GAT GENERAL

QUANTITATIVE TRICKS

ASSALAM 0 ALAIKUM !!!! dears

I have prepared some notes for those who are facing problems in Gat Maths. Just learn tricks and methods I have shared

In sha ALLAH I am 100% sure that you will go through.

REGARDS : ASIF NAWAZ

Probability

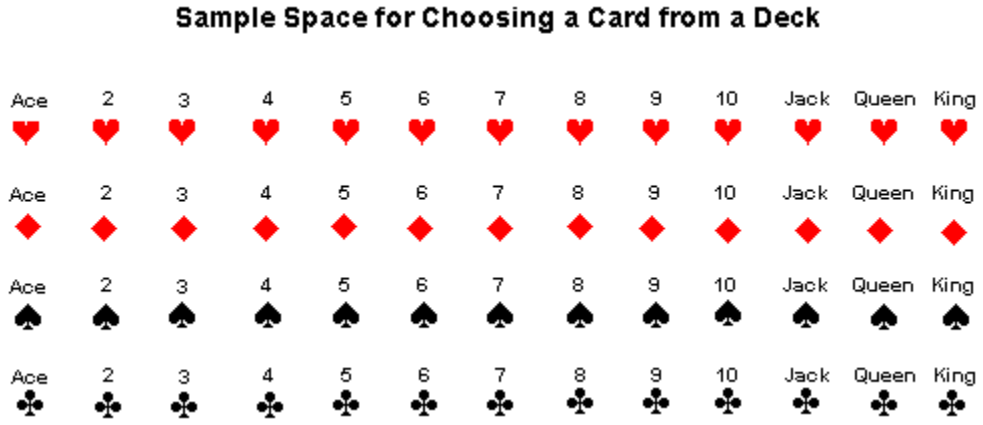
1. Cards
2. Coin
3. Dice

Explanation of each category

Total Cards 52

13 diamonds, 13 clubs , 13 hearts , 13 spades

4 kings, 4 queens , 4 aces, 4 jokers, 4 2's, and so on. Every card is 4 times.



Related questions.

1. A card is drawn random , find the probability of a king?

Answer : Since there are 4 kings in the deck of cards. Total cards are 52
so 4/52 = 1/13

2. A card is drawn random , find probability of a diamond king?

Answer : Since there are 13 diamonds and 4 kings.

Diamonds consist of K,J,Q,A,2,3,4,5,6,7,8,9,10
only 1 king in diamonds

So 1/52.

Similarly probability of 1 diamond queen, 1 diamond Ace etc all will be 1/52.

3. Two cards are drawn random , find the probability that both will be kings?

Asnwer. Probability of 1^{st} king = 4/52
now probability of 2^{nd} king

We have 3 kings left in the deck and 51 total cards

So 3/51

4/52 * 3/51 = 1/221

Another method :

4C2 / 52C2

4C2 = 4! / 2!(4-2)!

52C2 = 52! / 2!(52-2)!

Solve it then

4. A card is drawn random , find the probability of king or queen?

Answer. King or queen

Probability of king = 4/52

Probability of queen = 4/52

Or is used so add both

8/52 = 4/26 = 2/13 answer

5. A card is drawn random, find probability of a heart?

Ans . since there are 13 hearts in a deck of 52 cards

So 13/52= ¼

Next topic

Probability of coin related questions.

Probability of head = ½

Probability of tail = ½

To find sample space in problems of coin use formula 2^n where n is number of times that coins tossed..

1. Two coins are tossed , find probability of at least 1 head?

Ans. Sample space = 2^2= 4

At least 1 head means either 1 head or 2 heads

Outcomes = HH, HT , TH, TT

3 cases are there which have either 1 head or two heads

So ¾

Similar is the case for at least 1 tail.

2. Two coins are tossed , find probability of 1 head?

Ans. Statement differs from question 1 statement

Outcomes = HH , HT , TH , TT

2 cases which consist of 1 head HT and TH

So 2/4 = ½

3. Three coins are tossed , find probability of exactly 1 tail?

Ans. Sample space = $2^3 = 8$

First Coin	Second Coin	Third Coin	End Result
Heads	Heads	Heads	HHH
		Tails	HHT
	Tails	Heads	HTH
		Tails	HTT
Tails	Heads	Heads	THH
		Tails	THT
	Tails	Heads	TTH
		Tails	TTT

3 cases which consist of only 1 tail

3/8

Probability of dice

Dice have 6 faces, 1,2,3,4,5,6

Probability of each face = 1/6

Probability of odd number = 3/6 = ½ (because 3 odd numbers are there 1,3,5)

Same for even number

Sample space cannbe find by 6^n where n is number of times dice is rolled.

1. A dice is rolled, find probability of number greater than 2?

Ans. Greater than 2

Means 3,4,5,6

4 possibilities

So 4/6= 2/3

2. A dice is rolled , find probability of number greater than 6 ?

Ans. Since no number is greater than 6 so zero.

3. Two dices are rolled , find probability of same number on both dices?

Ans. Sample space = 6^2 =36

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

Same number cases are

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

6 cases

So 6/36 = 1/6

4. Two dices are rolled , find the result will sum 9 from both dices?

Ans.

Possibilities in which sum is 9 are

(3,6) , (6,3) , (5,4) , (4,5)

So 4/36 = 1/9

5. Two dices are rolled , find probability of sum will be odd number?

Ans. See above diagram and find the answer .

18/36 = ½

Topic # 02

Clock Angle

A **clock** is a circle, and a circle always contains 360 degrees. Since there are 60 minutes on a **clock**, each minute mark is 6 degrees. Since there are 12 hours on the **clock**, each hour mark is 30 degrees

Use this simple formula for finding angle between MINUTE HAND and HOUR HAND.

|30 * hour – 5.5 * minute|

1. Find angle between minute hand and hour hand at 10:15?

Ans. Hour = 10

minute = 15

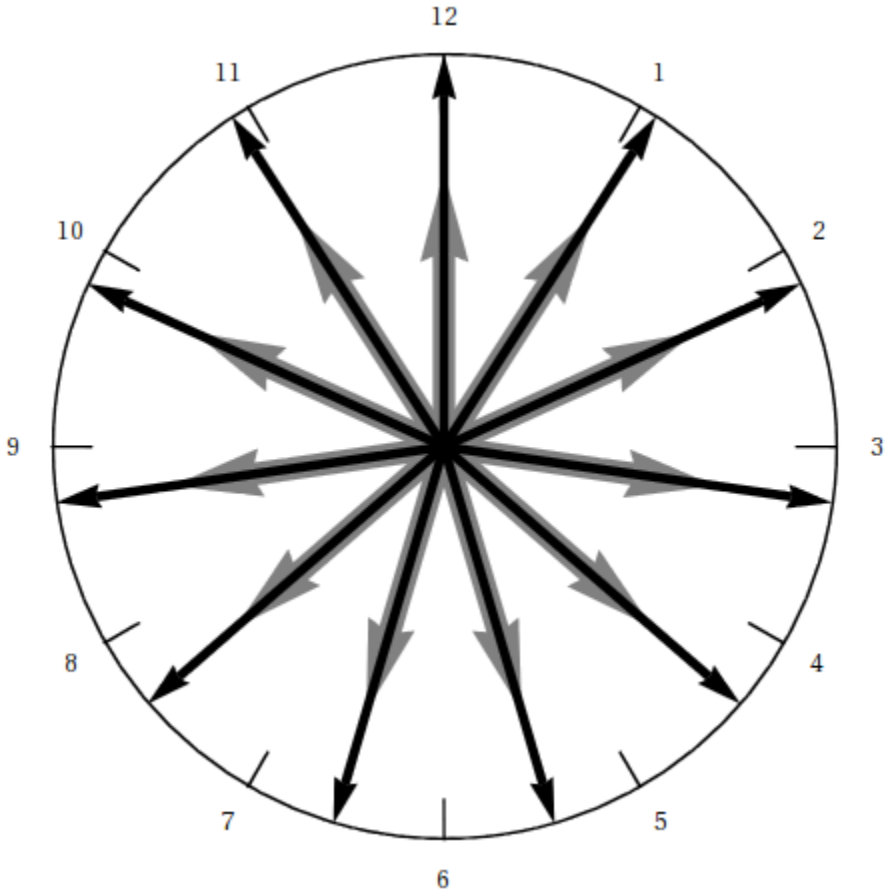
|30 * 10 - 5.5 * 15| = |300 – 82.5| = 217.5 degree

Note : if angle is greater than 180 then subtract it from 360.

So 360 – 217.5 = 142.5 degree

2. How many times in a day clock hands coincide?

Ans. 22 times



3. Find angle at 10 : 00 am.

Ans. $|30 * 10 - 5.5 * 0| = 300$

So angle is greater than 180

360 – 300 = 60 degree

Topic # 03

ZAKAAT

Divide the given amount by 40

Find Zakaat on 864000 at rate of 2.5% ?

2.5 % = 2.5 / 100 = 1/40. So simply divide by 40

Simply divide by 40 u will get required answer

Topic # 04

Median

Median refers to middle element

1. Find median of 11,34,12,21,12,25,14

Ans. Count the numbers. There are 7 numbers.

Arrange in ascending order

11 , 12 , 12 , 14 , 21 , 25 , 34

Middle element is 14. 14 is the answer

2. In case of even numbers. Let 1,3,2,4,7,3,4,5

8 numbers are there arrange in ascending order

1,2,3,3,4,4,5,7

Middle numbers are 2 numbers in even case. 3 and 4 here. So 3+4/2 = 3.5 answer

Topic # 05

MODE

Most repeating element in a given data is MODE

1. Find MODE of 44,43,54,44,32,43,56,54,44

Hence most repeating number is 44.

Topic # 06

Average

Average = sum of quantities / number of quantities

1. Reeya obtained 65, 67, 76, 82 and 85 out of 100 in different subjects, What will be the average.

Explanation:

$$(65+67+76+82+85) /5 =75$$

2. Find average of first 4 multiples of 5?

Ans. 5 , 10 , 15 , 20

5+10+15+20 / 4 = 50 /4 = 12.5

Another method. 1^{st} + last / 2

5+20 / 2 = 12.5

3. Find the sum of first 30 natural numbers

Answer.

Explanation:

Sum of n natural numbers

$$=n(n+1) / 2$$

Here n =30

$$=30(30+1) / 2$$

$$=30(31) / 2$$

$$=465$$

4. The average of four consecutive odd numbers is 24. Find the largest number.

Explanation:

Let the numbers are , x+1, x+3, x+5,x+7

then

$$\Rightarrow (x+1)+(x+3)+(x+5)+(x+7) / 4=24$$

$$\Rightarrow (x+1)+(x+3)+(x+5)+(x+7) = 24*4$$

$$\Rightarrow 4x+16 = 96$$

$$=>4x = 80$$

$$X=20$$

So largest number is x+7 = 20 + 7 = 27

5. A batsman makes a score of 87 runs in the 17th inning and thus increases his average by 3. Find his average after 17th inning?

Solution

Let the average after 7th inning = x

Then average after 16th inning = x - 3

$\therefore$ 16(x-3)+87 = 17x

$\therefore$ x = 87 - 48 = 39

6. Average of 2,7 and x is 12, find x

Ans. 2+7+x / 3 = 12
9+x = 36

X =27

Topic # 07
Time and work
Formula is 1 / AB = 1/A + 1/B

1. A can do work in 4 hours. B can do it in 12 hours. How much time need for both to complete work?

Answer. 1/AB = ¼ + 1/12

take lcm of 4 and 12 which is 12

3+1/12 = 4/12 = 1/3

1/AB = 1/3

AB = 3 hours

Another method. Multiply separate work of A and B in numerator and Add them in denominator and then divide them.

So AB = A*B / A+B

AB = 4*12 / 4+12

AB = 48 / 16 = 3 hours

2. A can do work in 10 days and both A , B combine can do it 8 days. Find how much time needed for B to do the same work?

Solution. Question is different from previous one.

$AB = A * B / A + B$

$8 = 10B / 10+B$

$8 (10+B) = 10B$

$80 + 8B = 10B$

$80 = 2B$

$B = 40$ days

Another method : $1/AB = 1/A + 1/B$

$$1/8 = 1/10 +1/B$$

$$1/B = 1/8 – 1/10$$

Take LCM of 8 and 10 which is 40

$$1/B = 5*1 – 4*1 / 40$$

$$1/B = 5-4 / 40$$

$$1/B = 1/40$$

$$B = 40 \text{ days}$$

Topic # 08
Percentage

1. Sale price of an object increases 30% in first month and 10% in second month. Find total increase

Solution : Ans is 43%

Let sale price = x then 30% of x = 0.3x

X+0.3x = 1.3x

Now 1.3x +0.1(1.3x)= 1.3x+0.13x = 1.43x

So 1.43 x – x = 0.43 or 43%

2. What percent of 30 is 24 or 24 is what percent of 30? Both are same statements.

Solution. Of means multiplication is means equal to

x/100 * 30 = 24

30 x = 2400

X = 80%

3. In an election between two candidates, one got 55% of the total valid votes, 20% of the votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was :

Explanation:

Total number of votes = 7500

Given that 20% of Percentage votes were invalid

=> Valid votes = 80%

Total valid votes = $7500 \times \frac{80}{100}$ = 6000

1st candidate got 55% of the total valid votes.

Hence the 2nd candidate should have got 45% of the total valid votes

=> Valid votes that 2nd candidate got = total valid votes x $\frac{45}{100}$

6000 * 45/100 = 2700

4. If the price of a book is first decreased by 25% and then increased by 20%, then the net change in the price will be.

Solution : **Explanation:**

Let the original price be Rs. 100.

New final price = 120 % of (75 % of Rs. 100) = Rs. (120/100 * 75/100 * 100) = Rs. 90.

Decrease = 10%

Or shortcut 120/100 * 75/100 * 100 = 90

100-90 = 10

5. If 75% of a number is added to 75, then the result is the number itself. The number is

Solution. Let the number be x, Then

75% of x + 75 = x

0.75 x + 75 = x

X – 0.75 x = 75

0.25x = 75

X = 75/0.25 = 300

6. A man spends 20% of his salary on clothes , 30% on rent , 25% on shopping, and still left with 1500. Find his net salary?

How to appraoch these type of questions

20+25+30= 75%

Means he spends 75% so left 25%

And 25% is 1500

0.25 x = 1500

X = 1500/0.25 = 6000

Topic # 09

Ratio and proportion

1. If Rs. 782 be divided into three parts, proportional to $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$, then the first part is?

Solution

Take LCM of denominators and then multiply each ratio with LCM

LCM of 2,3 and 4 is 12

Now multiply 12 with each ratio u will get 6:8:9

Sum of ratio = 6+8+9 = 23

1st ratio = 6/23 * 782 = 204

2. Ratio of maria age and bisma age is 4:5. And ratio of bisma to kiran is 3:2. Find ratio of maria to kiran.

Maria	:	Bisma	:	Kiran
4	:	5		
		3	:	2

4*3 : 5*3 : 5*2 (hint. Learn mutiplication order here)

12 : 15 : 10

So M : k = 12 : 10 = 6:5

3. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

Solution:

Let the third number be x.

Then, first number = 120% of x = $\frac{120x}{100} = \frac{6x}{5}$

Second number =150% of x = $\frac{150x}{100} = \frac{3x}{2}$

Ratio of first two numbers = $\frac{6x}{5} : \frac{3x}{2}$ = 12x : 15x = 4 : 5 (take LCM of 5 and 2 and then multiply with each ratio)

4. Three persons Anam, Furqan and Farhan have shares of 3:5:7 respectivelly. If Furqan share is 500. Find the difference between anam and furqan shares.

Answer .

Let the shares are 3x , 5x , 7x.

Furqan share is given = 5x = 1500

means x = 1500/5 = 300

Now anam share = 3*300 = 900

Farhan share = 7*300 = 2100

Difference of both = 2100 – 900 = 1200 answer.

5. If the ratio of teacher to student is 1 and 10 then what will be the total teacher and student present in the classroom?
   options 111, 1011, 222, 121

   sum of ratio = 10+1= 11

121 is the only number which is divisible by 11

So 121 answer

Topic # 10

Age questions

1. The age of a man is 4 times of his son. Five years ago, the man was nine times old as his son was at that time. The present age of man is?

Solution

Let the son's age be x years and the father's age be 4x years

$$\Rightarrow (4x - 5) = 9(x - 5)$$

5x = 40

x = 8

$\therefore$ present age of the father = $4x = 4 \times 8$ = 32 years

2. The sum of the ages of 5 children born at the intervals of 3 years each is 50 years. what is the age of the youngest child ?

Solution :

Let x = the youngest child. Each of the other four children will then be x+3, x+6, x+9, x+12.

We know that the sum of their ages is 50 .

so, $x+(x+3)+(x+6)+(x+9)+(x+12) = 50$

$\Rightarrow x= 4$

$\therefore$ The youngest child is 4 years old

3. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of his son is

Solution :

Let the son's present age be x years. Then, man's present age = (x + 24) years

$=> (x + 24) + 2 = 2(x + 2)$

$=> x + 26 = 2x + 4$

So,

$x = 22$

4. Sum of mother and daughter ages is 50. Five years ago mother was 7 times as old as daughter. Find their present ages.

Ans.

Let x be mother age and y be daughter age

x+y = 50 >> eq1

x-5 = 7(y-5)

x-5 = 7y -35

x-7y = -30 >> eq2

subtract eq2 from 1 we get !!!

8y = 80

Y = 10 daughter age

Now put y =10 in eq1 u will get x= 40 which is mother age…

so 40 and 10 are the answers.

Topic 11

Square root

How to find square root

There are two methods of square root.

1 . Prime Factorization

2 . Division method

1. This is prime factorization method

2	7744
2	3872
2	1936
2	968
2	484
2	242
11	121
	11

after this make pairs of two numebrs each

2 * 2 * 2 * 2 * 2 * 2 *11 * 11

4 pairs in this case.

Now select 1 digit from each pair.

2 * 2 * 2 * 11 = 88 answer.

4096 = 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2

$\therefore \sqrt{4096} = 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 64$

(v) 7744 can be factorised as follows.

2	7744
2	3872
2	1936
2	968
2	484
2	242
11	121
11	11
	1

7744 = 2 × 2 × 2 × 2 × 2 × 2 × 11 × 11

$\therefore \sqrt{7744} = 2 \times 2 \times 2 \times 11 = 88$

(vi) 9604 can be factorised as follows.

2	9604
2	4802
7	2401
7	343
7	49
7	7
	1

2. 9604 = 2 × 2 × 7 × 7 × 7 × 7

See also this example of 9604. Select 1 number from each pair.

2 * 7 * 7 = 98

Division method cannot be explained here. I will upload a video for division method.

Short cut method for square root :

Just memorize perfect squares from 1 to 10.

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$

Now find square root of 6241

Step 1. Consider 1st two digits which is 62

Step 2. Rewind the perfect squares. 62 lies between 49 and 64

Step 3. 49 is square of 7 and 64 is square of 8

It means square root will be in between 70 and 80

Step 4. Consider last digit which is 1.

Now look at perfect squares. There are only two cases in which last digit is 1 and that is digit will be either 1 (1*1=1) 0r 9 (9*9=81)

Step 5. U almost got ur answer. 71 or 79

Asnwer is 79.

Because 71*71 = 5041

Another example :

Find square root 7569

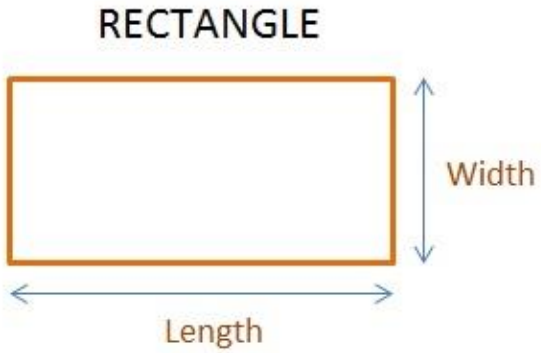
1. First two digits are 75
2. 75 lies between 64 and 81 (from table of perfect squares)
3. Means square root will be between 80 and 90
4. Last digit is 9. So in answer last digit will be either 3 (3*3=9) or 7 (7*7= 49)
5. Check it. 87 is answer

Try yourself….. 2916 , 1764 , 7744

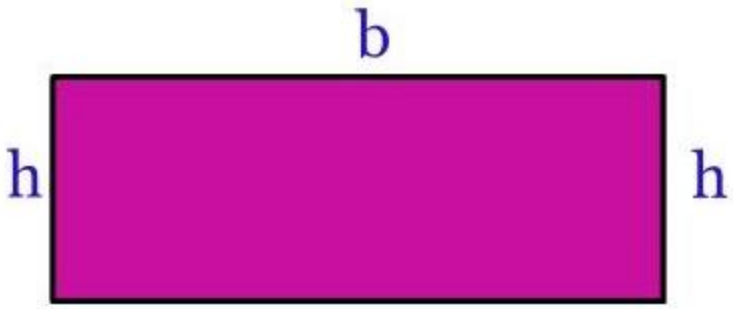
Topic # 12

Geometry

Formulas



Area of rectangle $= Length\ X\ Width$



Perimeter = b + b + h + h

We can simplify this further

Perimeter = 2b + 2h

Perimeter = 2(b+h)

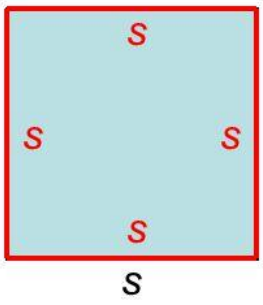
PERIMETER, CIRCUMFERENCE, AND AREA FORMULAS

SQUARE

side length s

$P = 4s$

$A = s^2$

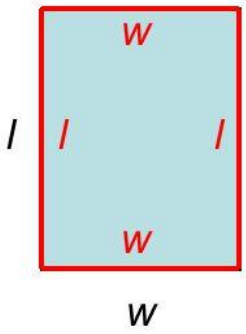


RECTANGLE

length l and width w

$P = 2l + 2w$

$A = lw$

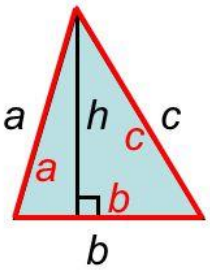


TRIANGLE

side lengths a, b, and c, base b, and height h

$P = a + b + c$

$A = \frac{1}{2}bh$

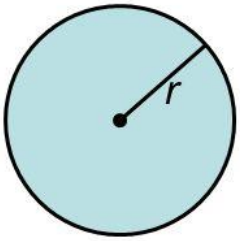


CIRCLE

radius r

$C = 2\pi r$

$A = \pi r^2$



P is for perimeter

A for area

C for circumference

Questions

1. If each side of a square is increased by 25%, find the percentage change in its area?

Solution : area of square = side * side

Let side of length x so area is x^2

25% increase = $x + 0.25x = 1.25x$

Now according to formula area of square = $1.25x * 1.25x$

= $1.5625x^2$

Now increase = $1.5625x^2 – x^2 = 0.5625x^2$

Means 56.25%.

2. If the radius of a circle is increased by 50%, find the percentage decrease in its area.

Solution : Area of circle = πr^2

Let radius is x so area will be πx^2

After 50% increase = $0.5x + x = 1.5x$

Now square of $1.5x = 2.25x^2$

Now increase = $2.25x^2 - x^2$

$= 1.25x^2$

S0 1.25*100 = 125%

3. Length of rectangle is twice as width. If perimeter is 48. Find its area.

Hence L = 2W

Formula for perimeter of rectangle = 2(L+W) = 48

$2(2W + W) = 48$

$2(3W) = 48$

$6W = 48$

$W = 8$

Hence $L = 2W$ so $L = 2*8 = 16$

So area of rectangle = $L*W = 8*16 = 128$

4. Area of square is $900m^2$. Find its perimeter.

Solution. Area of square = $length^2$

$L^2 = 900$

Take square root both sides.

$L = 30$

Perimeter of square = $4* L = 4*30 = 120m$

5. Area of circle is 154 cm^2. Find daimeter.

Answer. Area = $\pi d^2/4$

$154 = \pi d^2/4$

$d^2/4 = 154/\pi$

$d^2 = 154 * 4/\pi$

find d. and then square root value of D. = 14 cm

6. Daimeter of circle is 105cm greater than circumference. Find daimeter of circle.

Solution. π d – d = 105

d(π-1) = 105

d (2.14) = 105

d = 105/2.14 = 49cm

Topic # 13

Trigonometry

$$\tan\theta = \frac{\sin\theta}{\cos\theta}$$

$$\cot\theta = \frac{\cos\theta}{\sin\theta}$$

$$\sin^2\theta + \cos^2\theta = 1$$

$$\tan^2\theta + 1 = \sec^2\theta$$

$$1 + \cot^2\theta = \operatorname{cosec}^2\theta$$

$$\sec\theta = \frac{1}{\cos\theta}$$

$$\operatorname{cosec}\theta = \frac{1}{\sin\theta}$$

$$\cot\theta = \frac{1}{\tan\theta}$$

Just learn the above formulas

Q1. $1/\cos^2\theta - \tan^2\theta$

Put $1/\cos^2\theta = \sec^2\theta$

So $\sec^2\theta - \tan^2\theta = 1$

Q2. $1/\cos@ * 1/\tan@ * \sin^2@$

Answer 3. $1/\tan@ = \cot@ = \cos/\sin$ so put it in above

$1/\cos * \cos/\sin * \sin^2@$

Cos will cancel and one sin will cancel

So u will get only sin@ as a result

Ans = sin@

Topic # 14

Simultaneous equations

2x - y = 14 1

3x + 2y = 70..... 2

From equation 1, y = 2x - 14.
Substituted in equation 2, we have

3x + 2 (2x - 14) = 70

3x + 4x - 28 = 70

7x = 98

x = 14

To get 'y', simply use the value of 'x' in any of the equations.

y = 14

Solve the simultaneous equations:

Ⓐ $x + y = 2$

Ⓑ $y - x = 0$.

Add equations Ⓐ and Ⓑ to get

Ⓒ $2y = 2$

$\Rightarrow y = 1$

but since $x + y = 2$ and $y = 1$

$x + 1 = 2 \Rightarrow x = 1$

So our solution is $x = 1$, $y = 1$.

Question : 5 less than 3 times of specific number is 3 less than the number. Find the number

Answer. Solution

$3x+5 = x-3$

$2x = -8$

$X = -4$

$$7x - 5y = 20$$

$$-8x - 3y = 12$$

Solve this equation…… find x and y?

Topic 15

Decimals

FACTS AND FORMULAE FOR DECIMAL FRACTION QUESTIONS

I. Decimal Fractions : Fractions in which denominators are powers of 10 are known as decimal fractions.Thus
1/10 = 1 tenth = .1;
1/100 = 1 hundredth = .01;
99/100 = 99 hundreths = .99;
7/1000 = 7 thousandths = .007 etc

II. Conversion of a Decimal Into Vulgar Fraction : Put 1 in the denominator under the decimal point and annex with it as many zeros as is the number of digits after the decimal point.
Now, remove the decimal point and reduce the fraction to its lowest terms. Thus
0.25 = 25/100 = 1/4;
2.008 = 2008/1000 = 251/125.

III.
1. Annexing zeros to the extreme right of a decimal fraction does not change its value.
Thus, 0.8 = 0.80 = 0.800, etc.
2. If numerator and denominator of a fraction contain the same number of decimal places, then we remove the decimal sign.Thus
1.84/2.99 = 184/299 = 8/13;

0.365/0.584 = 365/584 = 5/8

IV. Operations on Decimal Fractions :

1. Addition and Subtraction of Decimal Fractions : The given numbers are so placed under each other that the decimal points lie in one column. The numbersso arranged can now be added or subtracted in the usual way.

2. Multiplication of a Decimal Fraction By a Power of 10 : Shift the decimal point to the right by as many places as is the power of 10. Thus
5.9632 x 100 = 596.32;
0.073 x 10000 = 0.0730 x 10000 = 730.

3.Multiplication of Decimal Fractions : Multiply the given numbers considering them without the decimal point. Now, in the product, the decimal point is marked off to obtain as many places of decimal as is the sum of the number of decimal places in the given numbers.
Suppose we have to find the product (.2 x .02 x .002).
Now, 2 x 2 x 2 = 8. Sum of decimal places = (1 + 2 + 3) = 6.
Therefore, .2 x .02 x .002 = .000008.

4.Dividing a Decimal Fraction By a Counting Number : Divide the given number without considering the decimal point, by the given counting number.Now, in the quotient, put the decimal point to give as many places of decimal as there are in the dividend.
Suppose we have to find the quotient (0.0204 / 17).
Now, 204 / 17 = 12. Dividend contains 4 places of decimal.
So, 0.0204 / 17 = 0.0012.

5. Dividing a Decimal Fraction By a Decimal Fraction : Multiply both the dividend and the divisor by a suitable power of 10 to make divisor a whole number. Now, proceed as above.
Thus, 0.00066/0.11 = (0.00066 x 100)/(0.11 x 100) = (0.066/11) = 0.006

V. Comparison of Fractions : Suppose some fractions are to be arranged in ascending or descending order of magnitude. Then, convert each one of the given fractions in the decimal form, and arrange them accordingly.
Suppose, we have to arrange the fractions 3/5, 6/7 and 7/9 in descending order. now, 3/5=0.6, 6/7 = 0.857, 7/9 = 0.777.... since 0.857 > 0.777... > 0.6
So 6/7 > 7/9 > 3/5

VI. Recurring Decimal : If in a decimal fraction, a figure or a set of figures is repeated continuously, then such a number is called a recurring decimal. In a recurring decimal, if a single figure is repeated, then it is expressed by putting a dot on it. If a set of figures is repeated, it is expressed by putting a bar on the set .
Thus 1/3 = 0.3333….= 0.3; 22 /7 = 3.142857142857..... = $3.\overline{142857}$

Pure Recurring Decimal: A decimal fraction in which all the figures after the decimal point are repeated, is called a pure recurring decimal.

Converting a Pure Recurring Decimal Into Vulgar Fraction : Write the repeated figures only once in the numerator and take as many nines in the denominator as is the number of repeating figures.
Thus , $0.\overline{5} = \frac{5}{9}; 0.\overline{53} = \frac{53}{99}; 0.\overline{067} = \frac{67}{999}$; etc...

Mixed Recurring Decimal: A decimal fraction in which some figures do not repeat and some of them are repeated, is called a mixed recurring decimal. e.g., 0.17333 = $0.17\overline{3}$

Topic # 16
DMAS Rule

Division , multiplication , addition , subtraction

Question1 :

2*0.5 + 9 / 0.3 + 10 * 0.92

DMAS rule
2*0.5 + 30 + 10 * 0.92
1 + 30 + 9.2
40.2 answer

5 - 0 x 3 + 9 ÷ 3 = ?

ANSWER ?

5 – 0 * 3 + 3

5 – 0 + 3

8 ans.

Can You Solve This?

$$9 - 3 \div \frac{1}{3} + 1 =$$

Topic # 16

Time and distance

How to convert km/hr to m.sec

Multiply the given number with 5/18

And conversion of m/sec to km/hr

Multiply given number with 18/5

Question. A man walking at the rate of 5 km/hr crosses a bridge in 15 minutes. The length of the bridge (in metres) is

Answer. speed = (5x5/18)m/sec
= 25/18 m/sec.

Now 15 minutes to seconds = 15 * 60
Distance covered in 15 minutes = (25/18 x 15 x 60)m
= 1250 m.

Question : A person crosses a 600 m long street in 5 minutes, What is his speed in km per hour?

Answer : 5 minutes = 300 seconds

Speed = 600 /300 = 2 m/sec

Now convert to km/hr

Multiply with 18/5

Ans is 36/5 = 7.2 km/hr