



Sample Paper Half Yearly

Class 9th (2025-2026)

Subject: - Mathematics

(OIN: - MATH/01/9/SARA/2025/SP)

General Instructions: -

1. Attempt all questions as per instructions
2. This sample paper consists of 5 sections.
3. Marking schemes are as follows; -

Section A: 20 questions of 1 mark each (1*20=20)

Section B: 5 questions of 2 marks each (5*2=10)

Section C: 6 questions of 3 marks each (6*3=18)

Section D: 4 questions of 5 marks each (4*5=20)

Section E: 2 case-based study with each of 4 marks (2*6=12)

Section [A]

1. The resultant of $(3 + \sqrt{3})(3 - \sqrt{3})$ is:

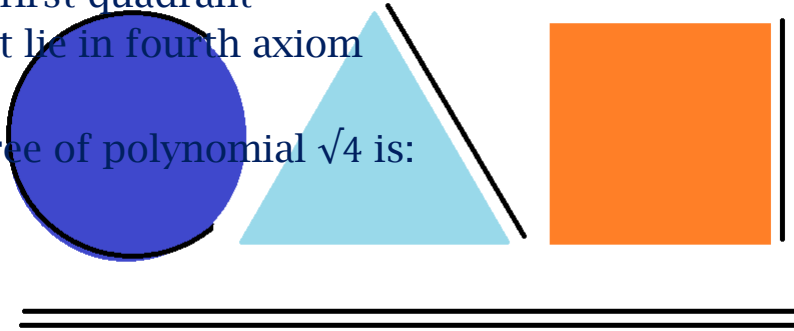
- a) 9
- b) 0
- c) 6
- d) $(3 - \sqrt{3})$

2. The decimal expansion of $\frac{1}{3}$ is:

- a) Terminating
- b) Non terminating, repeating
- c) Non terminating, non-repeating
- d) None



3. The general form of a linear equation in two variable is;
- a) $ax + by + c = d$
 - b) $ax^2 + by + c = 0$
 - c) $ax + b + cy = 0$
 - d) $ax + by + c = 0$
4. $3\sqrt{9}$ is a _____ number:
- a) Rational
 - b) Irrational
 - c) Neither rational nor irrational
 - d) None of the above
5. Points $(1, -2)$, $(2, -3)$, $(3, 4)$:
- a) Lie in third quadrant
 - b) Do not lie in same quadrant
 - c) Lie in first quadrant
 - d) Do not lie in fourth axiom
6. The degree of polynomial $\sqrt{4}$ is:
- a) 1
 - b) 0
 - c) $\frac{1}{2}$
 - d) 2
7. The boundaries of solids are:
- a) Lines
 - b) Curves
 - c) Surfaces
 - d) Points
8. The linear equation $3x - 11 = x$ has:
- a) Unique Solutions
 - b) Infinitely many solutions
 - c) Two solutions
 - d) No solution

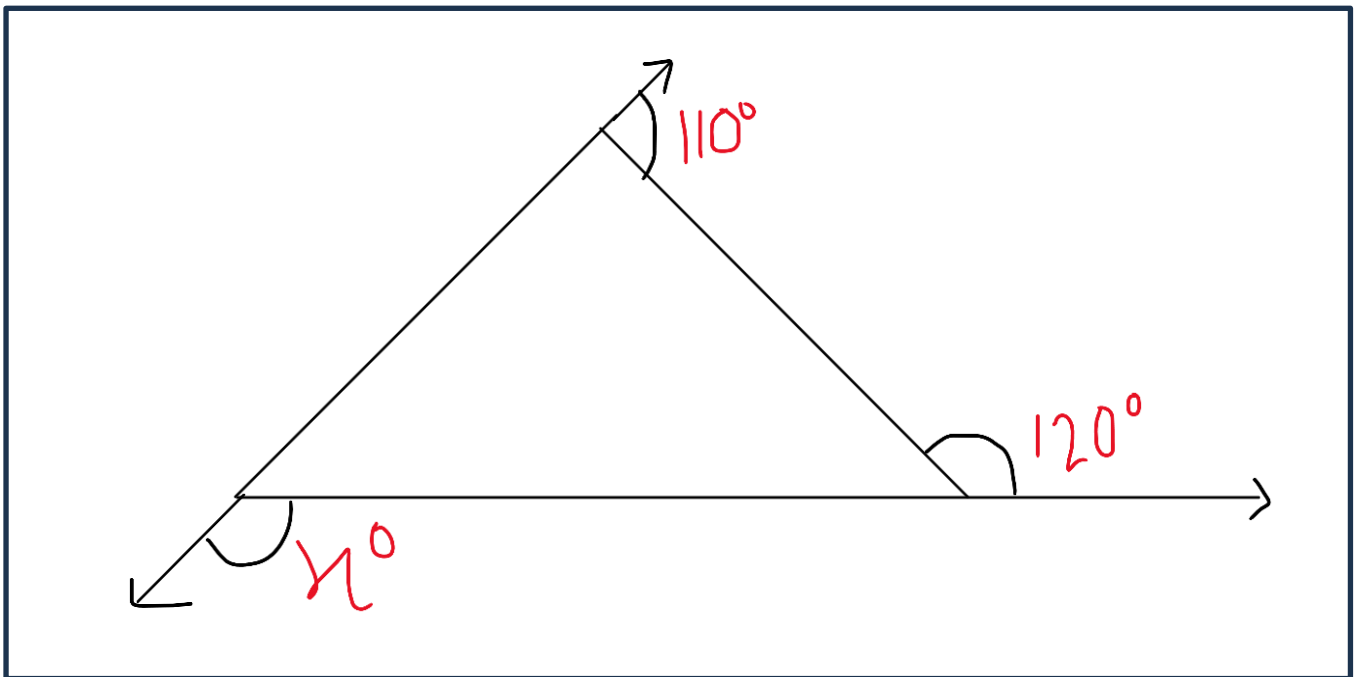




9. Each angle of an equilateral triangle is:

- a) 180°
- b) 50°
- c) 60°
- d) 90°

10. In the given figure, what is the value of x?

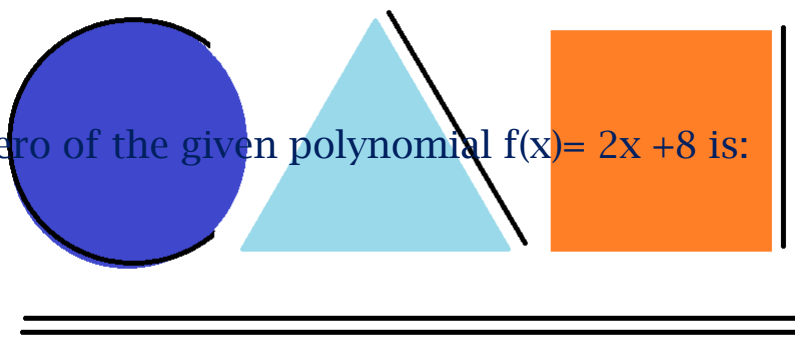


- a) 230 degrees
- b) 70 degrees
- c) 110 degrees
- d) 130 degrees

11. There are _____ chapters of Euclid books?

- a) 12
- b) 11
- c) 13
- d) 10



12. A point has
- Length
 - Breadth
 - Height
 - None of these
13. Signs of the ordinate of a point in second quadrant are respectively:
- , +
 - +, -
 - +, +
 - , -
14. "If two angles and an excluded side of a triangle are equal to the two angles and an excluded side of the other triangle, then both are congruent" Which criteria is related to this:
- SAS
 - AAS
 - ASA
 - RHS
15. The zero of the given polynomial $f(x) = 2x + 8$ is:
- 3
 - 12
 - 6
 - 6
- 

(Due to some issues 16 to 20 questions aren't available. Contact the owner)

Section [B]

21. A herd of sheep and goats contain 400 legs and sheep are twice the number of goats. Write a linear equation to express this statement.

22. Find the value of the polynomial $p(x) = 6x^2 + 4x - 5$ at:

- $x = 5$
- $x = \frac{1}{2}$
- $x = -2$



23. Write any two numbers whose decimal expansion are non-terminating and non-recurring & any two numbers whose decimal expansion is non-terminating but recurring

24. Write any two axioms of Euclid

25. Find the zeros for following equations; -

a) $15x - 7 + 2x^2$

b) $y^{1/2} + \sqrt{3}$

Section [C]

26. Represent $\sqrt{5}$ on number line and explain how

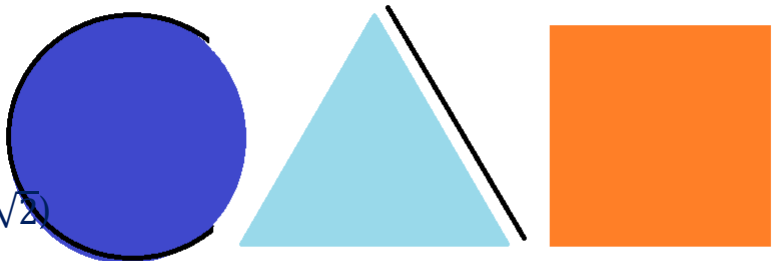
OR

Check whether the given are the solutions of the equation $x - 2y = 4$

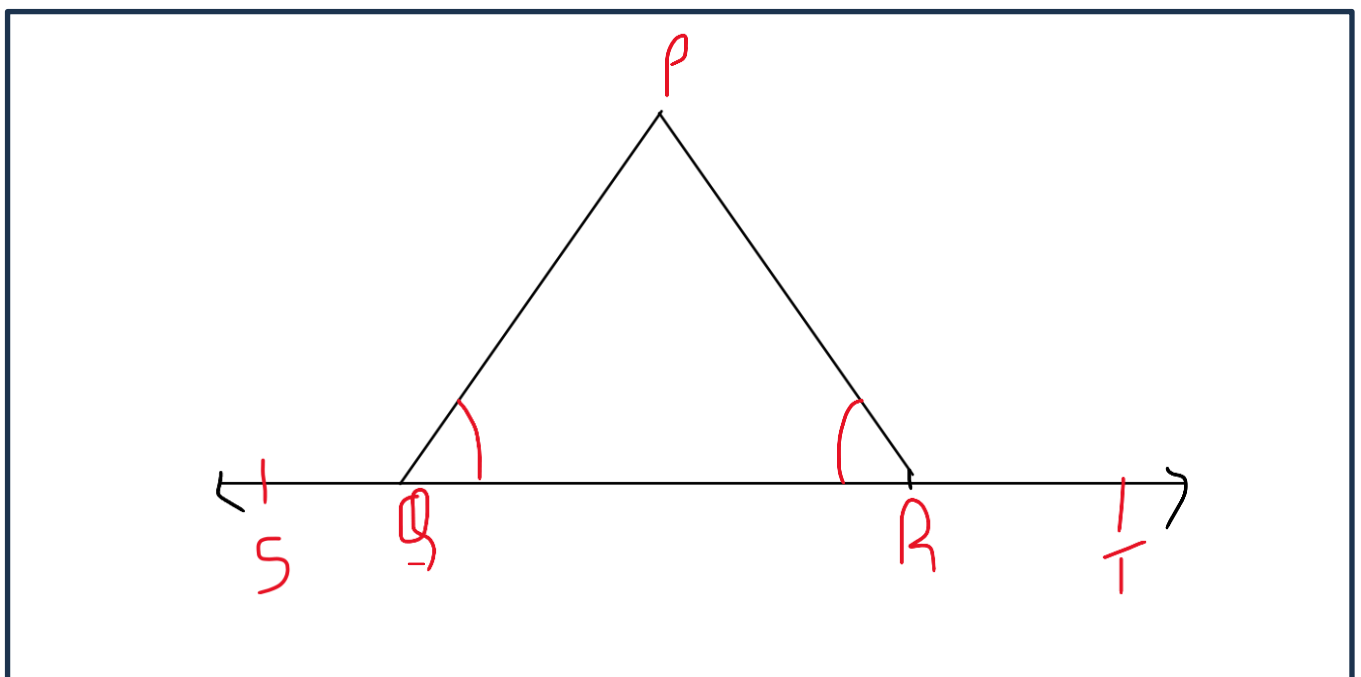
a) $(4, 0)$

b) $(2, \frac{1}{2})$

c) $(\sqrt{2}, 4\sqrt{2})$



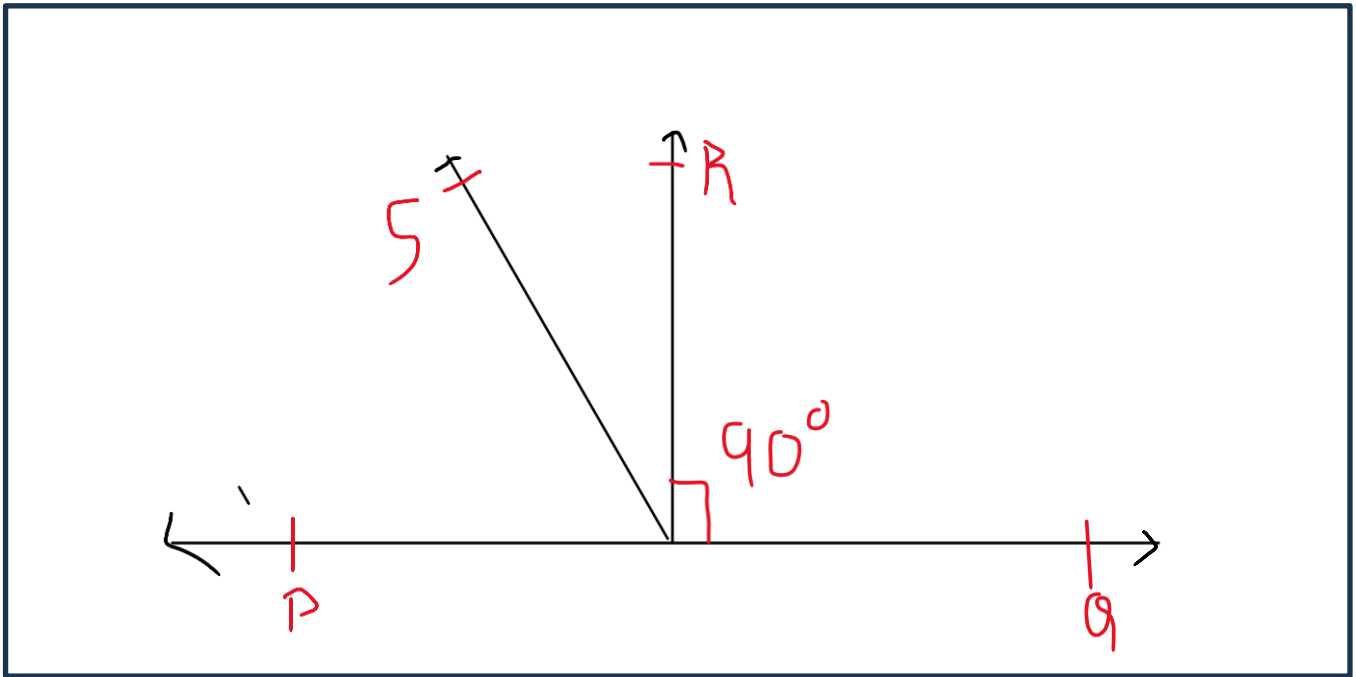
27. In the figure $\angle PQR = \angle PRQ$, then prove that $\angle PQS = \angle PRT$



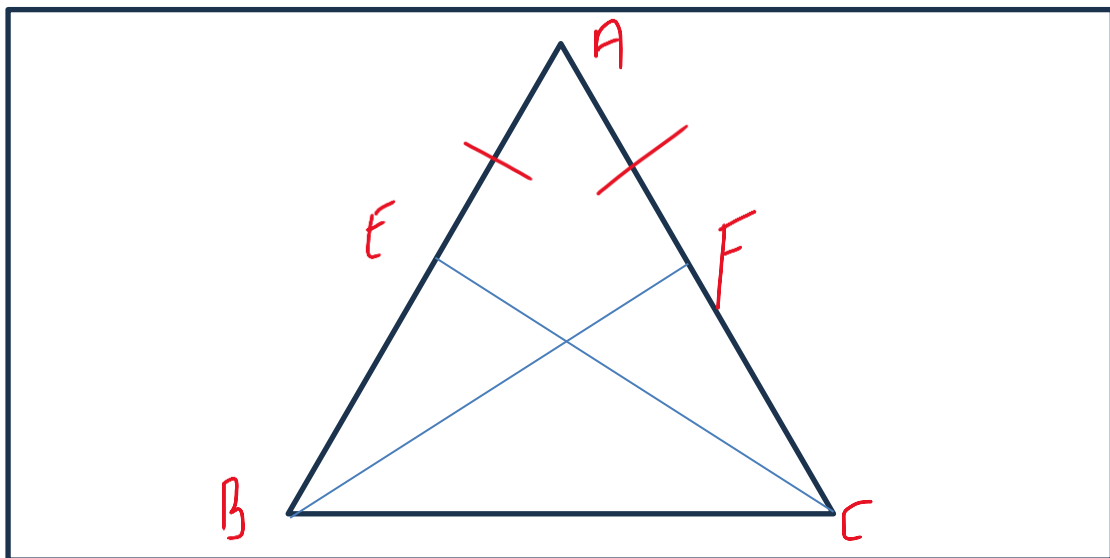


28. Prove that POQ is a line. Ray OR is perpendicular to line PQ. OS is another ray lying between rays OR and OP. Prove that: -

$$\angle ROS = \frac{1}{2}(\angle QOS - \angle POS)$$



29. E and F are respectively the mid-points of equal sides AB and AC of triangle ABC. Show that BF = CE.





30. Factorise the expression: $x^3 + 13x^2 + 32x + 20$

31. Factorise the following; -

a) $(-12)^3 + (7)^3 + (5)^3$

b) $(28)^3 + (-15)^3 + (-13)^3$

OR

Prove that a line segment has one and only mid-point.

Section [E]

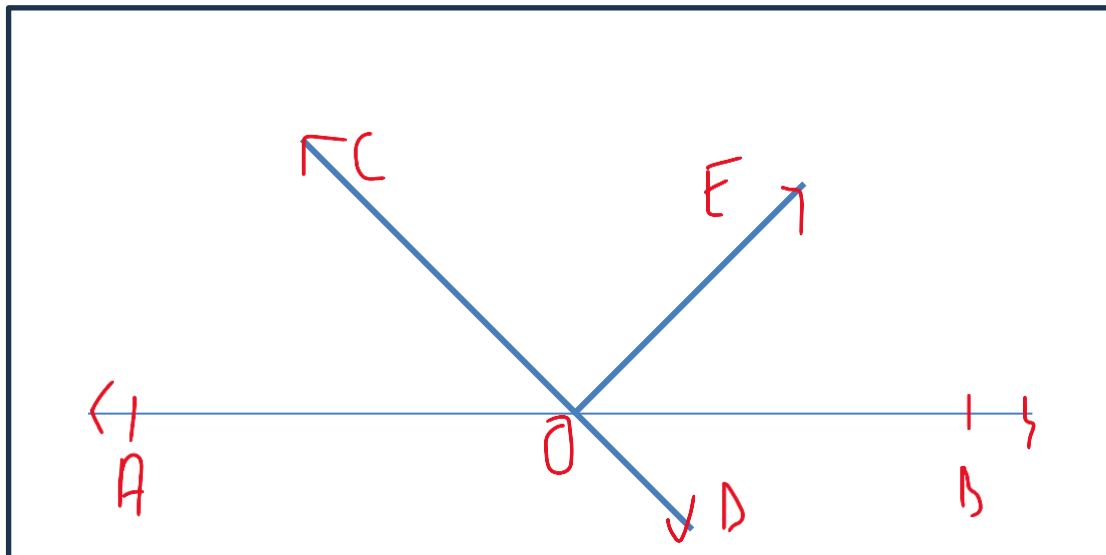
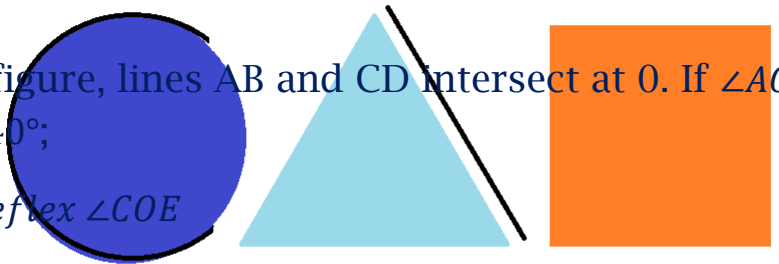
32. Factorise the following: -

a) $27y^3 + 125z^3$

b) $64m^3 - 343n^3$

33. In the given figure, lines AB and CD intersect at O. If $\angle AOC + \angle BOE = 70^\circ$ and $\angle BOD = 40^\circ$;

Find $\angle BOE$ and reflex $\angle COE$





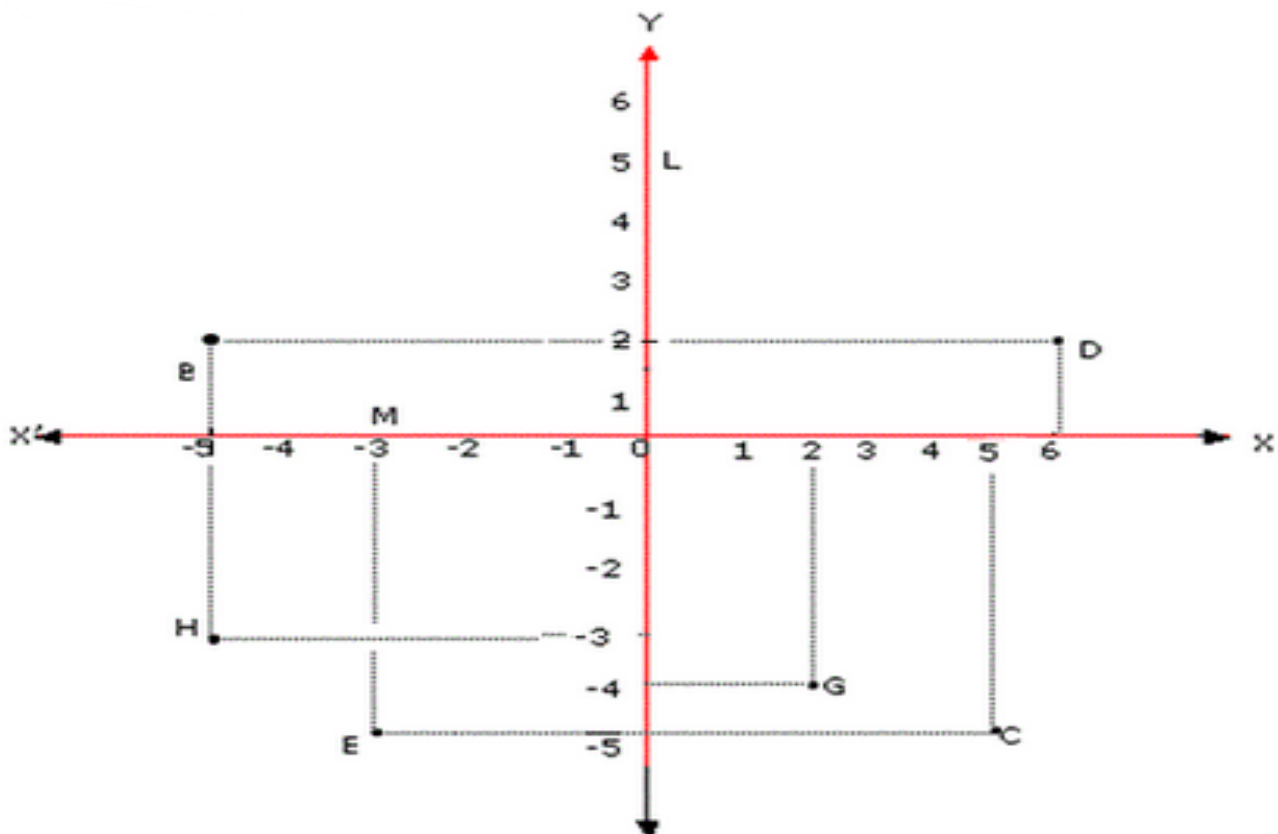
34. ABC is a triangle in which altitudes BE and CF to sides AC and AB respectively are equal. Show that:

- a) Triangle ABE congruent to Triangle ACF
- b) $AB = AC$

35.

See fig , and write the following:

- (i) The coordinates of B.
- (ii) The coordinates of C.
- (iii) The point identified by the coordinates $(-3, -5)$.
- (iv) The point identified by the coordinates $(2, -4)$.
- (v) The abscissa of the point D.
- (vi) The ordinate of the point H.
- (vii) The coordinates of the point L.
- (viii) The coordinates of the point M.

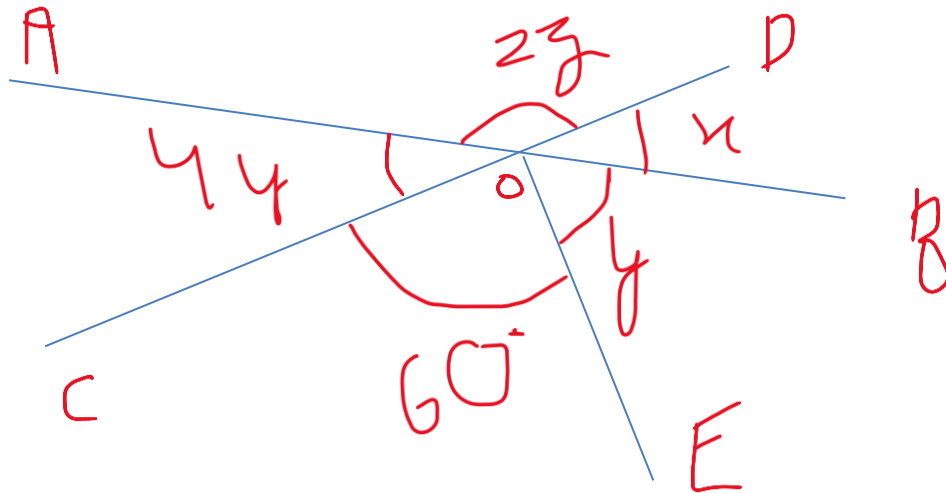




Section [E]

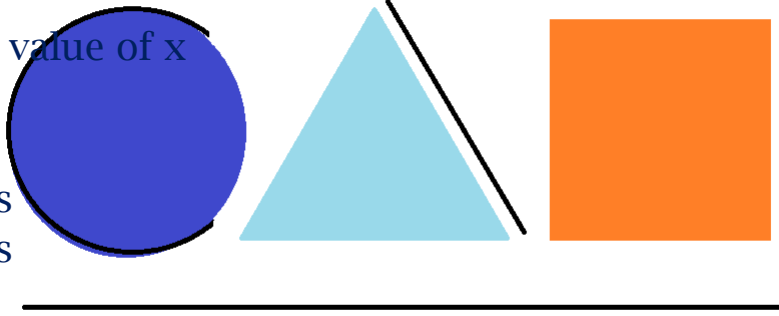
36. Case Study; -

Maths teacher draws a straight-line AB shown on the blackboard as per the following figure: -



a) What is the value of x

1. 48 degrees
2. 96 degrees
3. 100 degrees
4. 120 degrees



b) What is the value of y ?

1. 48 degrees
2. 96 degrees
3. 24 degrees
4. 120 degrees

c) What is the value of ?

1. 48 degrees
2. 96 degrees
3. 42 degrees
4. 120 degrees



d) What should be the value of $(x+2z)$?

1. 148 degrees
2. 360 degrees
3. 180 degrees
4. 120 degrees

37. On his birthday, Manoj planned that this time he celebrates his birthday in a small orphanage centre. He bought apples to give to children and adults working there. Manoj donated 2 apples to each children and 3 apples to each adult working there along with birthday cake. He distributed 60 total apples.

a) How to represent the above situation in linear equations in two variables by taking the number of Children as x and number of adults as y ?

b) If number of children is 15, then find number of adults

c) find the value of b if $x=5$ and $y=0$ is a solution of the equation $3x+5y=b$

d) if the no of adults is 16, then find the number of childrens

THANKS!!

