

**AMCAT  
PREVIOUSLY  
ASKED QUESTIONS**

About 4 out of 5 employees are right handed. If there are 40 employees, how many of them are right handed?

1. 30 2. 40 3. 42 4. 32

Out of 5 employees 4 are right handed

Out of 40 employees, number of right

$$\text{handed} = \left(\frac{4}{5}\right) * 40 = 32$$

If LCM and HCF of two numbers are equal and product of two numbers is 2916, find their LCM?

LCM and HCF will be equal if and only if both the numbers are equal.

therefore,  $2916 = 54 * 54$

so LCM of both number = 54

If WORD is coded as 9753, then  
how DOOR will be coded?

DOOR => 3775

**OR**

WORD=23,15,18,4 => 2+3,1+5,1+8,2+2 => 5,6,9,4 =>  
5+4,6+1,9-4,4-1 => 9,7,5,3

DOOR=>4,15,15,18 => 4,1+5,1+5,1+8 => 4,6,6,9  
=>4+4,6+1,6-4,9-1=>8,7,2,8

8, 12, 24, 60, ...

a) 120

b) 108

c) 142

d) 168

$$8+4=12$$

$$12+12=24$$

$$24+36=60$$

$$60+108=168$$

What is the next number of the following sequence

79,64,26,15,?

a) 9

b) 6

c) 10

d) 8

$$79 \Rightarrow 7 * 9 + 1 = 64$$

$$64 \Rightarrow 6 * 4 + 2 = 26$$

$$26 \Rightarrow 2 * 6 + 3 = 15$$

$$15 \Rightarrow 1 * 5 + 4 = 9$$

G3S : J3P :: L4X : ?

(a)P3Y

(B)O3T

(C) P4T

(D)Q4S

**ANS IS (C)**

G 3 S :: J 3 P ( G-J= +3, 3 SAME, S-P= -3 )

L 4 X :: P 4 T ( L-J= +4, 4 SAME, X-T= -4 )

A train traveling at 250 Km/h overtakes a cyclist who is moving at 10km/h in 45 seconds. Find the length of train in meters?

- A) 3000m      B) 5400m  
C) 6000m      D) 10800m

uniform speed=

$$(250-10)\text{km/h}=240\text{km/h}=240 \times \frac{5}{18} \text{ m/s}$$

$$\text{length of train} = (45 \times 240 \times \frac{5}{18}) = 3000 \text{ m}$$



Two workers A and B were employed for a work. A takes 8 hour more than the time taken by A and B together. If B takes 4.5 hours more than the time taken by A and B together, how long would A and B take together to complete the work?

7 hrs      6 hrs      5 hrs      4 hrs

Let work done by A+B in x days  
then work done by A = x+8  
and work done by B = x+4.5  
rate  $\frac{1}{X} = \frac{1}{(x+8)} + \frac{1}{(x+4.5)}$   
solving this eq. we will get x=6hr.

$A > B$  means A is greater than B

$A < B$  means A is less than B

$A \geq B$  means A is greater than or equal to B

$A \neq B$  means A is not equal to B

$A = B$  means A is equal to B

Statements:

$P < Q, Q > R, R = S$

conclusions

1)  $P < R$

2)  $P = Q$

options:

a) only conclusion 1 is true

b) only conclusion 2 is true

c) neither conclusion 1 nor 2 is true

d) Both conclusions 1 and 2 are true.

The Tremors of earthquake were felt at intervals of 15 seconds. The first tremor was felt at 08:54:57 and last tremor was felt at 10:45:12. How many times were the tremors felt?  
A) 484 B) 485 C) 441 D) 525

Considering that's 12 seconds

Total time gap in between = 1hr 50min 15 seconds

$60 \times 60 + 50 \times 60 + 15$  seconds

$= 6615 \text{ seconds} / 15$

**= 441**

Find the value of  $\log 1 + \log 2 + \log 3$ ?

a) 1

b) 2

c) 3

d) None of the above

**Ans: d) None of the above**

$$0 + 0.3010 + 0.4771 = 0.7781$$

what is the remainder when we  
divide  $125!$  by  $10^{31}$

A) 4

B) 1

C) 0

D) 5

**ANS IS (C)**

The Probability of finishing a test on time by A is  $1/2$ , B is  $2/3$  and by C is  $3/5$ . If all of them write the test independently, then what is the probability that just two of them are able to write the test on time.

a)  $1/2$  b)  $3/10$  c)  $13/30$  d)  $1/3$

**Ans:  $13/30$**

Two of them means  $AB(\sim C) + (\sim A)BC + A(\sim B)C$

$$\begin{aligned} & (1/2)(2/3)(2/5) + (1/2)(2/3)(3/5) + (1/2)(1/3)(3/5) \\ & = 13/30 \end{aligned}$$

Three cards are drawn at random from a pack of 52 cards. one is jack and one is queen and one is king

A.  $\frac{3}{52}$

B.  $\frac{3^4}{52C3}$

C.  $\frac{4C1}{52C3}$

D.  $\frac{(4C1)^3}{52C3}$

**ANS IS (D)**

16, 136, 1096, ?

$$16 * 8 + 8 = 136$$

$$136 * 8 + 8 = 1096$$

$$1096 * 8 + 8 = 8776$$



**25,168, ? , 8176**

**25\*7-7 is 168.**

**168\*7-7 is 1169**

**1169\*7-7 is 8176**

**So 1169 is the answer**

If all 6 are replaced by 9, the algebraic sum of all numbers from 1 to 100 (both inclusive) varies by,

a) 980 b) 330 c) 660 d) 990

**ANS IS (b)**

first take the numbers which have 6 in their unit place - 06, 16, 26, 36, 46, 56, 66, 76, 86, 96.

if all 6 in unit place is replaced with 9 then in each case the increment would be 3.

so for all ten numbers total increment is  $10 \times 3 = 30$ .

then take all numbers which have 6 in their tenth place - 60, 61, 62, 63, 64, 65, 66, 67, 68, 69

in each case if we replace 6 with 9 - 90, 91, 92, 93, 94, 95, 96, 97, 98, 99

then there is increment of 30 in each case.

so total increment for ten numbers is  $10 \times 30 = 300$ .

so the total increment including unit and tenth place is  $30 + 300 = 330$ .

Five different roads join a village to the nearby city. The number of different ways in which person can go to the town and back is ?

a)5 b)10 c)25 d)20

**ANS IS (C)**

If  $nC5 = nC6$ , what is the value of  $n$ ?

a) 9

b) 10

c) 8

d) 11

**ANS IS (D)**

Varun is guessing which of the 2 hands holds a coin. what is the probability that Varun guesses correctly three times in a row?

a.  $1/6$  b.  $1/2$  c.  $1/4$  d.  $1/8$

**ANS IS (d)**

A goods train travels a station at a certain time and at fixed speed. after 6hrs another train leaves the same station and move in same direction of uniform speed of 90kmph. the train catches up the good train in 4hrs. find the speed of the good train.

**let the speed of goods train be x**  
**distance covered by goods train in 10hrs (4+6)=**  
**dist covered by other train 4 hrs**  
 **$10x=4*90$**   
 **$x=36\text{kmph}$**

The value of  $6^{-2}$  is?

a)  $-1/36$

b) 36

c) -36

d) None

**ANS IS (d)**

Steward assign  $\frac{1}{8}$ th of his monthly salary for food. His total food bill for the month is rs.6500.what is stewards yearly salary?

a)rs. 9,750

b)rs. 12,174

c)rs.5,76,000

d)rs.6,24,000

**Ans is 624000**

let steward monthly salary= $x$

$\frac{1}{8} * x = 6500 \Rightarrow x = 6500 * 8 = 52000$  (total 1 month salary), but  
given there his yearly salary =  $12 * 52000 = 624000$



The sum of three consecutive numbers of 4 digits A,B,C and D are 4613,4961,5010 and 5099, then what is the largest number among A,B,C,D?

$$A+B+C = 4613$$

$$B+C+D = 4961$$

$$C+D+A = 5010$$

$$D+B+A = 5099$$

add four eqns

$$3(A+B+C+D) = 19683$$

$$\Rightarrow A+B+C+D = 6561$$

$$\text{so, largest no.} = (A+B+C+D) - (A+B+C) = 6561 - 4613 = 1948$$

Megha drives along the perimeter of square field of side 10 kms. She drives along the first side at 10 kmph, along the second side at 20 kmph, along the third side at 30 kmph and along the fourth side at 40 kmph. Her average speed is

$$\begin{aligned}\text{avg speed} &= \text{total distance} / \text{total time} \\ &= 4d / (d/10 + d/20 + d/30 + d/40) \\ &= 4 / (1/10 + 1/20 + 1/30 + 1/40) \\ &= 4 * 120/25 \\ &= 19.2 \text{ km/h}\end{aligned}$$

A,B and C together can complete a work in 8 days. All the 3 started the work together but C quit after 2 days. If the remaining work is now completed by A and B in 9 days, then how many days will C alone will take to complete the total work?

$$a+b+c=8 \text{ days , } 1 \text{ days} = \frac{1}{8}$$

$$c = 2 \text{ days , } 1 \text{ day} = \frac{1}{2}$$

$$\text{then, remaining work of } a+b = \frac{1}{8} - \frac{1}{2} = \frac{3}{8}$$

$$\text{so , } 9 \text{ days work} = 9 * \frac{8}{3} = 24 \text{ days}$$

A large rubber cushion can be filled with air pump in 10 minutes, another pump can fill the same cushion in 12 min. If both the pumps operate together how long will it take to fill the cushion ?

**ANS : 5  $\frac{5}{11}$  minutes**

**1 minute filling by both =  $(\frac{1}{10}) + (\frac{1}{12}) = \frac{11}{60}$**

**So time taken to completely fill =  $\frac{60}{11}$**

**= 5 &  $\frac{5}{11}$  minutes**

Consider the sum of first 70 natural numbers. If every digit 6 is replaced by 8 then what would be the net increase and the new sum?

The sum of first 70 natural numbers  $70(70+1)/2 = 2485$   
6,16,26,36,46,56 are replaced by 8,18,28,38,48,58 and

66 is replaced by 88

and 60,61,62,63,64,65,67,68,69 are replaced by 80.....89

hence for unit digits  $= 6 \times 2 = 12$

and for 66 change in 88 then  $= 22$

tens digit  $= 9 \times 20 = 180$

**net increase is  $180+12+22 = 214$**

**new sum is  $214+2485=2699$**

Four persons can cross a bridge in 3,7,13,17 minutes. Only two can cross at a time. Find the minimum time taken by the four to cross the bridge?

a)10 b)106 c)34 d)20

**Ans: 20 minutes**

First send 17 and 7. After 7 minutes, 7 is at finish and 17 needs 10 more minutes to complete his travel. now send 13. After 10 minutes 17 reaches finish and 13 needs 3 more minutes to complete. now send 3. both 3 and 13 reach destination at the same time after 3 minutes. hence the time taken is  $7+10+3=20$  minutes..

If mini download three more songs in her mobile. She will have songs with 512MB in her mobile. If on an average each song is 4 MB, how many songs did she initially have in her phone before downloading?

**ANS 125 Songs**

Total song after downloading 3 songs =  $512/4=128$  songs

Total songs before downloading 3 more songs=  $128-3=125$

sum of the digits of a 3 digit number is subtracted from the number .the resulting number is divisible by \_\_\_\_\_

three digit no. be= $100x+10y+z$

sum of the digits of a 3 digit no.=  $x+y+z$

resulting no.=  $(100x+10y+z)-(x+y+z)= 99x+9y$

**so it is divisible by 9**



Manu has invested 30% of the capital in Petrobonds and rest in Lic plan. He has invested Rs.34000 more in Lic plan than in Petrobonds. How much is the total investment made by Manu?

$$70\% \text{ of } x = 34000 + 30\% \text{ of } x$$

$$\text{so, } x = 85000$$

Ravi has a bag full of 10 Nestle & 5 Cadbury chocolates. Out of these, he draws two chocolates. What is the probability that he would get at least one Nestle Chocolate ?

- |            |          |
|------------|----------|
| 1) $19/21$ | 2) $3/7$ |
| 3) $2/21$  | 4) $1/3$ |

**Total number sample space two chocolates can be drawn in the way of =  $15C2 = 105$**

**At least one to be nestle =  $10C1 \times 5C1 + 10C2 \times 5C0 = 95$**

**$P(E) = 95/105 = 19/21$**

A supplier supplies cartridges to a news paper publishing house. He earns a profit of 20% by selling cartridges for Rs. 540.

Find the cost price of the Cartridges ?

- |            |            |
|------------|------------|
| 1) Rs. 500 | 2) Rs. 480 |
| 3) Rs. 450 | 4) Rs. 400 |

$$\text{Cost price} = 540 * (100/120) = 450$$

A trend was observed in the growth of population in Saya Islands. The population tripled every month. Initially the population of Saya Islands was 100. what would be population after 4 months ?

a)  $100 * 4^3$

b)  $100 * 3^4$

c)  $100 * 3 * 4$

d)  $(100^3)^4$

answer is ( b)

$$[ \{ \{ (100 * 3) * 3 \} * 3 \} * 3 ] = 100 * 3^4$$

The speeds of two trains are in the ratio 5:3. If the speed of the first train is 350 km/2 hours. Then the speed of second train is?

**Speeds of two trains is  $5x$  ,  $3x$ .**

**Speed of 1<sup>st</sup> train =  $5x = 350/2$**

$$\mathbf{x=35}$$

**Speed of 2<sup>nd</sup> train =  $3x = 35*3=105$**

Ram sold his car for RS.50,000 less than what he bought it for and lost 8%. At what price should she have sold the car, if she wanted to gain as much as she lost in the first transaction?

- |                |                |
|----------------|----------------|
| 1) Rs.6,25,000 | 2) Rs.6,37,500 |
| 3) Rs.6,50,000 | 4) Rs.6,75,000 |
| 5) Rs.7,00,000 |                |

8%-----50,000

108%-----?(Gain as much as he lost means 8% profit)

$$(50,000 \times 108) / 8 = 675000$$

Divide the sum of  $\frac{3}{5}$  and  $\frac{8}{11}$  by their difference.

a,  $\frac{7}{73}$

b,  $\frac{73}{7}$

c,  $\frac{11}{15}$

d, None

**ANS is  $\frac{73}{7}$**

What is the smallest number, which when divided by 7, 18, 56 and 36, leaves a remainder 0?

a, 390

b, 392

c, 504

d, 1012

**Answer is (C)**



The difference of two numbers is 8  
and the difference of their squares is  
160. Find the numbers?

**Answer is 14 and 6**

The total number of numbers  
that are divisible by 2 or 3  
between 100 and 200(inclusive)  
are

**Answer is 67**

What is the max possible 3 digit prime number?

**Ans is 997**

A cube painted red on 2 adjacent faces & black on the faces opposite to the red faces & green on the remaining faces is cut into 64 smaller cubes of equal size.  
How many cubes are there which have no face painted?

Since all faces are painted, only small cubes which are in the middle of cube will have no color painted.

Total smaller cubes=64

Small cubes which are atleast 1 side is coloured

= top(16 cubes)+ bottom(16 cubes)+ both sides(16 cubes)+ both sides adjacent to previous sides(8 cubes)=16+16+16+8=56

so cubes with no paint=64-56=8

**answer is 8 cubes**

$$(11111011)_2 = ( \quad )_8$$

$$(373)_8$$

group 3 binary digits together and write its  
equivalent octal form

If the 4 numbers are arranged in all possible orders then how many solutions are possible.

**The answer be  $4! = 24$  ways**

In town of 500 people, 285 read Hindu and 212 read Indian express and 127 read Times of India 20 read Hindu and times of India and 29 read hindu and Indian express and 35 read times of India and Indian express. 50 read no news paper. Then how many read only one paper?

**Ans: 45**

$$(11100111)_2 = ( \quad )_{16}$$

**Ans: (E7)<sub>16</sub>**



$$(512)^{1/3} - (125)^{1/3}$$

a. 129

b. 13

c. 40

d. 3

**Answer is (d)**

7:11::31: ?

Op 1: 33

Op 2: 37

Op 3: 39

Op 4: 42

**ANS IS 37**

From the given choices select the odd man out

Op 1: 11, 3, 3, 17

Op 2: 41, 5, 3, 47

Op 3: 71, 7, 3, 17

Op 4: 37, 14, 19, 7

Op 5: 67, 71, 3, 5

**ANS IS Op 4**

$A = 11 * 22 * 33 * 44 * 55 * \dots 1010.$

How many zeroes will be there at the end of A ?

Op 1: 6

Op 2: 15

Op 3: 10

Op 4: None of these

**No. of 0's = 2**

**Op 4: None of these**

The product of two numbers is 2028 and their H.C.F. is 13. The number of such pairs is:

Op 1: 1

Op 2: 2

Op 3: 3

Op 4: 4

**Answer is 2**

Let the numbers  $13a$  and  $13b$ .

Then,  $13a \times 13b = 2028$

$\Rightarrow ab = 12$ .

Now, the co-primes with product 12 are (1, 12) and (3, 4).

[Note: Two integers  $a$  and  $b$  are said to be coprime or relatively prime if they have no common positive factor other than 1 or, equivalently, if their greatest common divisor is 1 ]

So, the required numbers are (13 x 1, 13 x 12) and (13 x 3, 13 x 4).

Clearly, there are 2 such pairs.

A man walks 9 km east and take right walk 4 km and again he take right 6 km. How far he from starting point?

**ANS IS 5 KM**

A man pointing to that lady and said  
“she is the mother of the husband of my  
mother”. How man related to that  
woman

1) Grand Mother

2) Mother

3) Aunt

4) Sister

**Grand Mother**

24:50::102:??

**ans is 206**

$$24 * 2 + 2 = 50$$

so  $102 * 2 + 2 = 206$



In how many ways can 4 ladies and 4 men form two mixed doubles teams for a tennis match?

Op 1: 72

Op 2: 108

Op 3: 36

Op 4: 84

$$4C2 * 4C2 = 6*6 = 36$$

What is the value of:

$$(33*812*20)/95 ?$$

Op 1: 0

Op 2: 3

Op 3: 1/3

Op 4: None of these

**ANS IS Op 4**

Log  $e^{xy} - \log e^{|x|}$  equals to:

Op 1:  $\log_e x$

Op 2:  $\log_e |x|$

Op 3:  $-\log_e x$

Op 4: none of these

**ANS Op 4**

If  $\log x \text{ base } 10000 = -1/4$ ,  
then  $x$  is given by

Op 1:  $1/100$

Op 2:  $1/10$

Op 3:  $1/20$

Op 4: none of these

**ANS IS Op 2**

Two trains A, B leave at 6.30am and 7.40am and travel at 30km/hr and 40 km/hr respectively. How many kms from A will the trains meet?

a) 100km

b) 35km

c) 150km

d) 140km

suppose they will meet after x hr.

$30x = 40(x - 7/6)$  (Time gap between train A and B is 1hr 10min =  $7/6$ hr)

By solving  $x = 14/3$

they will meet at distance =  $30 * 14/3 = 140$ km

A college has 10 basketball players. A 5-member team and a captain will be selected out of these 10 players. How many different selections can be made

$${}^{10}C_5 \times 5c1$$

if the lcm of a and b,  
( $a > b$ ) is 667 the value of  
 $7b - 5a$  is

$$\mathbf{667 = 29 * 23 \text{ so } a = 29, b = 23}$$
$$\mathbf{7b - 5a = 7(23) - 5(29) = 16}$$

What is the number of ways of expressing 3600 as a product of three ordered positive integers

$$3^2 * 5^2 * 2^4$$
$$(2+1)(2+1)(4+1)=45$$



$$3+2=2$$

$$4+2=5$$

$$5+2=10$$

then  $6+2=?$

**ANS IS 17**

The money at compound interest amount to thrice it self in 16 years. so, in how many years it will be 27 times itself ?

**ans is 48**

let us consider ci be rs.1

it will thrice itself in 16 years

after 16 years it will be rs.3

another after 16 years it will be 9

another after 16 years it will be 27

root over 1008 as a mixed  
surd = ?

$$\begin{aligned}\sqrt{1008} &= \sqrt{(2*2*2*2*3*3*7)} \\ &= 2*2*3 \sqrt{7} \\ &= 12 \sqrt{7} \\ \text{so answer is } 12\sqrt{7}\end{aligned}$$

Given that the interest is only earned on principal, if an investment of Rs.1000 amount to Rs.1440 in two years, then what is the rate of interest earned?  
a)20% b)22% c)21% d)11%

$$\begin{aligned}(1440/1000) &= (1+r/100)^2 \\ 144/100 &= 1 + (r/100)^2 + r/50 \\ r^2 + 200r - 4400 &= 0 \\ \text{verify options a) } 20\% \\ 4000 + 400 - 4400 &= 0 \\ \text{so ans is } 20\%\end{aligned}$$

a show room offers a 10% discount on a microwave, whose marked price is rs.8000 and also gives a blender worth rs.1200 as a complimentary gift with it, even then the showroom earns a profit of 20%. Find the cost price of microwave

**5000 is answer**

10% dis so  $SP = 7200$

gift worth 1200 so now  $SP = 6000$

$CP + CP * 20\% = 6000$

$CP = 5000$

a quiz has one multiple choice question with answer choices a, b and c and two true/false questions. What is the probability of answering all the three questions correctly by guessing  
a)  $1/5$  b)  $1/4$  c)  $1/3$  d)  $1/12$

**for multiple choice =  $1/3$**

**for true/false =  $1/2$**

**therefore**

**probability =  $1/3 * 1/2 * 1/2 = 1/12$**

a man sells 12 candies for rs12 and loses 2.50rs if he sells 12 candies for rs16 how much does he lose/ gain

- a)gain rs 4
- b)loses rs 6
- c)gains rs 6.40
- d)loses rs. 1.60
- e)gains rs 1.60

**12 candies=  $12+2.50=14.50$ rs.**

**now the new s.p= 16 rs.**

**therefore definitely he gains rs 1.50 approximately.**

**$(16-14.5)/14.5*100=\text{approx } (1.01)$**

**hence he gains 1.60**

what is the largest power of 20  
contained in  $100!$ ?

a) 56

b) 1

c) 24

d) 2

**ANS IS 24**



A seller uses 900 gm in place of 1kg.  
Find his actual %profit or loss  
when he sells his articles at 5% loss  
on cost price?

cost of 1000gm=100 Rs

cost of 900gm=90 Rs

5% of 100 loss= $5/100 \times 100 = 5$

he sell article at 95 Rs

profit = $95 - 90 = 5$

%profit= $5 \times 100 / 90 = 5 \times 10 / 9 = 50 / 9 = 5.55$  Not 5

a coin is tossed thrice. what is the probability that first toss of the coin lands head, second lands tail and third lands tail as well

**ans is:  $1/8$**

$$\mathbf{1/2 * 1/2 * 1/2}$$

Rahul purchased 7 dvds each of which costs rs.17. he gave a five hundred rupee note to the shopkeeper then the amount returned to him is divisible by:

- a) 3      b) 7      c) 9      d) 11

$$\text{ans} = 3$$

$$7 * 17 = 119$$

$$500 - 119 = 381$$

$$3 + 8 + 1 = 12 \text{ which is divisible by } 3$$

An investment earns 4 paisa per rupee invested. If at the end of the year, the interest earned by an investment is rs.100, then the investment is equal to:

$$\text{ans}=2500$$

$$10000/4=2500$$

The time in the clock is 8:20. what is its mirror image?

A)3:20

B)3:40

C)2:25

D)4:20

**subtract 8:20 from 12.00**

**3:40 is the answer**

**b)3:40**

In a school, for a student out of 100 he got 74 of average for 7 subjects and he got 79 marks in the 8<sup>th</sup> subject. what is the average of all the subject?

a)76.251 b)80.25 c)74.265 d)74.625

$$\text{Avg.} = ( (74*7) + 79 ) / 8 = 74.625$$

215:474::537:?

a)26

b)27

c)25

d)22

**sum of 215=2+1+5=8**

**474=15**

**537=15**

**26 will be answer as 2+6=8**

**8:15::15:8**

Amrith told to Anand in front of a Photo that “He is the son of my father’s son”.Find who is in the picture if amrith have no brothers and sisters.

- |                   |                  |
|-------------------|------------------|
| a)Amrith himself  | b)Amrith’s Uncle |
| c)Amrith’s Father | d)Amrith’s son   |

**OPTION D**



$(be)^2 = mpb$  where  $b, e, m, p$  are distinct integers then find the value of  $m$ ?

**Ans is 3**

$$19^2 = 361$$

Soha Ranks 5<sup>th</sup> in the class. How many students are there in the class?

I) One of her friends got 40<sup>th</sup> rank which is second last rank

II) Her rank is 17<sup>th</sup> from the middle

**Statement 1: "One of her friends got 40th rank which is second last rank"**

**Therefore total no of student is  $40+1=41$**

**Statement 2: "Her rank is 17<sup>th</sup> from the middle"**

**1) Soha Ranks 5<sup>th</sup> in the class**

**i.e. There is 4 student ahead of Soha .**

**2) Her rank is 17<sup>th</sup> from the middle**

**i.e. There is 15 student between soha and middle student.**

**Total student on either side of middle student  $=15+4+1=20$**

A person is rock climbing at an altitude of 800 m. He goes up by 7 mph. and comes down by 9 mph. what was his average speed?

a) 7.875 mph

b) 7.125 mph

c) 7 mph

d) 7.5 mph

$$\begin{aligned}\text{Avg speed} &= (2 * 7 * 9) / (7 + 9) \\ &= 7.875\end{aligned}$$

Find average speed if a man travels at speed of 24kmph up and 36kmph down at an altitude of 200m?

a) 28.8 mph

b) 27.8 mph

c) 27.5mph

d) 30 mph

$$\text{Average} = \frac{2xy}{x+y}$$

$$= \frac{2 \times 36 \times 24}{36 + 24}$$

$$= 28.8 \text{ mph}$$

A man jogs at 6 mph over a certain journey and walks over the same route at 4 mph. What is his average speed for the journey?

a) 2.4 mph

b) 4.8 mph

c) 4 mph

d) 5 mph

$$2 * 6 * 4 / 6 + 4 = 4.8 \text{ mph}$$

6 persons standing in queue with different age group, after two years their average age will be 43 and seventh person joined with them. Hence the current average age has become 45. Find the age of seventh person?

- a) 43      b) 69      c) 52      d) 31

**current average age of 6 person =  $43 - 2 = 41$**

**total age of 6 person =  $41 * 6 = 246$**

**after joined seventh person**

**average age of 7 person = 45**

**total age of 7 person =  $45 * 7 = 315$**

**age of 7th person =  $315 - 246 = 69$  years ans.**

Statement 1: P is the son of K's father.

Statement 2: P is the only grandson of N's father-in-law.

If K is the wife of N, how N is related to P.

(a) Statement 1 only

(b) Statement 2 only.

(c) Either statement 1 or 2.

(d) Both statement 1 and 2 together.

(e) Neither statement 1 nor 2

**ans is (c)**

Statement 1: The mother of K is M's mother-in-law.

Statement 2: K is the only child of M.

If K is the mother of L, how M is related to L?

- (a) Statement 1 only
- (b) Statement 2 only.
- (c) Either statement 1 or 2.
- (d) Both statement 1 and 2 together.
- (e) Neither statement 1 nor 2

ans is (a)



11,29,55,....?

(a)110

(b)114

(c)89

(d)74

$$11=3^2+2$$

$$29=5^2+4$$

$$55=7^2+6$$

$$89=9^2+8$$

**so ans is 89**

A lady travels 5 km towards south, then 4 km towards east, then 8 km towards north and 2 km towards west. In what direction is she from starting point.

- (a) North-east
- (b) South -east
- (c) South-west
- (d) South

**ans is (a)**

In a certain language RIPPLE is written as 785514. What is the code of PILLER in that language?

- (a) 561147
- (b) 561174
- (c) 581174
- (d) 581147

**ans is (d)**

among five friends A,B,C,D,E who is the tallest?

(1) B is taller than A, but smaller than D & E.

(2) C is smaller than B.

(a) Statement 1 alone is sufficient

(b) Statement 2 alone is sufficient

(c) Both statement put together is sufficient

(d) Both statement put together is not sufficient

(e) Either of statement is sufficient in answering the question.

**ans will be (d)**

X says, point to Y, "He is my sister's only brother's son". How Y is related to X?

(a) Nephew

(b) Son

(c) Brother

(d) Uncle

**ans can be (a) or (b)**

10,14,23,39,64,...?

(a) 100

(b) 102

(c) 149

(d) 128

$$10+4(2^2)=14$$

$$14+9(3^2)=23$$

$$23+16(4^2)=39$$

$$39+25(5^2)=64$$

$$64+36(6^2)=100$$

2,3,6,18,108,...?

(a) 54

(b) 10002

(c) 216

(d) 1944

$$2*3=6$$

$$3*6=18$$

$$6*18=108$$

$$18*108=1944 \text{ Ans}$$

3,7,13,21,...?

(a) 36

(b) 33

(c) 41

(d) 31

$$7-3=4$$

$$13-7=6$$

$$21-13=8$$

**So next num will be  $21+10=31$**



25,61,113,....?

(a) 181

(b) 121

(c) 212

(d) 241

$$3^2+4^2=9+16=25$$

$$5^2+6^2=25+36=61$$

$$7^2+8^2=49+64=113$$

$$9^2+10^2=81+100=181$$

84:134::38:?

(a)4

(b)78

(c)42

(d)88

$$84+50=134$$

$$38+50=88$$

**ans (d)**

10,15,22,33,46,63,.....?

(a) 81

(b) 82

(c) 72

(d) 86

**Prime numbers**

$$15-10=5$$

$$22-15=7$$

$$33-22=11$$

**Similarly  $63+19=82$**

If COMPUTER is coded as PMOCRETU,  
then what will TELEVISION will be coded:

- (a) NOISIVELET
- (b) VELTEONISI
- (c) VELENOISTI
- (d) VELETNOISI

**ans is (d)**

PROGRAM: QTRKWGT::APPLIANCE:

- (a) BRSPNGUKO
- (b) BRSQNGUKN
- (c) BRSQNGUKU
- (D) BRSPNGUKN

**ans is (d)**

Pointing to a boy, a man said, "He is the grandson of m daughter's grandmother".  
How is the man related to the boy?

- (a) Father
- (b) Grandmother
- (c) Brother
- (d) none of these

**ans is (A)**

POLICY : NPJJAZ :: INSURANCE :

(a) GOQVPBLDC

(b) GOQVQBLDC

(c) GOQVRBLDC

(d) GOQVPBLEC

**ans is (a)**

5:124::7:?

(A) 342

(b) 343

**ANS IS (a)**



WINTER:RETNIW::

(a) RMMEUS:SUMMER

(b) SPRING:GNIRPS

(c) HEAVEN:NVEAEH

(d) KNIFE:EFNIK

**ans is (b)**

QDYM:SFYN::UIOZ:?

- (a) PAQM
- (B) LPWA
- (c) QNLA
- (d) WKPA

**ans is (d)**

BHE:FLI::JPM:?

- (a) OTP
- (b) NTQ
- (c) NSP
- (d) OSP

**ANS IS (b)**

A tourist has strayed from his path while on his way to his hotel. He moves 28 km towards south, then moves 20 km towards west, then 4 km towards north and then 2 km towards east to reach his hotel. What is the distance of shortest possible route?

- (a) 45 km
- (b) 20 km
- (c) 18 km
- (d) 30 km

**AB=28km toward south**

**BC=20km toward west from B**

**CD=4km toward north from C**

**DE=2km toward east from D**

**EF=BC-DE=18km**

**AF=AB-CD=24km**

**in Triangle, AFE**

**$AE = \sqrt{24^2 + 18^2} = \sqrt{900} = 30\text{km}$**

B is the only daughter-in-law of A.  
M is the only grandson of A. P is  
M's father. How is P related to B?

**ans: Husband**

P is the son-in-law of S. T and Q are the children of P. M is the mother of T. How is M related to S?

(a) Daughter

(b) Son

(c) Mother

(d) Sister

**ans is (a)**

If NORMAL is coded as LAMRON,  
then SYSTEM is coded as

**(B) METSYS**

If BLACK is coded as DNCEM, then  
ORANGE is coded as:

**(a) QTCPIG**



odd man out(34444)

1. (a)FHKO (b)CEHL (c)ZBEJ (d)XZCG

2. (a)PRS (B)TVX (c)FIK (d)LME

3. (a)AE5 (b)DF6 (c)HN14 (D)KP18

4.(a)DFK (b)PRW (c)EGL (D)TVZ

5.(a) HKS (b)PTX (c)UVZ (d)TAO

odd man out(123424)

6.(a) QSV (b)CFK(c)PSX(d)RUZ

7.(a)AFK (b)TWB (c)PUZ (d)DIN

8.(a)KML (b)PRQ (C)NPQ (d) TVU

9.(a)FU (B)DW (c)CX (d)NR

10.(a)PSRQ (b)MNPO(c)SVUT (d)KNML

11.(a)HIKJ (b)KLNM (c)STVU (d)RSTU

B has a sister A, B is the daughter of C. C's father is P. How is A related to P?

**Grandmother**

pointing to a women in photograph, a lady said, "she is the wife of my mother's brother-in-law". how is the women related to lady?

(A) mother

(b) aunt

(c)sister

(d)daughter

**ans is (b)**

pointing to a boy in photograph, a girl said, "he is the son of the daughter-in-law of my mother's mother". how is girl related to the boy?

- (a)son
- (b)brother
- (c)nephew
- (d)cousin

**ans is (d)**

Pointing to a lady, a man said, "She is the wife of my father's only son".  
how is man related to lady?

**ans is Husband**

Pointing to a man in photograph,  
another man said, "He is the father  
of my daughter's son". How is the  
man related to:

**ans is Son-in-law**

If DEED is coded as 4554, then  
DICE is coded as  
(a)4935 (b) 4839

**4935**



SKILLFUL coded as LTMJGMMV,  
how is STATED written in that  
code?

**UTUBEF**

If SHORT is coded as 87479,  
what is coded for TALKS?

**90108**

If EAGLE is coded as FZHKF,  
what is the code for THANKS

**UGBMLR**

If CABLE is coded as 64592,  
then LABEL is coded as

**94592**

How many 5 digit no. can be  
formed from 0,2,4,5 & 9 ?

**2500**

$1800 * 25 * 45^{-2} * 8$ , how  
many 2's power?

**answer is 6.**

In a game 3 cards from 52 cards as a player have a win deck a king, a queen, a jack. Total possible number of win deck ?

$$4C1 * 4C1 * 4C1 = 64$$

Three different containers contain 496 litres, 403 litres and 713 litres of mixtures of milk and water respectively. What biggest measure can measure all the different quantities exactly ?

**Required measurement = (H.C.F. of 496, 403, 713) litres = 31 litres**



The number of possible selections of one or more questions from 8 given questions, each question having an alternative, is

$$2^8 - 1$$

In an examination 10 questions are to be answered choosing at least 4 from each of part A and part B.

If there are 6 questions in part A and 7 in part B, in how many ways can 10 questions be answered ?

$${}^6C_4 * {}^7C_6 + {}^6C_5 * {}^7C_5 + {}^6C_6 * {}^7C_4$$

If SWIMMING is coded as NGMMISWI,  
which word coded as MAXIMIZE?

**ZEIMIMAX**

If  $a$  and  $b$  are natural numbers and  $a-b$  is divisible by 3, then  $a^3-b^3$  is divisible by:

Op 1: 3 but not by 9

Op 2: 9

Op 3: 6

Op 4: 27

Op 5: Both 3 and 9

**Let's assume value  $a=6$  &  $b=3$ . So after subtraction it gives 3. After putting on equation  $a^3-b^3$  so it is divisible by both 3&9**

Ishan spent 35,645 on buying a bike,  
24,355 on buying a television ,and the  
remaining 20% of the total amount he  
had as cash with him. what was the total  
amount ?

Here we come that 20% of total amount is in cash  
so remaining 80% was used for both bike and television

$$=35645+24355=60,000$$

let total amount= x

$$\text{so } 80\%x=60,000$$

$$\Rightarrow 80 \cdot x / 100 = 60,000$$

$$x = 60,000 \cdot 100 / 80 = 75,000$$

**total amount=75,000**

Manoj sold an article for 15,000. Had he offered a discount of 10 % on the selling price, he would have earned a profit of 8 %. what is the c.p ?

**12500 rs.**

If cost price= $x$ , then

$$x \cdot (108/100) = 15000 \cdot (90/100), x = 12500$$

If  $f(x)$  = sum of all the digits of  $x$ , where  $x$  is a natural number, then what is the value of

$$f(101)+f(102)+f(103)+ \dots\dots\dots +f(200)$$

A polygon has 44 diagonals, the number of its sides is

**POLYGON HAS 11 SIDES**

$$44 = N(N-3)/2$$

$$N^2 - 3N - 88 = 0$$

$$(N-11)(N+8) = 0$$

$$(N-11)=0$$

$$N = 11$$



A bag contains 5 yellow and 4 brown pencils. If two pencils are drawn, what is the probability that the pencils are of the same colour?

$$(5C_2 + 4C_2) / 9C_2 = 4/9$$

Log 0.2 to the base 5 is equal to

Now  $\log a^b = b \cdot \log a$ . And  $\log(a) a = 1$

$$\log(5) 0.2$$

$$\Rightarrow \log(5) [1/5]$$

$$\Rightarrow \log(5) [5^{-1}]$$

$$\Rightarrow -1 \cdot \log(5) 5$$

$$\Rightarrow -1 \cdot 1$$

$$\Rightarrow -1$$

Sujitha invests 7% i.e. 2170, of her monthly salary in mutual funds. Later she invests 18% of her monthly salary in recurring deposits, also she invests 6% of her salary on nsc's . what is the total annual income invested by sujitha ?

let  $x$  is the monthly salary,

so,  $x \cdot 7\% = 2170$

$x = 31000$ .

now according to ques.

18% of 31000 = 5580 and 6% of 31000 = 1860

now add all invests i.e,  $2170 + 5580 + 1860 = 9610$

What is the value of  $\log_3 1.5 + \log_3 6$  ?

$$\log_3 1.5 + \log_3 6$$

$$= \log_3 (1.5 * 6)$$

$$= \log_3 9$$

$$= \log_3 3^2$$

$$= 2 * \log_3 3$$

$$= 2 \text{ ans}$$

If  $x^4 + 1/x^4 = 47$ , then find the value of  $x^3 + 1/x^3$ ?

op 1: 18      op 2: 27      op 3: 9      op 4: 12

Lets add 2 to both sides of the equation

$$x^4 + 1/x^4 + 2 = 47 + 2$$

$$(x^2 + 1/x^2)^2 = 49 = x^4 + 1/x^4 + 2$$

$$x^2 + 1/x^2 = (49)^{1/2}$$

$$x^2 + 1/x^2 = 7$$

Now that we know  $x^2 + 1/x^2$ , you need to know that  $(x^2 + 1/x^2)^3$  is the same as  $x^6 + 1/x^6 + 3x^2 + 3/x^2$

$$x^6 + 1/x^6 + 3(x^2 + 1/x^2) = (7)^3$$

$$x^6 + 1/x^6 + 3*7 = 343$$

$$x^6 + 1/x^6 = 343 - 3*7$$

$$x^6 + 1/x^6 = 322$$

Now we need to know that  $(x^3 + 1/x^3)^2$  is the same as  $x^6 + 1/x^6 + 2$

$$x^6 + 1/x^6 = 322$$

$$x^6 + 1/x^6 + 2 = 322 + 2$$

$$(x^3 + 1/x^3)^2 = 324$$

$$(x^3 + 1/x^3)^2 = (18)^2$$

$$x^3 + 1/x^3 = 18$$

So we have all the answers:

$$x^2 + 1/x^2 = 7$$

$$x^6 + 1/x^6 = 322$$

$$x^3 + 1/x^3 = 18$$

If  $2+2 = 6$  then  $1+3 = ?$

**two+two=6,**

**And**

**one+three=8 counting the  
no. of literals**

In approximately how many years will a certain sum of money triple itself at 22% simple interest?

let principal amount =  $p$

after  $T$  years compound amount,  $A=3p$

so, interest  $I = 2p$

we know that

$$I = (p * T * R) / 100$$

$$\text{so, } 2 * p = (p * T * 22) / 100$$

$$T = 100 / 11 \text{ years}$$

When a local train travels at a speed of 60kmph, it reaches the destination on time. When the same train travels at speed of 50kmph, it reaches its destination 15 minutes late. What is the length of journey?

distance is constant.

so let time taken be  $t$  when it travels with 60kmph

let time be  $t'$  when it travels with 50kmph

$d = s * t$  and

$s * t = s' * t'$

$60 * t = 50 * (t + 15/60)$  (in hrs)

on solving

$t = 5/4$  hrs

$d = 60 * 5/4 = 75$  km



A fair coin is tossed repeatedly. If head appears on first four tosses then what is the probability of appearance of tail in the fifth toss.

A number of cats got together and decided to kill between 999919 mice. Every cat killed an equal number of mice. Each cat killed more mice than there were cats .How many cats do you think there were?

let no of cats be  $x$

hence no of mice each cat kills=  $999919/x$

$999919/x > x$  (as they kill more than there are cats)

$\Rightarrow 999919 > (x^2)$

$= 999.95 > x$  (approx)

hence the no of cats should be less than 999.95 and divisible by 999919 so 991 is the nearest no which is divisible by 999919 n less than 999.95.

therefore, **no of cats are 991.**

If  $\log x = \log 3 + 2 \log 2 - (3/4) \log 16$ . The value of x is:

$$\begin{aligned}\text{Log } x &= \log (12/8) \\ X &= 3/2\end{aligned}$$

Which is the closest approximation to the product  $0.3333 \times 0.25 \times 0.499 \times 0.125 \times 24$  ?

**$1/8$  (approx)**

5 men or 2 women can do a work in 5 days in  
how many days can 6 men and 2 women can  
do the same work

**Answer: 25/11**

5 men can do a work in 5 days

2 women can do same work in 5 days

this means effort of 2 women = 5 men

now we have 6 men and 2 women working together to finish same work.

6 men + 2 women effort = 6 men + 5 men effort = 11 men effort

5 men can do the work in 5 days

1 men can do the same work in  $5 \times 5 = 25$  days

11 men can do the same work in  $25/11$  days

If EDUCATION is coded with 5 then  
NATIONAL is

**4**