

IX Revision - MCQs/A&R/CS

1) Which of the following points does not lie in III quadrant?
 (a) $(-1, 2)$ (b) $(-2, -5)$ (c) $(-1, -2)$ (d) $(-6, -3)$

2) If the coordinates of the two points are $P(-5, 3)$ and $Q(8, -9)$, then (abscissa of Q) - (abscissa of P) is

(a) 4 (b) -12 (c) 13 (d) -13

3) If $p(x) = 3x^4 - 4x^3 - 3x - 1$ is divided by $(x-1)$, then remainder

(a) 3 (b) -4 (c) -1 (d) $p(1)$

4) If $64x^2 - y = (8x + \frac{1}{2})(8x - \frac{1}{2})$, then the value of y is

(a) 0 (b) $\frac{1}{\sqrt{2}}$ (c) $\frac{1}{4}$ (d) $\frac{1}{2}$

5) The coefficient of x in the expansion of $(x+3)^3$ is —

(a) 1 (b) 9 (c) 18 (d) 27

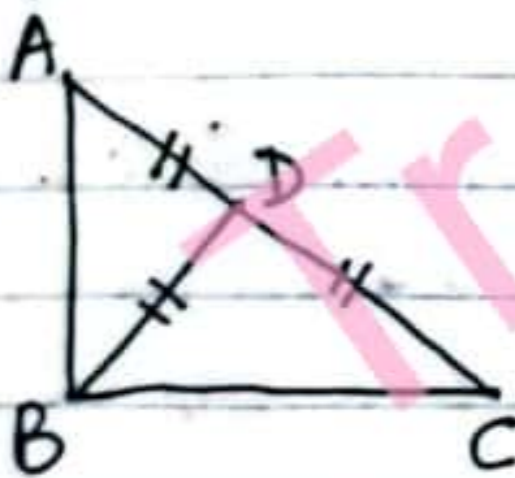
6) $\sqrt[4]{(81)^{-2}} = \text{—}$ (a) $\frac{1}{9}$ (b) $\frac{1}{3}$ (c) 9 (d) $\frac{1}{81}$

7) $(3+\sqrt{5})(3-\sqrt{5}) = \text{—}$ (a) 8 (b) 4 (c) 2 (d) $\sqrt{2}$

8) On dividing $6\sqrt{27}$ by $2\sqrt{3}$, we get

(a) $3\sqrt{9}$ (b) 6 (c) 9 (d) none of these

9)

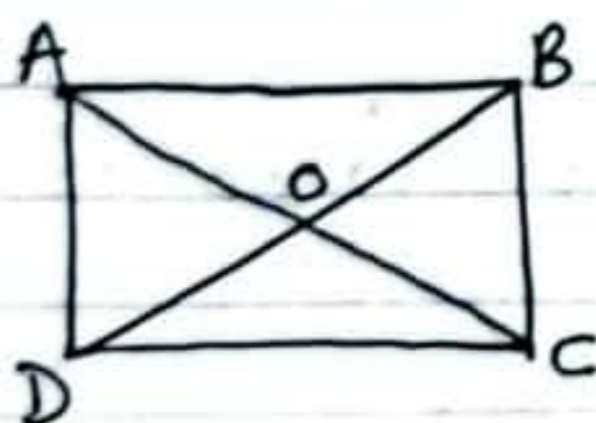


The measure of $\angle ABC$ is

(a) 60° (b) 30°

(c) 45° (d) 90°

10)



A diagonal of a rectangle is inclined to one side of the rectangle at 25° . The acute angle between the diagonals is

(a) 55° (b) 50° (c) 40° (d) 25°

11)



The measure of $\angle BOC$ is

(a) 50° (b) 65° (c) 60° (d) 55°

12) Given a quadrilateral ABCD, diagonals AC and BD bisect each other at P such that $AP = CP$ and $BP = DP$. Also, $\angle APD = 90^\circ$, then quadrilateral is a

(a) rhombus (b) trapezium (c) parallelogram (d) rectangle

13) Diagonals of a rectangle ABCD intersect at O. If $\angle AOB = 70^\circ$, then $\angle DCO$ is

- (a) 70° (b) 110° (c) 35° (d) 55°

14) Difference between postulate and axiom is

(a) there is no difference

(b) few statements are termed as axioms others postulates.

(c) postulates are the assumptions used especially for geometry and axioms are the assumptions used throughout mathematics.

(d) none of these

15) Two angles of a quadrilateral are 60° and 70° and other two angles are in the ratio 8:15, then the remaining two angles are

- (a) $140^\circ, 90^\circ$ (b) $100^\circ, 130^\circ$ (c) $80^\circ, 150^\circ$ (d) $70^\circ, 160^\circ$

16) Which of the following statement is correct?

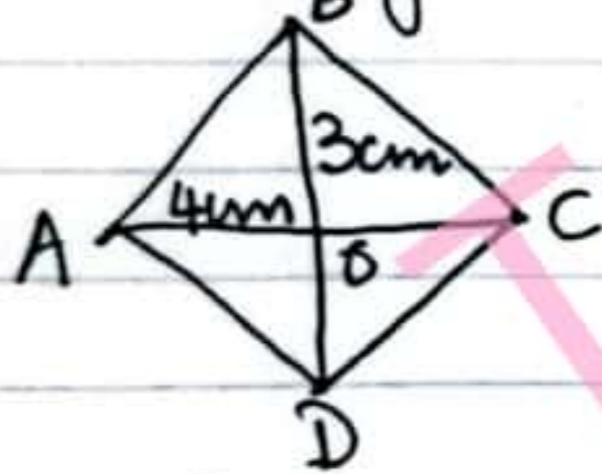
(a) a trapezium is a parallelogram

(b) every rectangle is a parallelogram

(c) every parallelogram is a rectangle

(d) every rhombus is a square.

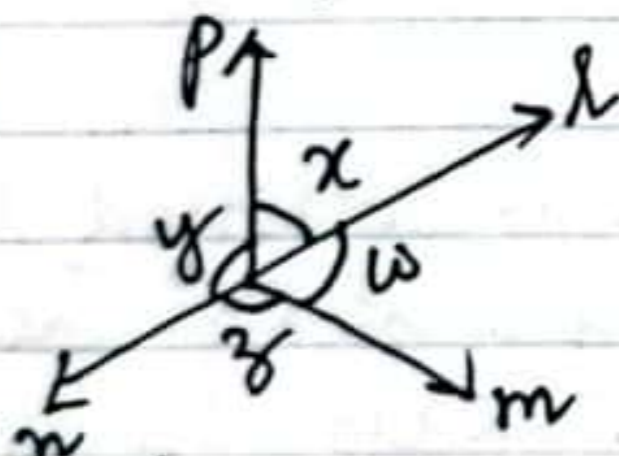
17)



ABCD is a rhombus, $AO = 4\text{ cm}$, $BO = 3\text{ cm}$, then the perimeter of the rhombus is

- (a) 18 cm (b) 20 cm (c) 21 cm (d) 22 cm

18)



$$\angle x = 20^\circ, \angle y = 160^\circ, \angle w = 105^\circ, \angle z = 75^\circ$$

Indicate the correct option

(a) ray m and n are opposite rays

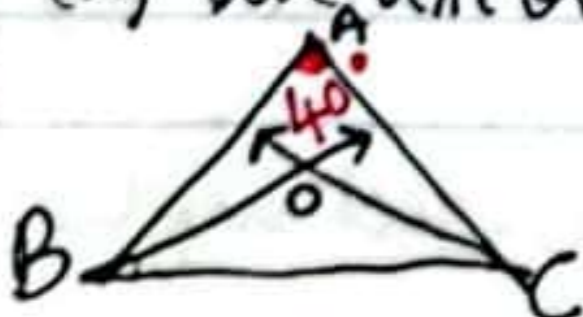
(b) ray l and n are opposite rays

(c) ray p and n are opposite rays (d) none of these.

19) Euclid stated that all right angles are equal to each other, is in the form of

- (a) an axiom (b) a definition (c) a postulate (d) a proof

20)



$\angle BOC =$

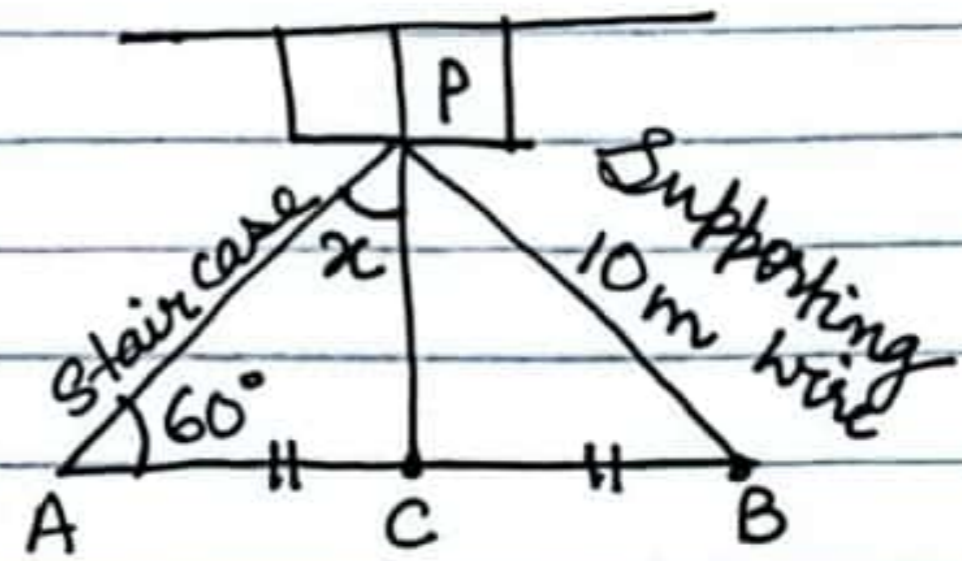
- (a) 110° (b) 40° (c) 70° (d) 60°

Assertion and Reason

- (a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true and R is not the correct explanation of A.
(c) A is true and R is false
(d) A is false and R is true.
- 21) A:- Two angles measures 60° and $123 - 2a$. If each one is opposite to equal sides of an isosceles Δ , then the value of a is 61°
R:- Sides opposite to equal angles of a Δ are equal.
- 22) A:- $2 + \sqrt{3}$ is an irrational number.
R:- Sum of a rational number and an irrational number is always an irrational number.
- 23) A: The point $(-2, 0)$ lies on y -axis and $(0, 4)$ on x -axis.
R: Every point on the x -axis has zero distance from x -axis and every point on y -axis has zero distance from y -axis.
- 24) A:- an angle is 14° more than its complementary angle, then angle is 52°
R:- Two angles are said to be complementary if their sum is 90°

Case - Study

- 25) Aditya went to village. He saw a big pole PC while playing. This pole was tied strongly with a wire of length 10m. To repair the fault, electrician needs a staircase of 10m.



- (i) In ΔPAC and ΔPBC , which side is common?

(a) AC (b) BC (c) PC (d) AP

- (ii) ΔPAC is congruent to ΔPBC due to which criterion?

(a) AAS (b) RHS (c) SSS (d) not congruent.

- (iii) Find the value of x

(a) 20° (b) 30° (c) 60° (d) 90°

- (iv) Find $\angle PBA$

(a) 90° (b) 45° (c) 60° (d) 30°

IX

1) $(-1, 2)$ (a)

2) $8 - (-5) = 8 + 5 = 13$ (c)

3) $p(1)$ (d)

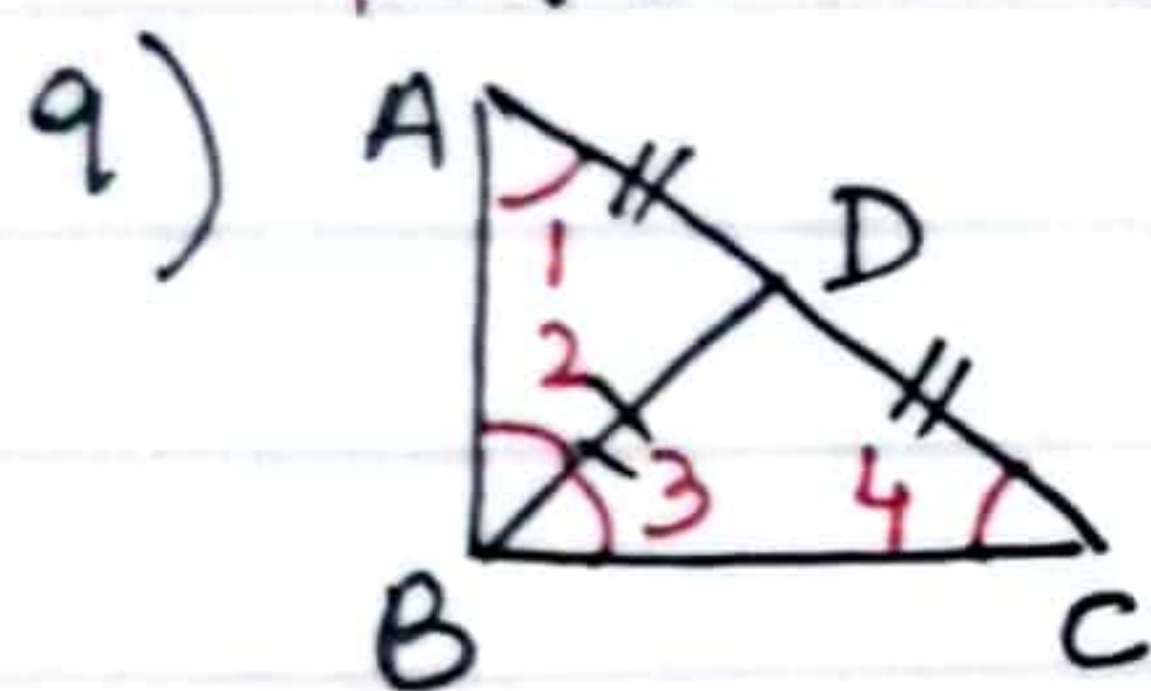
4) $64x^2 - y = 64x^2 - \frac{1}{4} \Rightarrow y = \frac{1}{4}$ (c)

5) $(x+3)^3 = x^3 + 3x^2 \times 3 + 3x \times 9 + 27$
 $= x^3 + 9x^2 + 27x + 27$ (d)

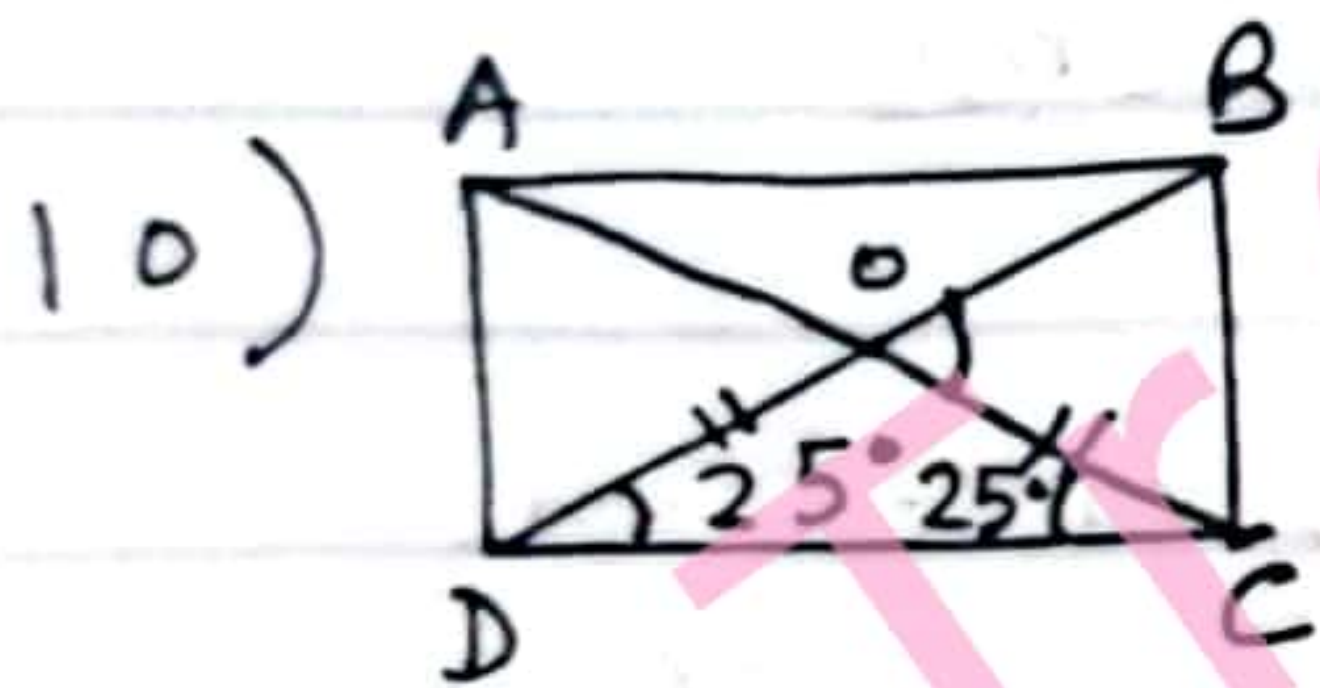
6) $9^{2x-2} \times \frac{1}{9} = 9^{-1} = \frac{1}{9}$ (a)

7) $(3)^2 - (\sqrt{5})^2 = 9 - 5 = 4$ (b)

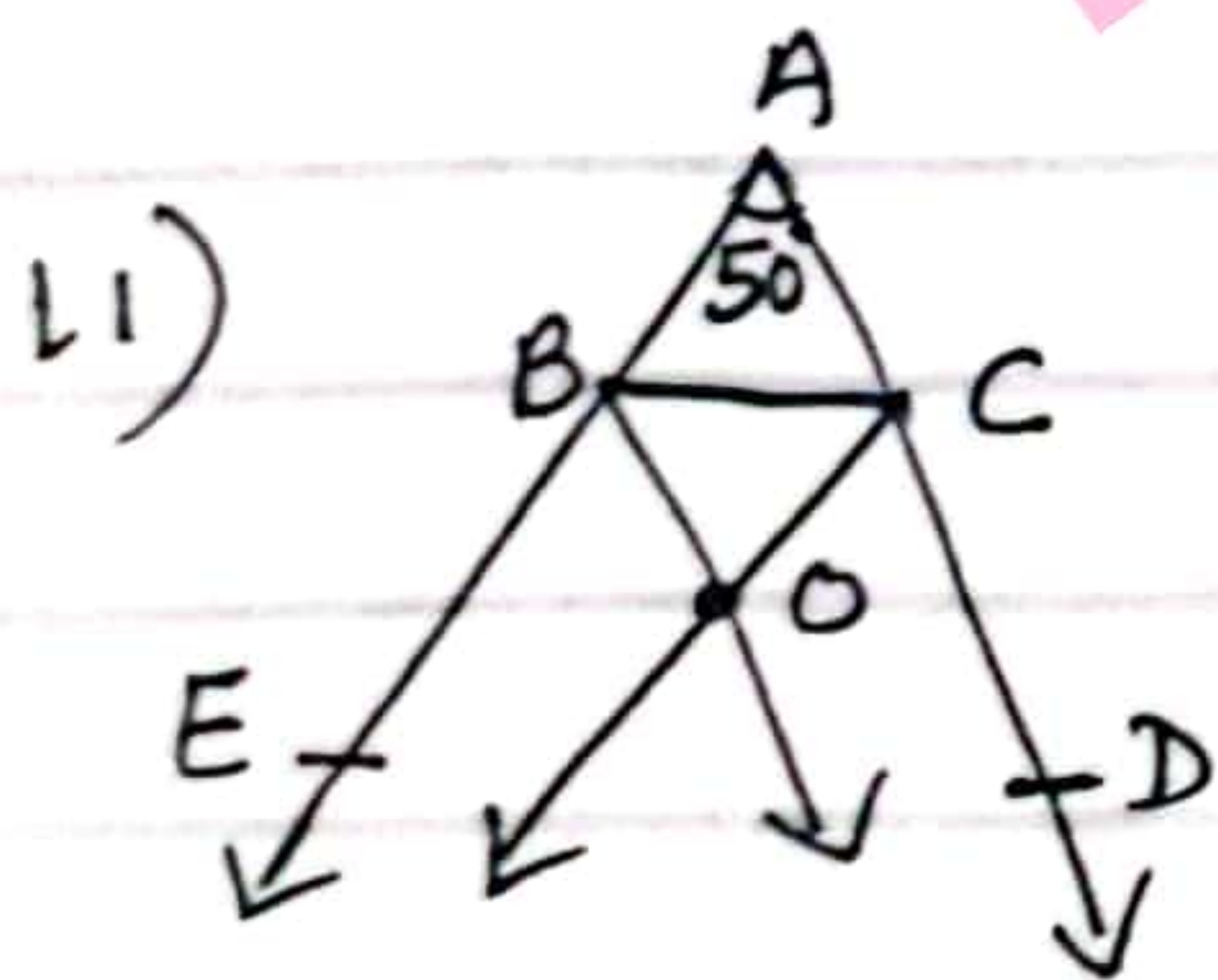
8) $\frac{6\sqrt{27}}{2\sqrt{3}} = \frac{6 \times 3\sqrt{3}}{2\sqrt{3}} = 9$ (c)



$\angle 1 = \angle 2$
 $\angle 3 = \angle 4$
 $\angle 1 + \angle 2 + \angle 3 + \angle 4 = 180^\circ$ (using angle sum property)
 $2\angle 2 + 2\angle 3 = 180^\circ$
 $\angle 2 + \angle 3 = 90^\circ$
 $\angle ABC = 90^\circ$ (d)



$BD = AC$
 $OD = OC \Rightarrow \angle ODC = \angle OCD = 25^\circ$
Using exterior angle property in $\triangle ODC$,
 $\angle BOC = 25^\circ + 25^\circ = 50^\circ$ (b)



$\angle ABC + \angle CBE = 180^\circ$ (linear pair)

$\frac{1}{2}\angle ABC + \angle CBO = 90^\circ$

$\angle CBO = 90^\circ - \frac{1}{2}\angle B \rightarrow (1)$

Similarly, $\angle BCO = 90^\circ - \frac{1}{2}\angle C \rightarrow (2)$

Using angle sum property in $\triangle ABC$, $\angle A + \angle B + \angle C = 180^\circ$

$\Rightarrow \angle B + \angle C = 180^\circ - \angle A$

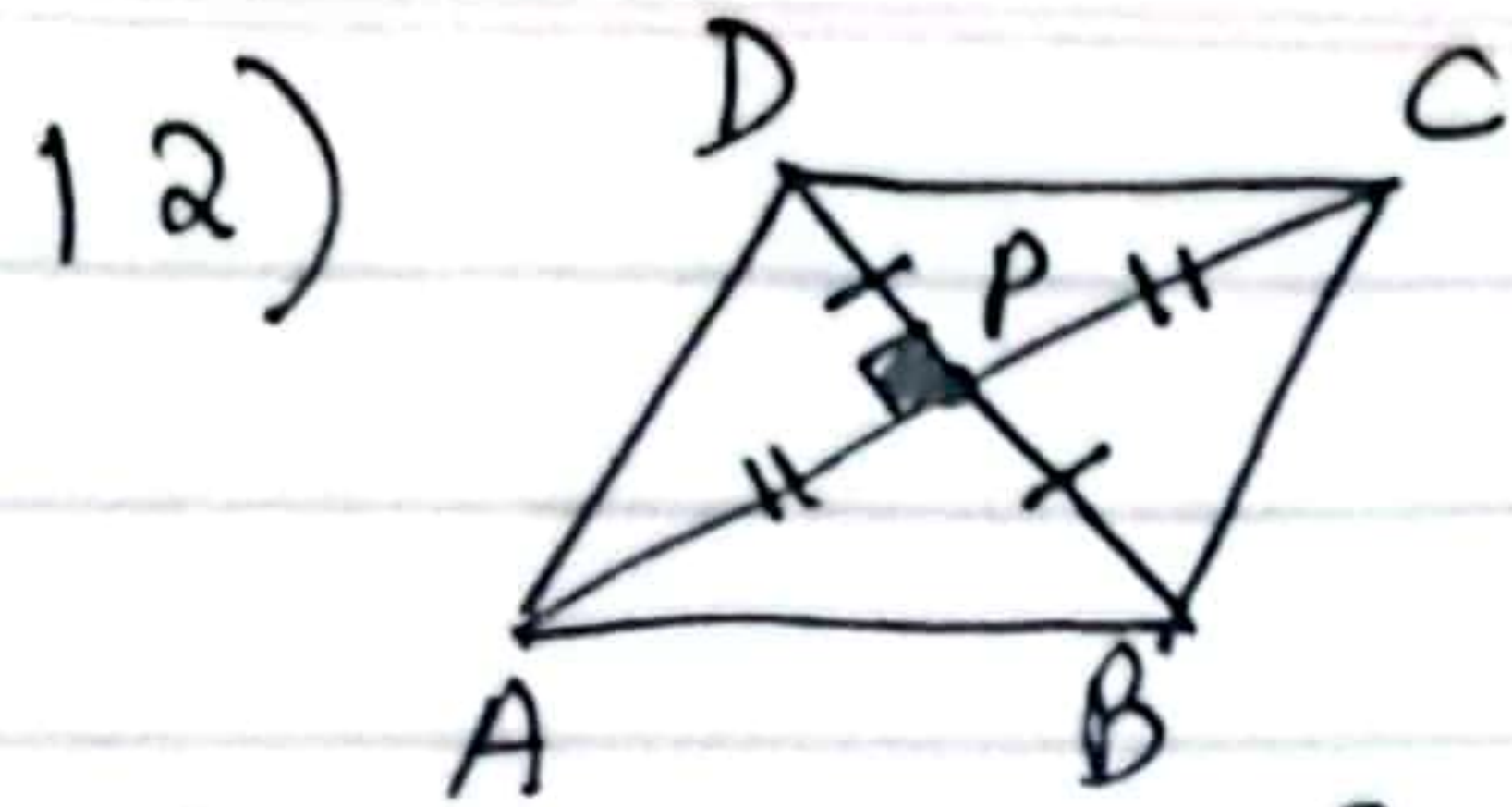
In $\triangle BOC$, $\angle OBC + \angle OCB + \angle BOC = 180^\circ$

$\Rightarrow 90^\circ - \frac{1}{2}\angle B + 90^\circ - \frac{1}{2}\angle C + \angle BOC = 180^\circ$

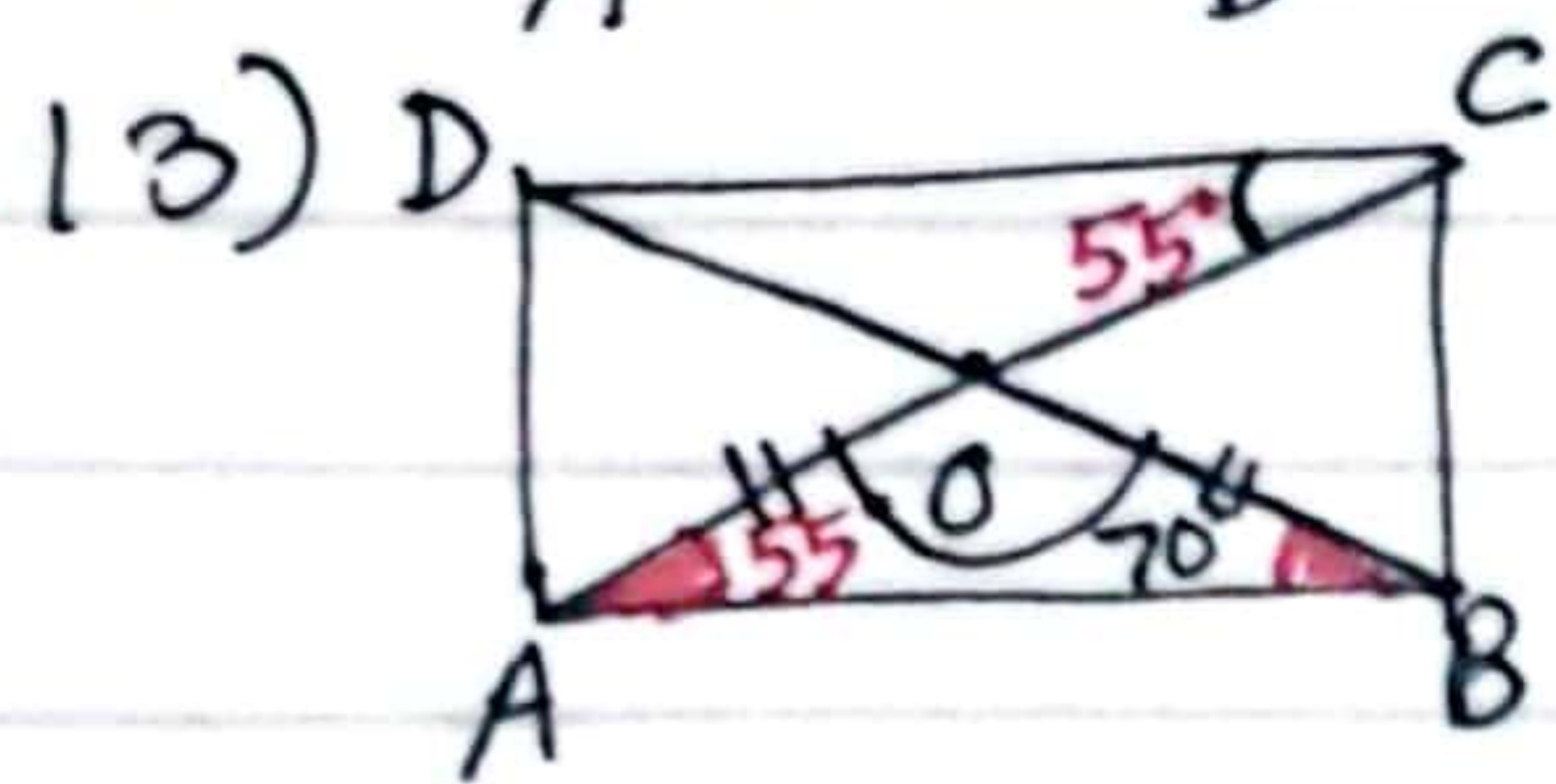
$\Rightarrow \angle BOC = 180^\circ - 90^\circ - 90^\circ + \frac{1}{2}\angle B + \frac{1}{2}\angle C$

$= \frac{1}{2}(\angle B + \angle C) = \frac{1}{2}(180^\circ - \angle A)$

$= 90^\circ - \frac{\angle A}{2} = 90^\circ - 25^\circ = 65^\circ$ (b)



Rhombus (a)



$$\angle OAB = \angle OBA = \frac{180^\circ - 70^\circ}{2} = \frac{110^\circ}{2} = 55^\circ$$

$$\angle DCO = \angle OAB = 55^\circ \text{ (alternate interior angles)}$$

(d)

14) (c) postulates are the assumptions used generally especially for geometry and axioms are the assumptions used throughout mathematics.

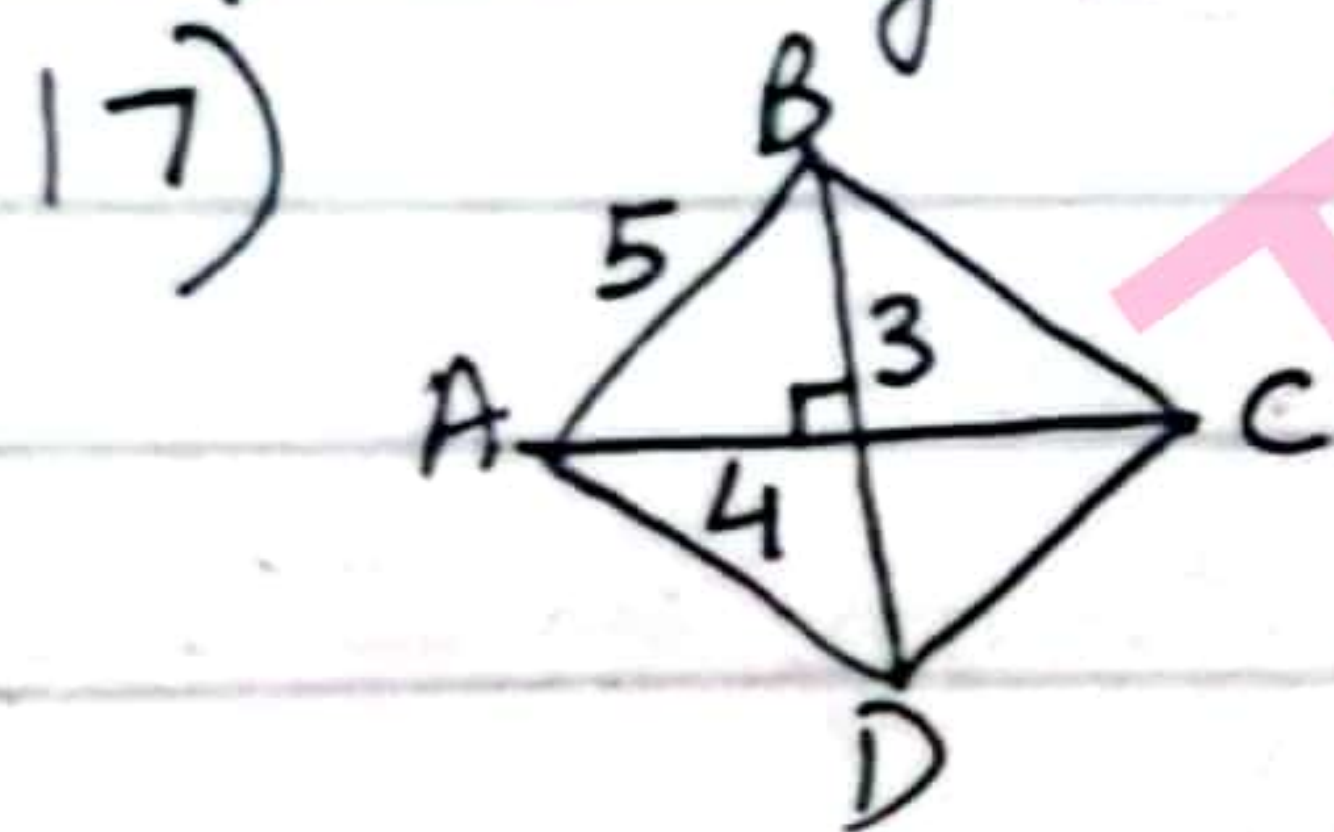
15) $60^\circ + 70^\circ + 8x + 15x = 360^\circ$

$$23x = 360^\circ - 130^\circ = 230^\circ$$

$$x = 10^\circ$$

$$80^\circ, 150^\circ \text{ (c)}$$

16) Every rectangle is a parallelogram (b)

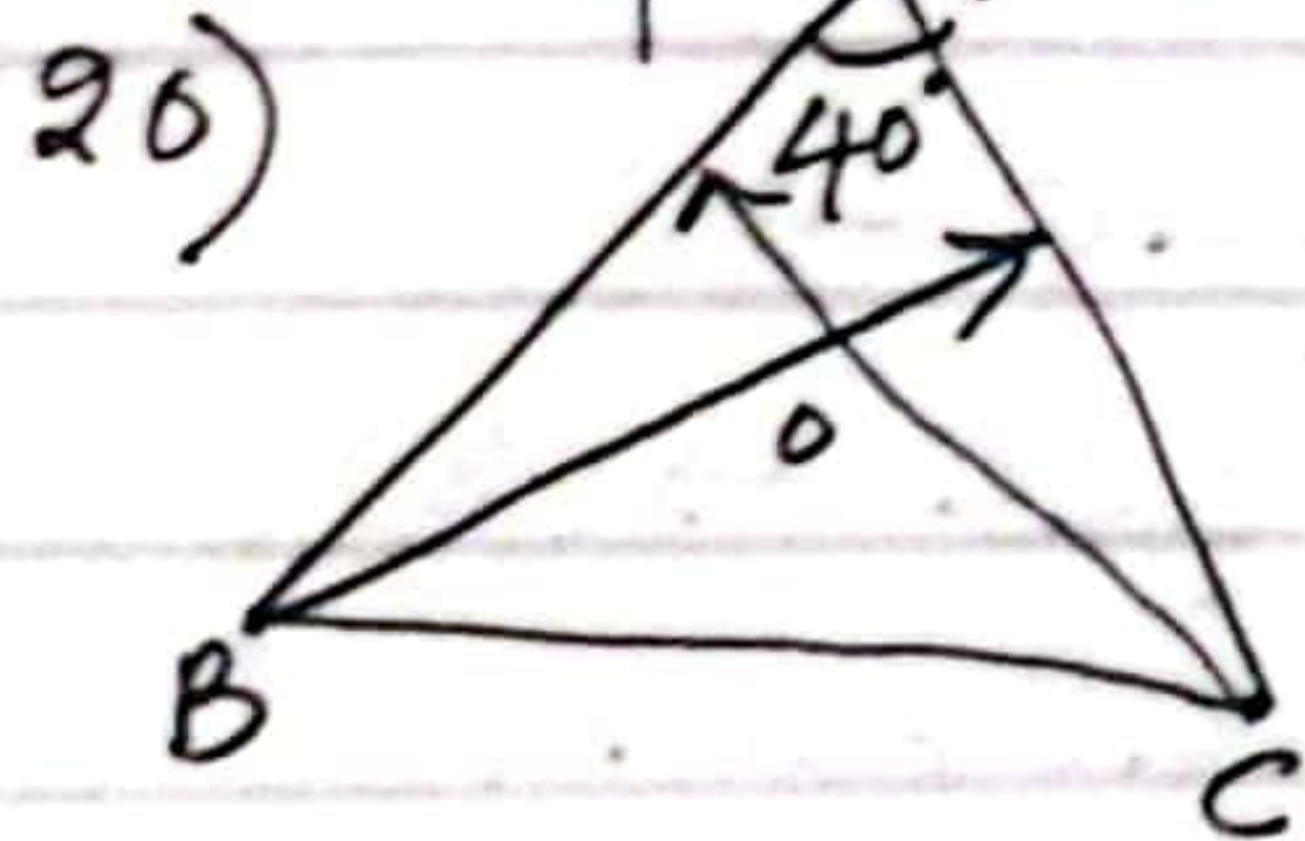


Using Pythagoras Theorem, $AB = 5\text{cm}$

$$\therefore \text{Perimeter} = 4 \times 5 = 20\text{cm}$$

18) ray l and n are opposite rays (b)

19) a postulate (c)



$$\angle A + \angle B + \angle C = 180^\circ$$

$$\angle B + \angle C = 180^\circ - \angle A$$

$$\frac{1}{2}(\angle B + \angle C) = 90^\circ - \frac{\angle A}{2}$$

$$\text{In } \triangle BOC, \angle BOC + \frac{1}{2}\angle B + \frac{1}{2}\angle C = 180^\circ$$

$$\Rightarrow \angle BOC = 180^\circ - 90^\circ + \frac{\angle A}{2}$$

$$= 90^\circ + \frac{\angle A}{2} = 90^\circ + 20^\circ$$

$$= 110^\circ \text{ (a)}$$

21) (b)

22) (a)

23) (d)

24) $x = 90^\circ - x + 14$

$2x = 104$

$x = 52^\circ$, True (a)

25) (i) PC (c)

(ii) ~~RHS~~ (b) SSS (c)

(iii) 30° (b)

(iv) 60° (c)
