MATHEMATICS ENGLISH MEDIUM SET 02 KEY ANSWERS.

MODEL PAPER-2

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KSEEB SSLC MODEL QUETSION PAPER – 02
MATHEMATICS 81 E
QUESTION PAPER & KEY ANSWERS

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MARKS:80 **DATE: 02-01-2025** **DURATION: 3 Hours 15min**

I. *Four* alternatives are given for each of the following questions / incomplete statements. Choose the correct alternative and write the complete answer along with its letter of alphabet. 1x8=8

1. The number of tangents that can be draw to the circle at the point on its circumference is
   A)Many B) 3 C) 2 D) 1
   Solution: D) 1
   Explanation: There can be only one tangent at a point on the circle.
2. a and b are the two positive integers, then the correct relationship between the HCF(a, b) and LCM(a, b) is
   A) HCF(a, b) x LCM(a, b) =a-b B) HCF(a, b) x LCM(a, b) =axb
   C) HCF(a, b) + LCM(a, b) =a+b D) HCF(a, b) - LCM(a, b) = axb
   Solution: B) HCF(a, b) x LCM(a, b) =axb
3. The number of solutions for the pair of linear equations $a_1x+b_1y+c_1=0$ and $a_2x+b_2y+c_2=0$ when $\frac{a_1}{a_2} \neq \frac{a_1}{a_2}$ is
   A)0 B) 1 C) 2 D) Infinite
   Solution: B) 1
   Explanation:
   We know that $\frac{a_1}{a_2} \neq \frac{a_1}{a_2}$, there is intersecting lines (Only one solution) – consistent lines
   $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ Coincident lines (infinitely many solutions) - consistent lines
   $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c}$ Parallel lines (No solutions) – Inconsistent lines
4. If nth term of an arithmetic progression is 3n-1, then its 8^{th} term is
   A) 25 B)10 C)23 D)12
   Solution: C) 23
   Explanation: we have a_n=3n-1 for finding 8^{th} term put n=8.
   a_8=3(8)-1
   a_8=24-1 = 23
5. The maximum numbers of a zeores of the polynomial $p(x)=x^3-1$ is
   A) 3 B) 0 C) 1 D) 2
   Solution: A)3
   Explanation: We know that a linear equation has only one zero

A quadratic equation has two zeroes
A cubic polynomial has 3 zeroes

6. The volume of a right circular based cylinder is 1540 cubic cm and its height is 10cm. the area of its base is

A) 15.4cm B) 15.4cm^2 C) 154cm^2 D) 154cm^3

Solution: C) 154cm^2

Explanation: We know volume of cylinder, V=1540

$\Pi r^2 h=1540$

Height is given, h=10cm, $\Pi r^2 x10=1540$

$\Pi r^2=154$ sq cm

Which is required area of the base of cylinder

7. The formula to find the mean of the grouped data by direct method is

A) $\frac{\Sigma fx}{\Sigma f}$ B) $\frac{\Sigma f+x}{\Sigma f}$ C) $\frac{\Sigma f}{\Sigma fx}$ D) $\frac{\Sigma f-x}{\Sigma f}$

Solution: **A)** $\frac{\Sigma fx}{\Sigma f}$

8. $\frac{1-tan^2 45^0}{1+tan^2 45^0}$ is equal to ______ .

A) Tan90^0 B) sin45^0 C) cos 0^0 D) sin 0^0

Solution: **D) sin 0^0**

Explanation: We have $\frac{1-tan^2 45^0}{1+tan^2 45^0} = \frac{1-1}{2} = 0$

Among the options, sin0 is 0. Hence D is correct answer.

Note: options are also more important

II. Answer the following questions **1x8=8**

9. Write the formula to find the sum of first n terms of the arithmetic progression whose first term is a and last term is an.

Solution: $\frac{n}{2}\{a+an\}$

10. Write the coordinates of the midpoints of the line joining the two points A(x_1, y_1) and B(x_2, y_2).

Solution: $\left[\frac{x_2+x_1}{2}, \frac{y_2+y_1}{2}\right]$

11. The pair of linear equations x+y-4=0 and 2x+by-3=0 have no solutions. Find the value of b.

Solution: The value of b is 2

Explanation: We know $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c}$ Parallel lines (No solutions) – Inconsistent lines

$\frac{1}{2} = \frac{1}{b}$

b=2

12. Find the maximum length of the rod to completely measure the rods of the lengths 24m and 36m.

Solution: 12m.

Explanation: we need to find the HCF of both lengths, so HCF is 12.

13. Write the formula to find the surface area of the sphere.

Solution: surface area of the sphere is $4\pi r^2$.

14. If one of the zeroes of the polynomial $p(x)=x^2+7x+k$ is 2. Then find the value of k.

Solution: K= -19

Explanation: One zero is 2

$\alpha=2$ we know $\alpha\beta=\frac{c}{a}$

$2x\ \beta=\frac{k}{1}$

$2\beta=k$

Sum of its zeroes $\alpha+\beta=\frac{-b}{a}$

$2+\beta=\frac{-7}{1}$ then $\beta=-9$

Then k= 2x-9 = -18

15. Find the value of the discriminant of the quadratic equation $x^2+4x+4=0$

Solution: discriminant is 0

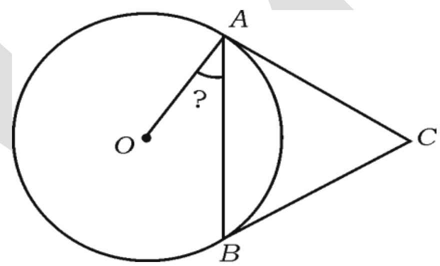
Explanation: we know that discriminant, $\Delta=b^2-4ac$

$= 4^2-4x1x4$

= 16-16 = 0

16. In the given figure, O is the centre of the circle and CA and CB are the tangents to the circle. If AB=AC then find the measure of ⌊OAB.

Solution: ⌊OAB. = 30^0.



Explanation: Given that AB=AC, Then BC=AC because it is tangents.

Hence triangle ABC is an equilateral triangle.

We know ⌊OAC=90, if triangle ABC is an equilateral triangle then ⌊BAC=60

If ⌊BAC=60, then ⌊OAB = 90-60 = 30^0

III. Answer the following questions **2x8=16**

17. Find the sum of first 20 terms of an A.P 4, 7, 10, ………………

Solution: Given data here a=4, d=7-4 n=20

d=3

We are going to find S_{20}

We know $S_n=\frac{n}{2}\{2a+(n-1)d\}$

$S_{20}=\frac{20}{2}\{2x4+(20-1)3\}$

$=10\{8+(19)3\}$

=10x65

=650.

18. Solve 2x+y=8 and x-y=1.

Solution: we have 2x+y=8 --------→(1)

and x-y=1-----------→(2)

By elimination method 2x+y=8

x-y=1

by subtracting above two we get 3x=9 **x=3**

Put this x value in any one of the above equation we get **y=2**

OR

The difference between two positive numbers is 26 and if one number is three times the other. Find the numbers.

Solution: let the two numbers be x and y.

According to question x-y=26 ----------→(1) and x=3y ------→(2)

Put equation 2 in one we get

3y-y=26

2y=26

y=13

put y=13 in equation is 2, we get x=3x13

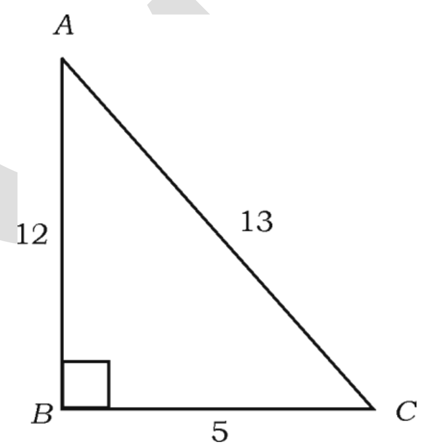
x=39

19. In the given figure, write the value of sinC and cosA.

Solution:

We know sinC=$\frac{AB}{AC}=\frac{12}{13}$

CosA=$\frac{AB}{AC}=\frac{12}{13}$



20. Write the probability of i)a sure event ii) an impossible event

Solution: i) a sure event is always 1

ii) an impossible event is 0

21. Find the distance between the points (5, 6) and (1, 3) using distance formula.

Solution: given points are (5, 6) and (1, 3)

$(x_1, y_1)$and (x_2, y_2)

By distance formula

d=$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$

= $\sqrt{(1-5)^2+(3-6)^2}$

= $\sqrt{16+9}$

= $\sqrt{25}$ = 5 units

22. A fair coin is tossed twice. Find the probability of getting at least one head.

Solution: when a fair coin is tossed twice, the possible outcomes is $\{HH, HT, TH, TT\}$ = 4

At least one head = $\{HH, HT, TH,\}$ = 3

So probability is P(E) = $\frac{3}{4}$

23. Solve the quadratic equation $x^2+3x+2=0$ by the method of factorisation.

Solution: Given equation is $x^2+3x+2=0$. Factors of 2 is 1 and 2

$$x^2+3x+2=0$$
$$x^2+x+2x+2=0$$
$$x(x+1)+2(x+1)=0$$
$$(x+1) = 0 \text{ or } x+2=0$$
$$x=-1 \text{ or } x=-2$$

OR

Find the value of k for which the quadratic equation $2x^2+kx+3=0$ has real equal roots.

Solution: we have $2x^2+kx+3=0$

If the nature of the roots of the equation is real and equal, then its discriminant is $\Delta=0$

a=2, b=k and c=3

$$b^2-4ac=0$$
$$k^2-4x2x3=0$$
$$k^2-24=0$$
$$k=\sqrt{24}$$
$$k=2\sqrt{6}$$

24. In triangle ABC, DE||BC, AD=x, BD=x-2, AE=x+2, and CE=x-1. Find the value of x and hence find the AD:DB.

Solution: Given AD=x, BD=x-2, AE=x+2, and CE=x-1

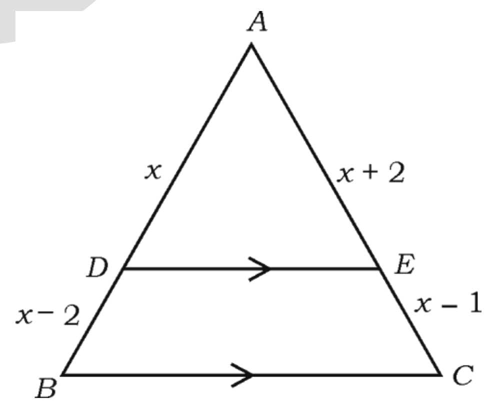
By Thales theorem, $\frac{AD}{DB} = \frac{AE}{EC}$

$$\frac{x}{x-2} = \frac{x+2}{x-1}$$
$$x(x-1)= (x+2)(x-2)$$
$$x^2-x=x^2-4$$
$$\mathbf{x=4}$$

then $\frac{AD}{DB}$

$= \frac{4}{4-2} = \frac{4}{2} = \frac{2}{1}$

Therefore AD:DB=2:1



IV. Answer the following questions 3x9=27

25. Prove that $\sqrt{3}$ is an irrational number.

Solution: Let us assume to the contrary that √3 is a rational number.

It can be expressed in the form of p/q

where p and q are co-primes and q≠ 0.

⇒ √3 = p/q

⇒ 3 = p^2/q^2 (Squaring on both the sides)

⇒ $3q^2 = p^2$……………………………….(1)

It means that 3 divides p^2 and also 3 divides p because each factor should appear two times for the square to exist.
So we have p = 3r
where r is some integer.
$\Rightarrow p^2 = 9r^2$……………………………..(2)
from equation (1) and (2)
$\Rightarrow 3q^2 = 9r^2$
$\Rightarrow q^2 = 3r^2$
We note that the left hand side of this equation is even, while the right hand side of this equation is odd, which is a contradiction. Therefore there exists no rational number r such that $r^2=3$.
Hence the root of 3 is an irrational number.

26. Find the zeroes of the quadratic polynomial $p(x)=x^2+7x+10$ and verify the relationship between the zeroes and coefficients.

Solution: we have $p(x)=x^2+7x+10$

$$x^2+7x+10$$
$$x^2+2x+5x+10$$
$$x(x+2)+5(x+2) = 0$$
$$(x+2)(x+5) = 0$$
$$x= -2 \text{ and } x=-5$$

Verification: Let first zero as α and second zero as β.
According to question,
And we know $\alpha+\beta=\frac{-b}{a}$ and $\alpha\beta=\frac{c}{a}$

$\alpha+\beta=\frac{-(7)}{1}$ and $\alpha\beta=\frac{10}{1}$

$\alpha+\beta=-7$ $\quad\alpha\beta= 10$

27. Calculate the mode of the following data.

C.I	0-4	4-8	8-12	12-16	16-20	20-24
f	7	3	7	10	1	2

Solution:

C.I	f	
0-4	7	
4-8	3	
8-12	7	f_0
12-16	10	f_1
16-20	1	f_2
20-24	2	

l=12 and h=4, then by formula

$$\text{Mode}=l+\left\{\frac{f_1-f_0}{2f_1-f_0-f_2}\right\}\text{x}h.$$

$$= 12+\left\{\frac{10-7}{2x10-7-1}\right\}\text{x}4.$$

$$= 12+\frac{3}{20-7-1}\text{ x } 4$$

$= 12+\frac{3}{12}x4$

$= 12+\frac{12}{12}$

$= 12+ 1$

$= 13$

Mode= 13

OR

Calculate the median for the grouped data.

Class interval	Frequency
0-10	2
10-20	4
20-30	8
30-40	5
40-50	1
	N=20

Solution:

We have

C.I	f	cf
0-10	2	2
10-20	4	6
20-30	8	14
30-40	5	19
40-50	1	20
	N=20	

n/2=10, f=8, cf=6 and h=10

Median= $l+\left\{\frac{\frac{n}{2}-fc}{f}\right\}xh$

Median= $20+\left\{\frac{10-14}{8}\right\}x10$

$= 20+\frac{4}{8}x20$

$= 20+5$

Median = 25

28. Prove that $\sqrt{\frac{1-cosA}{1+CosA}}+\sqrt{\frac{1+cosA}{1-CosA}} = 2secA$

Solution: we have $\sqrt{\frac{1-cosA}{1+CosA}}+\sqrt{\frac{1+cosA}{1-CosA}}$

$= \sqrt{\frac{1-cosA}{1+CosA}x\frac{1-cosA}{1-CosA}}+\sqrt{\frac{1+cosA}{1-CosA}x\frac{1+cosA}{1+CosA}}$

$= \sqrt{\frac{(1-cosA)^2}{1-cos^2A}}+\sqrt{\frac{(1+cosA)^2}{1-cos^2A}}$

$= \frac{1-CosA}{SinA}+\frac{1+CosA}{SinA}$

$= \frac{1+1}{SinA}$ = **2SecA Hence the proof**

OR

Prove that $\frac{1}{secA-1}+\frac{1}{secA+1}$ **= 2 cosecA.cotA**

Solution: we have LHS $\frac{1}{secA-1}+\frac{1}{secA+1}$

$$=\frac{1}{\frac{1}{cosA}-1}+\frac{1}{\frac{1}{cosA}+1}$$

$$=\frac{CosA}{1-CosA}+\frac{CosA}{1+CosA}$$

$$=\frac{CosA+CosA}{1-Cos^2A}$$

$$=\frac{2CosA}{Sin^2A} \text{ ------------- >(1)}$$

RHS 2 cosecA.cotA

$$= 2\frac{1}{SinA}\text{x}\frac{cosA}{SinA}$$

$$=\frac{2cosA}{Sin^2A} \text{ ------------}\rightarrow(2)$$

LHS = RHS

29. The length of the minute hand of a clock is 14cm, find the area swept by the minute hand in 10 minutes.

Solution: Given, We know that in 1 hour (i.e., 60 minutes), the minute hand rotates360∘

In 10 minutes, minute hand will rotate

= 360/60 x 10 = 60^0

Therefore, the area swept by the minute hand in 10 minutes will be the area of a sector of 60∘ in a circle of 14 cm radius.

Area of sector of angle θ = $\frac{\theta}{360^0}x\ \pi r^2$

Area of sector of 60° = $\frac{60}{360^0}x\frac{22}{7}x14x14$

$$=\frac{308}{3}\text{ cm}^2 = 102.66\text{ cm}^2$$

Therefore, the area swept by the minute hand in 10 minutes is 102.66 cm^2

OR

Find the area of the quadrant of a circle of radius 20cm, and also find the perimeter of quadrant.

Solution: Given r=20cm, we have to find area of a quadrant of circle.

$$=\frac{\pi r^2}{4}=\frac{\frac{22}{7}x20^2}{4}$$

= 314.2 sq cm.

Now we have to find perimeter of a quadrant of a circle.

Here ϴ=90, r=20

Length of the arc of a circle $= \frac{\theta}{360} x 2\pi r$

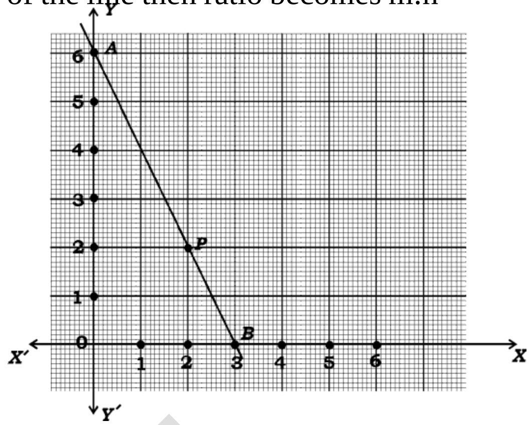
$= \frac{90}{360} x2x\frac{22}{7} x20$

$= 31.42cm$

30. In the given figure, find the ratio in which the point P divides the line segment AB using formula.

Solution: in the graph, point A(0, 6), point B(3, 0) and point P(2, 2)

By section formula, while taking midpoint of the line then ratio becomes m:n



$$(x, y)=\left[\frac{mx_2+nx_1}{m+n}, \frac{my_2+ny_1}{m+n}\right]$$

$$(2, 2) = \left[\frac{m(3)+n(0)}{m+n}, \frac{m(0)+n(6)}{m+n}\right]$$

$$(2, 2) = \left[\frac{3m}{m+n}, \frac{6n}{m+n}\right]$$

$2= \frac{3m}{m+n}$ and $2= \frac{6n}{m+n}$

$3m=2m+2n$ and $2m+2n=6n$

By comparing above two equations $3m=6n$

$m=2n$

$\frac{m}{n} = \frac{2}{1}$

hence the ratio is $2:1$

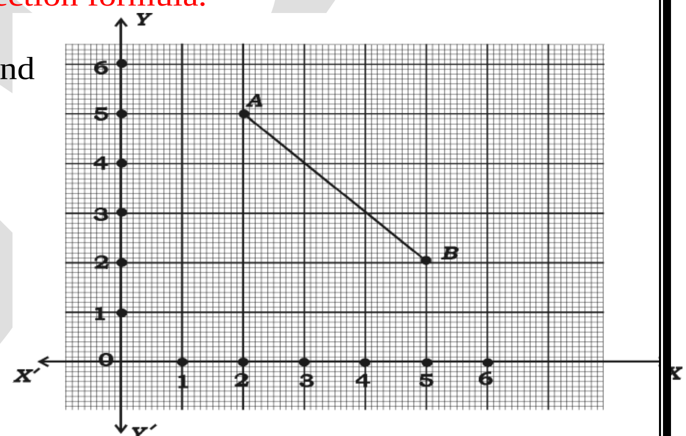
OR

Find the coordinates of the point which divides the line segment AB given in the figure internally in the ratio 1:2 using section formula.

Solution:

In the given graph, coordinates of A(2, 5) and Coordinates of B(5, 2) in the ratio 1:2

By section formula



$$(x, y)=\left[\frac{mx_2+nx_1}{m+n}, \frac{my_2+ny_1}{m+n}\right]$$

$$(x, y) = \left[\frac{1(5)+2(2)}{1+2}, \frac{1(2)+2(5)}{1+2}\right]$$

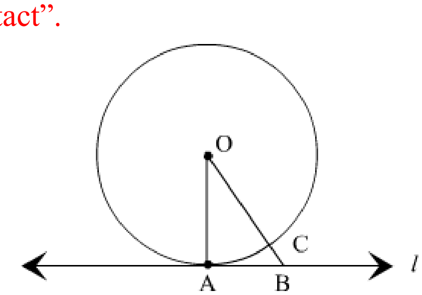
$$= \left[\frac{5+4}{3}, \frac{2+10}{3}\right]$$

$$= \left[\frac{9}{3}, \frac{12}{3}\right]$$

$$= [3, \ 4]$$

31. Prove that "the tangent at any point of a circle is perpendicular to the radius through the point of contact".

Solution:



Given: a circle C(0, r) and a tangent l at point A.

To prove: OA ⊥ l

Construction: Take a point B, other than A, on the tangent l.

join OB. Suppose OB meets the circle in C.

Proof: In figure

OA=OC (Radius of the same circle)

Now, OB=OC+BC.

∴ OB>OC

⇒OB>OA

⇒OA<OB

Thus, OA is shorter than any other line segment joining O to any point on l. Here OA ⊥ l.

32. A student bought some books for Rs. 60. Had he bought 5 more books for the same amount each book would have cost Re. 1 less. Then find the number of books bought by him.

Solution: Let the number of books be = x.

Total cost of the books = Rs. 60.

∴ Cost of each book =Rs.60x

If the number of books is (x + 5), then the cost of each book = Rs. 60x+5

Difference in cost is one rupee = Cost of each book when number of books is (x) - Cost of each book when number of books is (x + 5)

60/x−60/x+5=1

60(x+5)−60x/x(x+5)=1

60x+300−60x/x^2+5x=1

x^2+5x=300

x^2+5x−300=0

x^2+20x−15x−300=0

x(x+20)−15(x+20)=0

(x+20)(x−15)=0

x+20=0 or x−15=0

∴x=−20 or x=15

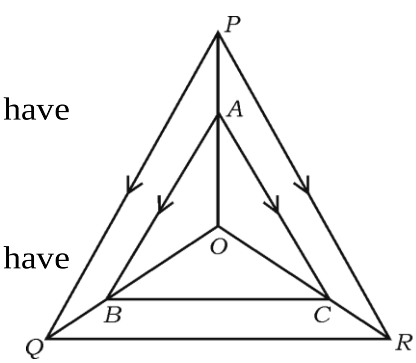
∴ Number of books = x = 15

Number of books cannot be negative. Hence, -20 is rejected.

Cost of books $= \frac{60}{x} = \frac{60}{15} =$ **Rs. 4**

33. In the figure A, B and C are the points on OP, OQ and OC respectively. If AB || PQ and AC || PR, then show that BC || QR.

Solution:



In △OPQ, we have

AB∥PQ

Therefore, by using basic proportionality theorem , we have

OA/AP=OB/BQ.................(i)

IN △OPR, we have

AC∥PR

Therefore, by using basic proportionality theorem , we have

OC/CR=OA/AP.................(ii)

Comparing (i)&(ii), we get

OB/BQ=OC/CR
Therefore, by using converse of basic proportionality theorem, we get
BC∥QR

V. Answer the following questions 4x4=16

34. The 8^{th} term of an arithmetic progression is half of its 2^{nd} term and 11^{th} term of this progression exceeds one third of its fourth term by 1. Find the 15^{th} term of this progression.

Solution:

Given that $a_8 = \frac{1}{2} x\ a_2$ and $a_{11} = 1 + \frac{1}{3} a_4$

$a+7d = \frac{1}{2}(a+d)$ and $a+10d = 1 + \frac{1}{3}(a+3d)$

$2a+14d = a+d$ and $3a+30d = 3+a+3d$

$a+13d=0$ and $2a+27d = 3$

$a=-13d$ and $2a+27d = 3$

put a=-13d in the above 2^{nd} equation we get $2(-13d)+27d = 3$

$-26d+27d = 3$

$d=3$

then a=-39

its 15^{th} term is $a+14d = -39+14x3$

$= -39+42$

$= 3$

OR

An arithmetic progression consists of 37 terms. If the sum of its middle three terms is 225 and sum of its last three terms is 429. Then find the A.P.

Solution: we have 37 terms,

The middle term is $\frac{37+1}{2} = 19^{th}$ term

Its preceding term is 18^{th} term and its succeeding term is 20^{th} term.

Let a,d and n be the first term, common difference and the no. of terms of given AP.

Here n=37

so middle most term is n+12 ⇒37+12⇒18th

∴ three middle most terms are 18th,19th,20th

$a18+a19+a20=225 \Rightarrow a+17d+a+18d+a+19d=225$

$\Rightarrow 3a+54d=225$ ...(1)

last three terms are 35th,36th,37th

$a+34d+a+35d+a+36d=429$

$\Rightarrow 3a+105d=429$ ...(2)

subtracting (1) from (2), we get

$51d=204$

$\Rightarrow d=4$

putting d in (1), we get

$3a+54\times4=225$

$3a=225-216 \Rightarrow a=3$

Therefore the AP is a,a+d,a+2d,a+3d,....

i.e 3,7,11,15......

35. Find the solution of the pair of linear equations by graphical method.
2x+y=6 and x+y=4

Solution:

We have 2x+y=6

For this we should have to find some solutions

If x=0, then y=6, and y=0, then x=3

Similarly for x+y=4, if x=0, then y=4, if y=0 then x=4.

Tables are

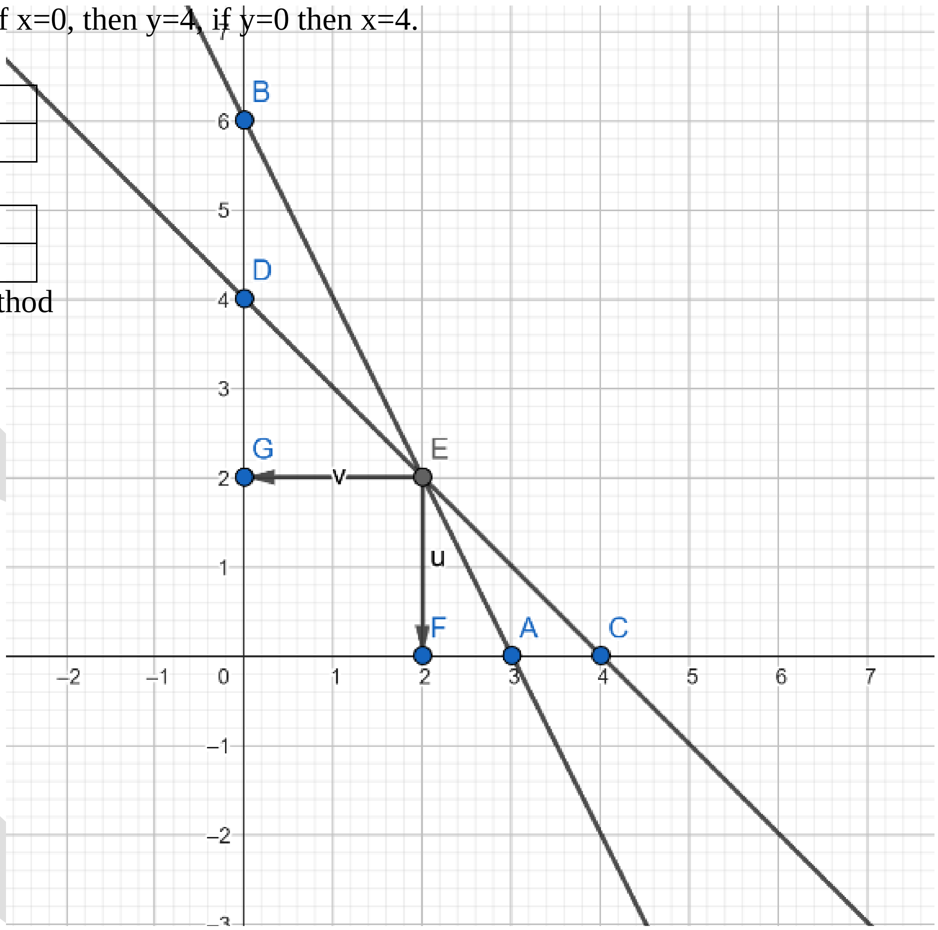
x	0	3
y	6	0

And

x	0	4
y	4	0

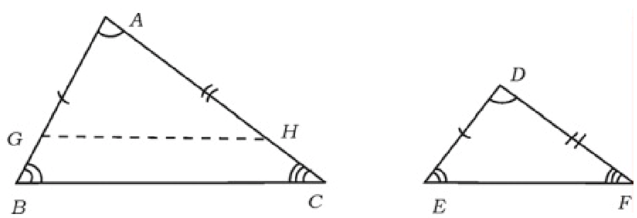
Then by graphical method

x=2 and y=2



36. Prove that " If one angle of a triangle is equal to one angle of the other triangle and the sides including these angles are proportional then prove that the two triangles are similar".

Solution:



Given: ∠BAC=∠EDF

∠ABC=∠DEF

To prove: $\frac{AB}{DE} = \frac{BC}{EF} = \frac{CA}{FD}$

Construction: Mark points G and H on the side AB and AC such that

AG=DE , AH=DF

proof: in triangle AGH and DEF

AG=DE.....by construction

AH=DF ..... by contsruction

∠GAH=∠EDF...Given

therefore ,

$\triangle AGH \cong \triangle FED$ by SAS congruency thus

∠AGH=∠DEF ....by CPCT

but

∠ABC=∠DEF

∠AGH=∠ABC

thus

GH∥BC

Now , In triangle ABC

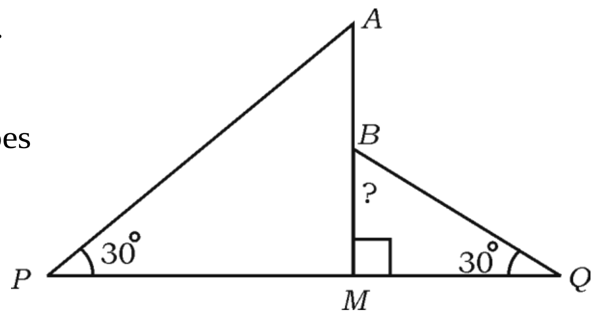
$\frac{AB}{AG} = \frac{BC}{GH} = \frac{CA}{HA}$

Hence ,

$\frac{AB}{DE} = \frac{BC}{EF} = \frac{CA}{FD}$

hence proved .

37. A rope is tied from the tip of a vertical pole of length 37 m to a peg on a level ground. Another rope is tied to the same pole little below from its tip to a peg on the ground opposite to it as shown in the figure. Each rope is making an angle 30° with the ground. If the difference of the lengths of the ropes is 8 m, then find the height of the pole at which the shorter rope is tied. Also find the lengths of the ropes.



Solution: AM is the vertical pole of height 37m.

Let PA be the length of the rope = X meter.

BQ be the length of the rope = (X-8) meter

The difference of the lengths of the two ropes

AP-BQ= 8 m.

X-BQ=8

X-8=BQ

In triangle PAM, $\sin\Theta = \frac{AM}{AP}$

$\sin 30 = \frac{37}{X}$

$\frac{1}{2} = \frac{37}{X}$

X=74m

Then AP-BQ=8m

74-BQ=8

BQ=74-8

BQ=66m

In triangle MBQ Sin$\Theta=\frac{BM}{BQ}$

Sin30=$\frac{BM}{66}$

$\frac{1}{2}=\frac{BM}{66}$

BM=33m

Then height of the pole at which the shorter rope is tied = 33m

∴ The lengths of the two ropes are 74m and 66m respectively.

38. The tent of a circus company is built by canvas cloth such that a cone is surmounted on the cylindrical shape. If the height of the cylindrical shape is 9 m, the diameter of the base of the tent is 30 m and the total height of the tent is 17 m, then find the —

a) Area of the ground occupied by the tent

b) Area of the canvas cloth used for building the tent.

Solution:

Given, **For cylinder** d=30, r=15m and H=9m

For cone, r=15m(same as cylinder), height h=17-9 = 8m

Now we have to find slant height of cone

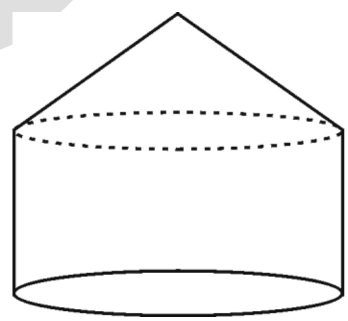
l=$\sqrt{h^2+r^2}$

= $\sqrt{8^2+15^2}$

= $\sqrt{64+225}$

= $\sqrt{289}$

l = 17m



a) Area of the ground occupied by tent = πr^2.

= $\frac{22}{7}$x15x15

= 707.14 sq cm

b) Area of the canvas cloth used for building the tent.

= C.S.A of cylinder + C.S.A of cone

= 2πrH+πrl

= πr(2H+l)

= $\frac{22}{7}$ x 15 (2x9+17)

= $\frac{330}{7}$ (18+17)

= $\frac{330}{7}$ (35)

= 330x5

= 1650 sq cm.

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Note: This key answers not by board, its prepared by me.

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