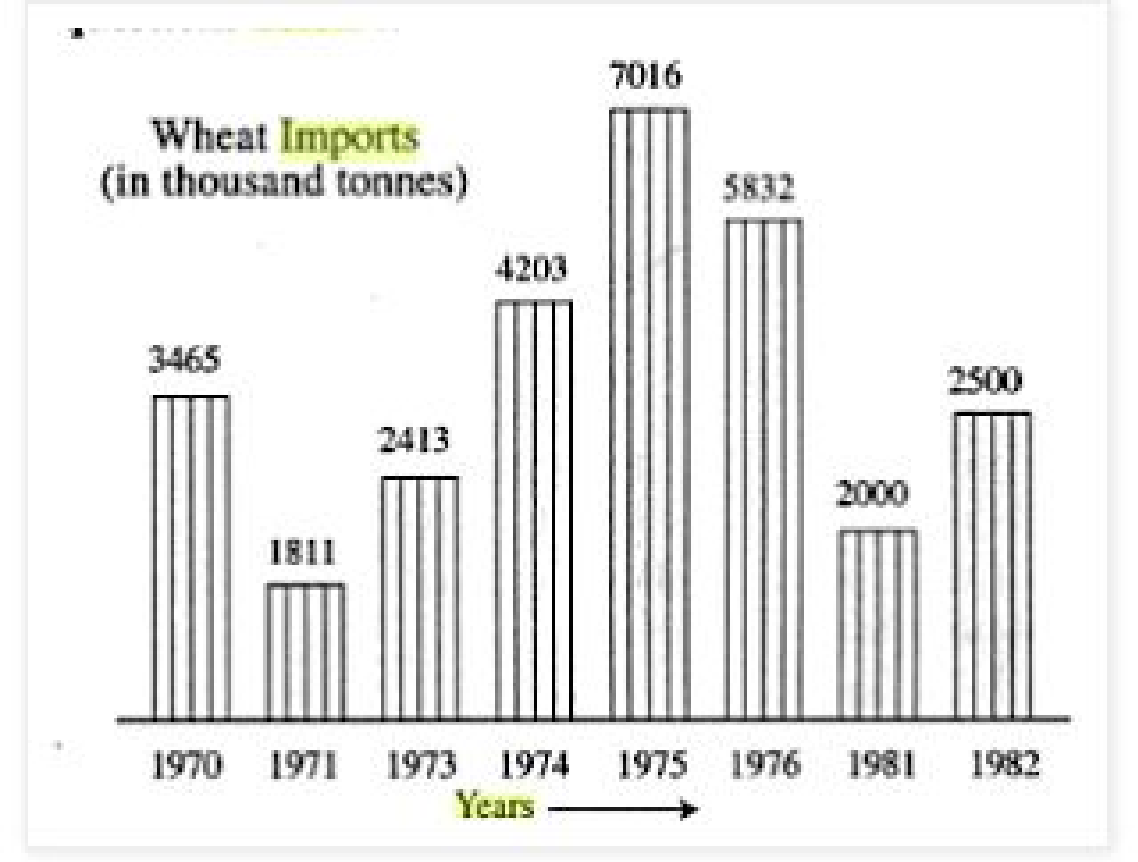
Ans: -57

31. a solid cylinder has total surface area of 462 cm2 . If total surface area of the cylinder is thrice of its curved surface area. then the volume of the cylinder is:

a. 539 cm3 b. 545 cm3 c. 531 cm3 d. 562 cm3

Ans:539

32.



In which year was there lowest wheat import?

a. 1973 b. 1974 c. 1975 d. 1982

Ans: a

33. What is the ratio of number of years which have imports above the average imports to those which have imports below the average imports?

a. 5:3 b. 2: 6 c. 3: 8 d. none

Ans: d

34. The increase in imports in 1982 was what percent of the imports in 1981?

a. 25% b. 5% c. 125% d. 80%

Ans: a

35. The section of a solid right circular cone by a plane containing vertex and perpendicular to base is an equilateral triangle of side 10 cm. find the volume of the cone?

a. 221.73 cm3 b.223.73 cm3 c.228.73 cm3 d.226.61 cm3

36. A sum of Rs 468.75 was lent out at simple interest and at the end of 1 year and 8 months, the total amount of Rs 500 is recieved. find the rate of interest.

a. 2% b. 4% c. 1% d. 3%

Ans: 4%

37.Consider the following two curves in the X-Y plane

y=(x3+x2+5)

y=(x2+x+5)

Which of the following statements is true for -2<= x <=2?

a. The two curves do not intersect. b. The two curves intersect thrice.

c. The two curves intersect twice. d. The two curves intersect once.

Ans: b

38.Give a model for maximising the profit in a company or minimising the loss in a conflict with optimisation techniques.where quantity f(x) is referred to as the object function while the vector 'x'consists of decision variables.

A. None of the mentioned options. B. x* =arg min f(x) C. x* =arg max f(x) D. x* =an-1+an arg min f(x)n

39. A positive integer is selected at random and is divided by 7,what is the probability that the remainder is 1?

A. 3/7 B. 4/7 C. 1/7 D. 2/7

Ans: 1/7

40. A mixture of 40 litres of salt and water contains 70%of salt.how much water must be added to decrease the salt percentage to 40%?

A. 40 litres B. 30 litres C. 20 litres D.2 litres

Ans: x=30

Ques. If LCM of two number is 693, HCF of two numbers is 11 and one number is 99, then find other

A. 34
B. 77
C. 12
D. 45

Answer: Option B

Explanation:

For any this type of question, remember
Product of two numbers = Product of their HCF and LCM

So Other number =
693×11/99
693×11/99
= 77

Ques. The H.C.F. of two numbers is 23 and the other two factors of their L.C.M. are 13 and 14. The larger of the two numbers is:

A. 276
B. 299
C. 322
D. 345
Answer: Option C

Explanation:

Clearly, the numbers are (23 x 13) and (23 x 14).

Larger number = (23 x 14) = 322

Ques. Find the greatest number which on dividing 1661 and 2045, leaves a reminder of 10 and 13 respectively

A. 125
B. 127
C. 129
D. 131

Answer: Option B

Explanation:

In this type of question, its obvious we need to calculate the HCF, trick is

HCF of (1661 - 10) and (2045 -13)
= HCF (1651, 2032) = 127

There are three numbers, these are co-prime to each other are such that the product of the first two is 551 and that of the last two is 1073. What will be the sum of three numbers :

A. 80
B. 82
C. 85
D. 87

Answer: Option C

Explanation:

As given the questions these numbers are co primes, so there is only 1 as their common factor.
It is also given that two products have the middle number in common.
So, middle number = H.C.F. of 551 and 1073 = 29;
So first number is : 551/29 = 19
Third number = 1073/29 = 37
So sum of these numbers is = (19 + 29 + 37) = 85

Ques. The greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively, is:

A. 123
B. 127
C. 235
D. 305

Answer: Option B

Explanation:
Required number = H.C.F. of (1657 - 6) and (2037 - 5)
= H.C.F. of 1651 and 2032 = 127.

If the sum of two numbers is 55 and the H.C.F. and L.C.M. of these numbers are 5 and 120 respectively, then the sum of the reciprocals of the numbers is equal to:

A. 55/601
B. 601/55
C. 11/120
D. 120/11

Let the numbers be a and b.
Then, a + b = 55 and ab = 5 x 120 = 600.
The required sum = 1/a + 1/b = a + b/ab = 55/600 = 11/120

Ques : Choose the correct answer.
What is the value of 4^-2 ?
Option 1 : 1/4
Option 2 : 1/16
Option 3 : -16
Option 4 : None of these

Correct Op: 2

Ques : Choose the correct answer.
What is the value of (0.081)1/4?
Option 1 : 0.3
Option 2 : 0.03
Option 3 : 0.003
Option 4 : None of these

Correct Op: 1

Ques. A tyre has two punctures. The first puncture alone would have made the tyre flat in 9 minutes and the second alone would have done it in 6 minutes. If air leaks out at a constant rate, how long does it take both the punctures together to make it flat ?
3 ⅕ min
3 ⅖ min
3 ⅗ min

3 ⅗ min

Do not be confused, Take this question same as that of work done question's. Like work done by 1st puncture in 1 minute and by second in 1 minute.
Lets Solve it:

1 minute work done by both the punctures =
(1/9+1/6)=(5/18)

So both punctures will make the type flat in
(18/5)mins=3 ⅗ mins

Correct Op: 3

Ques. A is twice as good as workman as B and together they finish a piece of work in 18 days. In how many days will B alone finish the work.
27 days
54 days
56 days
68 days

Correct Op: 2

Answer: Option B

Explanation:

As per question, A do twice the work as done by B.
So A:B = 2:1
Also (A+B) one day work = 1/18

To get days in which B will finish the work, lets calculate work done by B in 1 day =
=(1/18∗1/3)=1/54

[Please note we multiplied by 1/3 as per B share and total of ratio is 1/3]

So B will finish the work in 54 days

Ques. To complete a work A and B takes 8 days, B and C takes 12 days, A,B and C takes 6 days. How much time A and C will take

24 days

16 days

12 days

8 days

Answer: Option D

Explanation:

A+B 1 day work = 1/8

B+C 1 day work = 1/12

A+B+C 1 day work = 1/6

We can get A work by (A+B+C)-(B+C)

And C by (A+B+C)-(A+B)

So A 1 day work =

$1/6-1/12=1/12$

Similarly C 1 day work =

$1/6-1/8=(4-3)/24=1/24$

So A and C 1 day work =

$1/12+1/24=3/24=1/8$

So A and C can together do this work in 8 days

Ques. A can do a piece of work in 15 days and B alone can do it in 10 days. B works at it for 5 days and then leaves. A alone can finish the remaining work in

5 days

6 days

7.5 days

8.5 days

Answer: Option C

Explanation:

B's 5 days work =
1/10∗5=½
Remaining work =1−1/2=½
A can finish work =15∗1/2=7.5days

A completes 80% of a work in 20 days. Then B also joins and A and B together finish the remaining work in 3 days. How long does it need for B if he alone completes the work?
35 ½
36 ½
37 ½
38 ½

Answer: Option C

Explanation:

Work done by A in 20 days = 80/100 = 8/10 = 4/5

Work done by A in 1 day = (4/5) / 20 = 4/100 = 1/25 --- (1)

Work done by A and B in 3 days = 20/100 = 1/5 (Because remaining 20% is done in 3 days by A and B)

Work done by A and B in 1 day = 1/15 ---(2)

Work done by B in 1 day = 1/15 – 1/25 = 2/75

=> B can complete the work in 75/2 days = 37 (1/2) days

Ques. 4 men and 6 women finish a job in 8 days, while 3 men and 7 women finish it in 10 days. In how many days will 10 women working together finish it ?
30 days

40 days
50 days
60 days

Answer: Option B

Explanation:

Let 1 man's 1 day work = x
and 1 woman's 1 days work = y.
Then, 4x + 6y = 1/8
and 3x+7y = 1/10
solving, we get y = 1/400 [means work done by a woman in 1 day]

10 women 1 day work = 10/400 = 1/40

10 women will finish the work in 40 days

Ques, 10 women can complete a work in 7 days and 10 children take 14 days to complete the work. How many days will 5 women and 10 children take to complete the work?
6 days
7 days
8 days
9 days

Answer: Option B

Explanation:

1 woman's 1 day's work = 1/70
1 Child's 1 day's work = 1/140
5 Women and 10 children 1 day work =

(5/70 +10/140)=1/7

So 5 women and 10 children will finish the work in 7 days.

Ques. 5 men and 2 boys working together can do four times as much work as a man and a boy. Working capacity of man and boy is in the ratio

1:2

1:3

2:1

2:3

Answer: Option C

Explanation:

Let 1 man 1 day work = x

1 boy 1 day work = y

then 5x + 2y = 4(x+y)

=> x = 2y

=> x/y = 2/1

=> x:y = 2:1

Rahul and Sham together can complete a task in 35 days, but Rahul alone can complete same work in 60 days. Calculate in how many days Sham can complete this work ?

84 days

82 days

76 days

68 days

Answer: Option A

Explanation:

As Rahul and Sham together can finish work in 35 days.

1 days work of Rahul and Sham is 1/35

Rahul can alone complete this work in 60 days,

So, Rahul one day work is 1/60

Clearly, Sham one day work will be = (Rahul and Sham one day work) - (Rahul one day work)

=1/35−1/60=1/84

Hence Sham will complete the given work in 84 days.

Ques. If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:

A. 4 days
B. 5 days
C. 6 days
D. 7 days
Answer: Option A

Explanation:

Let 1 man's 1 day's work = x and 1 boy's 1 day's work = y.

Then, 6x + 8y = 1/10 and 26x + 48y = 1/2 .

Solving these two equations, we get : x = 1/100 and y = 1/200 .
(15 men + 20 boy)'s 1 day's work = 15/100 + 20/200 = 1/4 .
15 men and 20 boys can do the work in 4 days.

Ques. A and B can together finish a work 30 days. They worked together for 20 days and then B left. After another 20 days, A finished the remaining work. In how many days A alone can finish the work?

A. 40
B. 50
C. 54
D. 60
Answer: Option D

Explanation:

(A + B)'s 20 day's work = (1/30 x 20) = 2/3 .

Remaining work = (1 - 2/3) = 1/3 .
Now, 1/3 work is done by A in 20 days.

Therefore, the whole work will be done by A in (20 x 3) = 60 days.

Ques. A person incurs a loss of 5% be selling a watch for Rs. 1140. At what price should the watch be sold to earn 5% profit.
Rs.1200
Rs.1230
Rs.1260
Rs.1290

Option C

Explanation:

Let the new S.P. be x, then.
(100 - loss%):(1st S.P.) = (100 + gain%):(2nd S.P.)

=>(95/1140=105/x)=>x=1260

Ques. A book was sold for Rs 27.50 with a profit of 10%. If it were sold for Rs. 25.75, then would have been percentage of profit and loss ?
2% Profit
3% Profit
2% Loss
3% Loss
Answer And Explanation
Answer: Option B

Explanation:

Please remember
S.P.=(((100+gain%)/100)∗C.P)

So, C.P. = ((100/110)∗25.75)
When S.P. = 25.75 then Profit=25.75−25=Re.0.75
Profit%=(0.75/25)∗100=3%

Ques. If the cost price is 25% of selling price. Then what is the profit percent.
150%
200%
300%
350%

Answer: Option C
Explanation:
Let the S.P = 100
then C.P. = 25
Profit = 75
Profit% = 75/25 * 100 = 300%

Ques. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, find out the value of x
13
14
15
16

Answer: Option D

Explanation:

Let the Cost Price of one article = Rs. 1
CP of x articles = Rs. x
CP of 20 articles = 20
Selling price of x articles = 20

Profit = 25% [Given]

⇒((SP−CP)/CP) = 25/100=1/4⇒(20−x)/x=¼

⇒80−4x=x
⇒5x=80
⇒x=80/5=16

Ques. A man buys an item at Rs. 1200 and sells it at the loss of 20 percent. Then what is the selling price of that item
Rs. 660
Rs. 760
Rs. 860
Rs. 960
Answer And Explanation
Answer: Option D

Explanation:

Here always remember, when ever x% loss,
it means S.P. = (100 - x)% of C.P
when ever x% profit,
it means S.P. = (100 + x)% of C.P

So here will be (100 - x)% of C.P.
= 80% of 1200
= 80/100 * 1200
= 960

Ques. Sahil purchased a machine at Rs 10000, then got it repaired at Rs 5000, then gave its transportation charges Rs 1000. Then he sold it with 50% of profit. At what price he actually sold it.
Rs. 22000
Rs. 24000
Rs. 26000
Rs. 28000
Answer And Explanation
Answer: Option B

Explanation:

Question seems a bit tricky, but it is very simple.
Just calculate all Cost price, then get 150% of CP.

C.P. = 10000 + 5000 + 1000 = 16000

150% of 16000 = 150/100 * 16000 = 24000

Ques. A plot is sold for Rs. 18,700 with a loss of 15%. At what price it should be sold to get profit of 15%.
Rs 25300
Rs 22300
Rs 24300
Rs 21300
Answer And Explanation
Answer: Option A

Explanation:

This type of question can be easily and quickly solved as following:

Let at Rs x it can earn 15% pr0fit
85:18700 = 115:x [as, loss = 100 -15, Profit = 100 +15]

x = (18700*115)/85
= Rs.25300

Ques. A man gains 20% by selling an article for a certain price. If he sells it at double the price, the percentage of profit will be.
130%
140%
150%
160%
Answer And Explanation
Answer: Option B

Explanation:

Let the C.P. = x,
Then S.P. = (120/100)x = 6x/5
New S.P. = 2(6x/5) = 12x/5

Profit = 12x/5 - x = 7x/5

Profit% = (Profit/C.P.) * 100
=> (7x/5) * (1/x) * 100 = 140 %

Ques. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25% then determine the value of x.
14
15
16
17
Answer And Explanation
Answer: Option C

Explanation:

Let the cost price 1 article = Re 1
Cost price of x articles = x
S.P of x articles = 20

Gain = 20 -x

=>25=(((20−x)/x)∗100)
=>2000−100x=25x
=>x=16

In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit
70%
80%
90%
None of above
Answer And Explanation

Answer: Option A

Explanation:

Let C.P.= Rs. 100.
Then, Profit = Rs. 320,
S.P. = Rs. 420.

New C.P. = 125% of Rs. 100 = Rs. 125
New S.P. = Rs. 420.

Profit = Rs. (420 - 125) = Rs. 295

Required percentage = (295/420) * 100
= 70%(approx)

A man bought an article and sold it at a gain of 5 %. If he had bought it at 5% less and sold it for Re 1 less, he would have made a profit of 10%. The C.P. of the article was
Rs 100
Rs 150
Rs 200
Rs 250
Answer And Explanation
Answer: Option C

Explanation:

Let original Cost price is x
Its Selling price = 105/100 * x = 21x/20
New Cost price = 95/100 * x = 19x/20
New Selling price = 110/100 * 19x/20 = 209x/200
[(21x/20) - (209x/200)] = 1

=> x = 200

A fruit seller sells mangoes at the rate of Rs.9 per kg and thereby loses 20%. At what price per kg, he should have sold them to make a profit of 5%

Rs 8.81
Rs 9.81
Rs 10.81
Rs 11.81
Answer And Explanation
Answer: Option D

Explanation:

85 : 9 = 105 : x
x= (9×105/85)
= Rs 11.81

Ques. A shopkeeper sold an article for Rs 2564.36. Approximately what was his profit percent if the cost price of the article was Rs 2400
4%
5%
6%
7%
Answer And Explanation
Answer: Option D

Explanation:

Gain % = (164.36*100/2400) = 6.84 % = 7% approx

Ques. A sum of money at simple interest amounts to Rs. 2240 in 2 years and to Rs. 2600 in 5 years. What is the principal amount

1000

1500

2000

2500

Answer And Explanation

Answer: Option C

Explanation:

SI for 3 year = 2600-2240 = 360

SI for 2 year 360/3 * 2 = 240

principal = 2240 - 240 = 2000

Qu.In how many years Rs 150 will produce the same interest at 8% as Rs. 800 produce in 3 years at 9/2%

8

9

10

11

Answer And Explanation

Answer: Option B

Explanation:

Clue:

Firstly we need to calculate the SI with prinical 800,Time 3 years and Rate 9/2%, it will be Rs. 108

Then we can get the Time as

Time = (100*108)/(150*8) = 9

Ques. A financier claims to be lending money at simple interest, But he includes the interest every six months for calculating the principal. If he is charging an interest of 10%, the effective rate of interest becomes.

10.25%

10%

9.25%
9%
Answer And Explanation
Answer: Option A

Explanation:

Let the sum is 100.

As financier includes interest every six months., then we will calculate SI for 6 months, then again for six months as below:

SI for first Six Months = (100*10*1)/(100*2) = Rs. 5

Important: now sum will become 100+5 = 105

SI for last Six Months = (105*10*1)/(100*2) = Rs. 5.25

So amount at the end of year will be (100+5+5.25)
= 110.25

Effective rate = 110.25 - 100 = 10.25

Ques. A sum of money amounts to Rs 9800 after 5 years and Rs 12005 after 8 years at the same rate of simple interest. The rate of interest per annum is
9%
10%
11%
12%

Answer: Option D

Explanation:

We can get SI of 3 years = 12005 - 9800 = 2205

SI for 5 years = (2205/3)*5 = 3675 [so that we can get principal amount after deducting SI]

Principal = 12005 - 3675 = 6125

So Rate = (100*3675)/(6125*5) = 12%

Albert invested amount of 8000 in a fixed deposit for 2 years at compound interest rate of 5 % per annum. How much Albert will get on the maturity of the fixed deposit.
Rs. 8510
Rs. 8620
Rs. 8730
Rs. 8820
Answer And Explanation
Answer: Option D

Explanation:

=>(8000×(1+5100)^2)
=>8000×21/20×21/20
=>8820

Ques. A man saves Rs 200 at the end of each year and lends the money at 5% compound interest. How much will it become at the end of 3 years.
Rs 662
Rs 662.01
Rs 662.02
Rs 662.03
Answer And Explanation
Answer: Option C

Explanation:

=[200(21/20×21/20×21/20)+200(21/20×21/20)+200(21/20)]
=662.02

Ques. Find compound interest on Rs. 7500 at 4% per annum for 2 years, compounded annually
Rs 312
Rs 412
Rs 512

Rs 612
Answer And Explanation
Answer: Option D

Explanation:

Please apply the formula

Amount=P(1+R/100)^n
C.I. = Amount - P

The present worth of Rs.169 due in 2 years at 4% per annum compound interest is
Rs 155.25
Rs 156.25
Rs 157.25
Rs 158.25
Answer And Explanation
Answer: Option B

Explanation:

In this type of question we apply formula
Amount=P/(1+R/100)^n
Amount=169(1+4/100)^2
Amount=169∗25∗25/26∗26
Amount=156.25

Ques. At what rate of compound interest per annum will a sum of Rs. 1200 become Rs. 1348.32 in 2 years
3%
4%
5%
6%

Answer And Explanation
Answer: Option D

Explanation:

Let Rate will be R%

1200(1+R/100)^2=134832/100
(1+R/100)^2=134832/120000
(1+R/100)^2=11236/10000
(1+R100)=106100
=>R=6%

Ques. The least number of complete years in which a sum of money put out at 20% compound interest will be more than doubled is
4 years
5 years
6 years
7 years

Answer: Option A

Explanation:

As per question we need something like following

P(1+R/100)^n > 2P
(1+20/100)^n > 2
(6/5)^n > 2
6/5×6/5×6/5×6/5 > 2

So answer is 4 years

In what time will Rs.1000 become Rs.1331 at 10% per annum compounded annually
2 Years
3 Years

4 Years
5 Years
Answer And Explanation
Answer: Option B

Explanation:

Principal = Rs.1000;
Amount = Rs.1331;
Rate = Rs.10%p.a.

Let the time be n years then,

1000(1+10/100)^n=1331
(11/10)^n=1331/1000
(1110)^3=1331/1000

So answer is 3 years

If the simple interest on a sum of money for 2 years at 5% per annum is Rs.50, what will be the compound interest on same values
Rs.51.75
Rs 51.50
Rs 51.25
Rs 51

Answer: Option C

Explanation:

S.I.=P∗R∗T/100
P=(50∗100)/5∗2=500
Amount=500(1+5/100)^2
500(21/20∗21/20)=551.25
C.I.=551.25−500
=51.25

Ques. The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Rs 1. Find the sum

Rs 600

Rs 625

Rs 650

Rs 675

Answer: Option B

Explanation:

Let the Sum be P

S.I. = P∗4∗2/100=2P/25

C.I. = P(1+4/100)^2−P

=(676P/625)−P

=51P/625

As, C.I. - S.I = 1

=>51P/625−2P/25=1

=>(51P−50P)625=1

P=625

Ques. A sum of money invested at compound interest to Rs. 800 in 3 years and to Rs 840 in 4 years. The rate on interest per annum is.

4%

5%

6%

7%

Answer And Explanation

Answer: Option B

Explanation:

S.I. on Rs 800 for 1 year = 40

Rate = (100*40)/(800*1) = 5%

Ques. A train covers a distance in 50 minutes, if it runs at a speed of 48kmph on an average. Find the speed at which the train must run to reduce the time of journey to 40 minutes.

50 km/hr
60 km/hr
65 km/hr
70 km/hr
Answer And Explanation
Answer: Option B

Explanation:

We are having time and speed given, so first we will calculate the distance. Then we can get new speed for given time and distance.
Lets solve it.

Time = 50/60 hr = 5/6 hr
Speed = 48 mph
Distance = S*T = 48 * 5/6 = 40 km

New time will be 40 minutes so,
Time = 40/60 hr = 2/3 hr
Now we know,
Speed = Distance/Time
New speed = 40*3/2 kmph = 60kmph

Ques. Two boys starting from the same place walk at a rate of 5kmph and 5.5kmph respectively. What time will they take to be 8.5km apart, if they walk in the same direction?
15 hours
16 hours
17 hours
18 hours
Answer And Explanation
Answer: Option C

Explanation:

In this type of questions we need to get the relative speed between them,
The relative speed of the boys = 5.5kmph – 5kmph
= 0.5 kmph

Distance between them is 8.5 km
Time = Distance/Speed
Time= 8.5km / 0.5 kmph = 17 hrs

Ques. Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour ?
8 minutes
10 mintues
12 minutes
14 minutes
Answer And Explanation
Answer: Option B

Explanation:

Due to stoppages, it covers 9 km less.

Time taken to cover 9 km = (9/54) hour
= (1/6)*60 minutes
= 10 minutes

Ques. 2 trains starting at the same time from 2 stations 200 km apart and going in opposite direction cross each other at a distance of 110 km from one of the stations. What is the ratio of their speeds ?
11:9
13:9
17:9
21:9
Answer And Explanation
Answer: Option A

Explanation:

We know total distance is 200 Km
If both trains crossed each other at a distance of 110 km then one train covered 110 km and other 90 km [110+90=200km]

So ratio of their speed = 110:90 = 11:9

Ques. A Man travelled a distance of 61 km in 9 hours. He travelled partly on foot at 4 km/hr and partly on bicycle at 9 km/hr. What is the distance travelled on foot?
16 km
14 km
12 km
10 km
Answer And Explanation
Answer: Option A

Explanation:

Let the time in which he travelled on foot = x hour
Time for travelling on bicycle = (9 - x) hr

Distance = Speed * Time, and Total distance = 61 km
So,
4x + 9(9-x) = 61
=> 5x = 20
=> x = 4

So distance traveled on foot = 4(4) = 16 km

A man on tour travels first 160 km at 64 km/hr and the next 160 km at 80 km/hr. Find the average speed for first 320 km of tour.
70.11 km/hr
71.11 km/hr
72.11 km/hr
73.11 km/hr
Answer And Explanation
Answer: Option B

Explanation:

We know Time = Distance/speed

So total time taken =
(160/64+160/80)=92hours
Time taken for 320 Km
= 320∗2/9
=71.11km/hr
Robert is travelling on his cycle and has calculated to reach point A at 2 P.M. if he travels at 10 kmph, he will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 P.M.?
9 km/hour
10 km/hour
11 km/hour
12 km/hour
Answer And Explanation
Answer: Option D

Explanation:

We need to calculate the distance, then we can calculate the time and finally our answer.
Lets solve this,

Let the distance travelled by x km
Time = Distance/Speed

x/10−x/15=2
[because, 2 pm - 12 noon = 2 hours]

3x−2x=60
x=60
Time=Distance/Speed
Time@10km/hr=60/10=6hours

So 2 P.M. - 6 = 8 A.M
Robert starts at 8 A.M.

He have to reach at 1 P.M. i.e, in 5 hours

So, Speed = 60/5 = 12 km/hr

A person travels from P to Q at a speed of 40 km/hr and returns by increasing his speed by 50%. What is his average speed for both the trips ?

44 km/hour

46 km/hour

48 km/hour

50 km/hour

Answer And Explanation

Answer: Option C

Explanation:

Speed while going = 40 km/hr

Speed while returning = 150% of 40 = 60 km/hr

Average speed =

2xy/(x+y)

=2∗40∗60/(40+60)

=4800/100

=48Km/hr

A man in a train notices that he can count 41 telephone posts in one minute. If they are known to be 50 metres apart, then at what speed is the train travelling?

60 km/hr

100 km/hr

110 km/hr

120 km/hr

Answer And Explanation

Answer: Option D

Explanation:

Number of gaps between 41 poles = 40

So total distance between 41 poles = 40*50

= 2000 meter = 2 km
In 1 minute train is moving 2 km/minute.
Speed in hour = 2*60 = 120 km/hour

A person travels equal distances with speed of 3 km/hr, 4 km/hr and 5 km/hr and takes a total of 47 minutes. Find the total distane
3 km
4 km
6 km
9 km
Answer And Explanation
Answer: Option A

Explanation:

Let the distance be 3x km,
then,
x/3+x/4+x/5=47/60
47x/60=47/60
x=1

So total distance = 3*1 = 3 Km

Ques. A walks around a circular field at the rate of one round per hour while B runs around it at the rate of six rounds per hour. They start at same point at 7:30 am. They shall first cross each other at ?
7:15 am
7:30 am
7: 42 am
7:50 am
Answer And Explanation
Answer: Option C

Explanation:

Relative speed between two = 6-1 = 5 round per hour

They will cross when one round will complete with relative speed,
which is 1/5 hour = 12 mins.

So 7:30 + 12 mins = 7:42

The ratio between the speeds of two trains is 7: 8. If the second train runs 400 kms in 4 hours, then the speed of the first train is ?
83.5 km/hr
84.5 km/hr
86.5 km/hr
87.5 km/hr
Answer And Explanation
Answer: Option D

Explanation:

Let the speeds of two trains be 7X and 8X km/hr.

8X=400/4
=>X=12.5Km/hr

So speed of first train is 12.5*7 = 87.5 km/hr

Ques. A man can row upstream 10 kmph and downstream 20 kmph. Find the man rate in still water and rate of the stream.
0,5
5,5
15,5
10,5
Answer And Explanation
Answer: Option C

Explanation:

Please remember,
If a is rate downstream and b is rate upstream

Rate in still water = 1/2(a+b)
Rate of current = 1/2(a-b)

=> Rate in still water = 1/2(20+10) = 15 kmph
=> Rate of current = 1/2(20-10) = 5 kmph

Ques. In one hour, a boat goes 11km along the stream and 5 km against it. Find the speed of the boat in still water
6
7
8
9
Answer And Explanation
Answer: Option C

Explanation:

We know we can calculate it by 1/2(a+b)

=> 1/2(11+5) = 1/2(16) = 8 km/hr

Ques. If Rahul rows 15 km upstream in 3 hours and 21 km downstream in 3 hours, then the speed of the stream is
5 km/hr
4 km/hr
2 km/hr
1 km/hr
Answer And Explanation
Answer: Option D

Explanation:

Rate upstream = (15/3) kmph
Rate downstream (21/3) kmph = 7 kmph.
Speed of stream (1/2)(7 - 5)kmph = 1 kmph

Ques. 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

4 kmph

5 kmph

6 kmph

7 kmph

Answer And Explanation

Answer: Option B

Explanation:

Rate upstream = (750/675) = 10/9 m/sec

Rate downstream (750/450) m/sec = 5/3 m/sec

Rate in still water = (1/2)*[(10/9) + (5/3)] m/sec.

= 25/18 m/sec

= (25/18)*(18/5) kmph

= 5 kmph

If a boat goes 7 km upstream in 42 minutes and the speed of the stream is 3 kmph, then the speed of the boat in still water is

12 kmph

13 kmph

14 kmph

15 kmph

Answer: Option B

Explanation:

Rate upstream = (7/42)*60 kmh = 10 kmph.

Speed of stream = 3 kmph.

Let speed in sttil water is x km/hr

Then, speed upstream = (x —3) km/hr.

x-3 = 10 or x = 13 kmph

Ques. A man takes twice as long to row a distance against the stream as to row the same distance in favour of the stream. The ratio of the speed of the boat in still water and stream is

3:1

1:3

2:4

4:2

Answer And Explanation

Answer: Option A

Explanation:

Let speed downstream = x kmph
Then Speed upstream = 2x kmph

So ratio will be,
(2x+x)/2 : (2x-x)/2
=> 3x/2 : x/2 => 3:1

A man's speed with the current is 20 kmph and speed of the current is 3 kmph. The Man's speed against the current will be

11 kmph

12 kmph

14 kmph

17 kmph

Answer And Explanation

Answer: Option C

Explanation:

If you solved this question yourself, then trust me you have a all very clear with the basics of this chapter.

If not then lets solve this together.
Speed with current is 20,
speed of the man + It is speed of the current
Speed in still water = 20 - 3 = 17

Now speed against the current will be
speed of the man - speed of the current
= 17 - 3 = 14 kmph

Ques. A man can row at 5 kmph in still water. If the velocity of the current is 1 kmph and it takes him 1 hour to row to a place and come back. how far is that place.
.4 km
1.4 km
2.4 km
3.4 km
Answer And Explanation
Answer: Option C

Explanation:

Let the distance is x km
Rate downstream = 5 + 1 = 6 kmph
Rate upstream = 5 - 1 = 4 kmph
then
x/6 + x/4 = 1 [because distance/speed = time]
=> 2x + 3x = 12
=> x = 12/5 = 2.4 km

Ques. The speed of a boat in still water is 15 km/hr and the rate of current is 3 km/hr. The distance travelled downstream in 12 minutes is
1.6 km
2 km
3.6 km
4 km
Answer And Explanation
Answer: Option C

Explanation:

Speed downstreams =(15 + 3)kmph
= 18 kmph.
Distance travelled = (18 x 12/60)km

= 3.6km

Ques.Sahil can row 3 km against the stream in 20 minutes and he can return in 18 minutes. What is rate of current ?

1/2 km/hr

1/3 km/hr

2 km/hr

4 km/hr

Answer And Explanation

Answer: Option A

Explanation:

Speed Upstream=
3/(20/60)=9km/hrSpeed
Downstream=3(18/60)=10km/hr
Rate of current will be (10−9)/2
=1/2km/hr

Ques. In how many words can be formed by using all letters of the word BHOPAL

420

520

620

720

Answer And Explanation

Answer: Option D

Explanation:

Required number
=6!=6∗5∗4∗3∗2∗1=720

Ques. In how many way the letter of the word "APPLE" can be arranged

20

40

60

80
Answer And Explanation
Answer: Option C

Explanation:

Friends the main point to note in this question is letter "P" is written twice in the word.
Easy way to solve this type of permutation question is as,

So word APPLE contains 1A, 2P, 1L and 1E
Required number =
=5!/(1!∗2!∗1!∗1!)
=(5∗4∗3∗2!)2!
=60

In how many way the letter of the word "RUMOUR" can be arranged
2520
480
360
180
Answer And Explanation
Answer: Option D

Explanation:

In above word, there are 2 "R" and 2 "U"
So Required number will be

=6!/(2!∗2!)
=6∗5∗4∗3∗2∗1/4
=180

In how many ways can the letters of the word "CORPORATION" be arranged so that vowels always come together.
5760
50400
2880

None of above
Answer And Explanation
Answer: Option B

Explanation:

Vowels in the word "CORPORATION" are O,O,A,I,O
Lets make it as CRPRTN(OOAIO)

This has 7 lettes, where R is twice so value = 7!/2!
= 2520

Vowel O is 3 times, so vowels can be arranged = 5!/3!

= 20

Total number of words = 2520 * 20 = 50400

In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that at least one boy should be there
109
128
138
209
Answer And Explanation
Answer: Option D

Explanation:

In a group of 6 boys and 4 girls, four children are to be selected such that
at least one boy should be there.
So we can have

(four boys) or (three boys and one girl) or (two boys and two girls) or (one boy and three gils)

This combination question can be solved as

$$
\begin{aligned}
&({}^6C_4) + ({}^6C_3 *^4 C_1) + \\
&+({}^6C_2 *^4 C_2) + ({}^6C_1 *^4 C_3) \\
&= \left[\frac{6\times5}{2\times1}\right] + \left[\left(\frac{6\times5\times4}{3\times2\times1}\right)\times4\right] + \\
&\left[\left(\frac{6\times5}{2\times1}\right)\left(\frac{4\times3}{2\times1}\right)\right] + [6\times4] \\
&= 15 + 80 + 90 + 24 \\
&= 209
\end{aligned}
$$

From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done

456

556

656

756

Answer And Explanation

Answer: Option D

Explanation:

From a group of 7 men and 6 women, five persons are to be selected with at least 3 men.
So we can have
(5 men) or (4 men and 1 woman) or (3 men and 2 woman)

$$
\begin{aligned}
&({}^5C_5)+({}^5C_4 *{}^6C_1)+\\
&\quad +({}^5C_3 *{}^6C_2)\\
&=\left[\frac{7\times6}{2\times1}\right]+\left[\left(\frac{7\times6\times5}{3\times2\times1}\right)\times6\right]+\\
&\quad \left[\left(\frac{7\times6\times5}{3\times2\times1}\right)\times\left(\frac{6\times5}{2\times1}\right)\right]\\
&\quad =21+210+525=756
\end{aligned}
$$

A bag contains 2 white balls, 3 black balls and 4 red balls. In how many ways can 3 balls be drawn from the bag, if at least one black ball is to be included in the draw

64

128

132

222

Answer And Explanation

Answer: Option A

Explanation:

From 2 white balls, 3 black balls and 4 red balls, 3 balls are to be selected such that at least one black ball should be there.

Hence we have 3 choices

All three are black

Two are black and one is non black

One is black and two are non black

Total number of ways

= 3C3 + (3C2 x 6C1) + (3C1 x 6C2) [because 6 are non black]

=1+[3×6]+[3×((6×5)/(2×1))]=1+18+45=64

Ques. A box contains 4 red, 3 white and 2 blue balls. Three balls are drawn at random. Find out the number of ways of selecting the balls of different colours

12

24

48

168

Answer And Explanation

Answer: Option B

Explanation:

This question seems to be a bit typical, isn't, but it is simplest.
1 red ball can be selected in 4C1 ways
1 white ball can be selected in 3C1 ways
1 blue ball can be selected in 2C1 ways

Total number of ways
= 4C1 x 3C1 x 2C1
= 4 x 3 x 2
= 24

Please note that we have multiplied the combination results, we use to add when their is OR condition, and we use to multiply when there is AND condition, In this question it is AND as 1 red AND 1 White AND 1 Blue, so we multiplied.

Three unbiased coins are tossed, what is the probability of getting at least 2 tails ?

1/3

1/6

1/2

1/8

Answer And Explanation

Answer: Option C

Explanation:

Total cases are = 2*2*2 = 8, which are as follows

[TTT, HHH, TTH, THT, HTT, THH, HTH, HHT]

Favoured cases are = [TTH, THT, HTT, TTT] = 4

So required probability = 4/8 = ½

Ques. In a throw of dice what is the probability of getting number greater than 5
1/2
1/3
1/5
1/6
Answer And Explanation
Answer: Option D

Explanation:

Number greater than 5 is 6, so only 1 number
Total cases of dice = [1,2,3,4,5,6]

So probability = ⅙

Ques. Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even ?
3/4
1/4
7/4
1/2
Answer And Explanation
Answer: Option A

Explanation:

Total number of cases = 6*6 = 36

Favourable cases = [(1,2),(1,4),(1,6),(2,1),(2,2),(2,3),(2,4),(2,5),(2,6),(3,2),(3,4),(3,6),(4,1),(4,2),(4,3),(4,4),(4,5),(4,6),(5,2),(5,4),(5,6),(6,1),(6,2),(6,3),(6,4),(6,5),(6,6)] = 27

So Probability = 27/36 = ¾

Ques. In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither blue nor green?
2/3
8/21
3/7
9/22

Answer: Option B

Explanation:

Total number of balls = (8 + 7 + 6) = 21
Let E = event that the ball drawn is neither blue nor green =e vent that the ball drawn is red.
Therefore, n(E) = 8.
P(E) = 8/21.

Ques. A card is drawn from a pack of 52 cards. The probability of getting a queen of club or a king of heart is
1/13
2/13
1/26
1/52
Answer And Explanation
Answer: Option C

Explanation:

Total number of cases = 52
Favourable cases = 2

Probability = 2/56 = 1/26

Ques. A speaks truth in 75% of cases and B in 80% of cases. In what percentage of cases are they likely to contradict each other, narrating the same incident

30%
35%
40%
45%
Answer And Explanation
Answer: Option B

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]
= (3/5*1/5) + (1/4*4/5) = 7/20
= (7/20 * 100) % = 35%

Ques. From a pack of 52 cards, two cards are drawn together, what is the probability that both the cards are kings
2/121
2/221
1/221
1/13
Answer And Explanation
Answer: Option C

Explanation:

Total cases =52C2=52∗51/2∗1=1326

Total King cases =4C2=4∗3/2∗1=6

Probability ==6/1326=1/221

Ques. A box contains 5 green, 4 yellow and 3 white balls. Three balls are drawn at random. What is the probability that they are not of same colour.

52/55

3/55

41/44

3/44

$$\text{Total cases} = {}^{12}C_3$$

$$= \frac{12 * 11 * 10}{3 * 2 * 1} = 220$$

$$\text{Total cases of drawing same colour} = {}^{5}C_3 + {}^{4}C_3 + {}^{3}C_3$$

$$\frac{5 * 4}{2 * 1} + 4 + 1 = 15$$

$$\text{Probability of same colur} = = \frac{15}{220}$$

$$= \frac{3}{44}$$

$$\text{Probability of not same colur} = 1 - \frac{3}{44}$$

$$= \frac{41}{44}$$

Ques. Bag contain 10 back and 20 white balls, One ball is drawn at random. What is the probability that ball is white

1

2/3

1/3

4/3

Answer And Explanation

Answer: Option B

Explanation:

Total cases = 10 + 20 = 30

Favourable cases = 20

So probability = 20/30 = ⅔

There is a pack of 52 cards and Rohan draws two cards together, what is the probability that one is spade and one is heart ?

11/102

13/102

11/104

11/102

Answer And Explanation

Answer: Option B

Explanation:

Two cards are drawn together from a pack of 52 cards. The probability that one is a spade and one is a heart, is:

Let sample space be S

$$\text{then, } n(S) = {}^{52}C_2$$

$$\Rightarrow \frac{52 \times 51}{2 \times 1} = 1326$$

let E be event of getting 1 spade and 1 heart

So, n(E) = ways of getting 1 spade or 1 heart out of 13

$$= {}^{13}C_1 \times {}^{13}C_1$$

$$= 13 \times 13$$

$$= 169$$

$$\text{So, } p(E) = \frac{n(E)}{n(S)}$$

$$= \frac{169}{1326} = \frac{13}{102}$$