



P.V.G.'s
Mukhtangan English School & Jr. College,
44, Vidyanagari, Parvati, Pune - 411009.
Terminal Examination (2025-26)
Standard - IX

Subject : Mathematics - II

Marks - 40

Date : 10.10.2025

Time : 8.00 am to 10.00 am

Q1. A) Four alternative answers for each of the following subquestions are given. Choose the proper alternative answer & write its alphabet. (4)

i) In $\triangle ABC$, if $\angle A > \angle B$, then _____

- A) $AB > BC$ B) $BC > AB$ C) $BC > AC$ D) $AC > BC$

ii) How many midpoints does a line segment have?

- A) Only one B) Two C) Three D) Many

iii) In $\triangle PQR$, if $m\angle P = 50^\circ$ and $m\angle Q = 80^\circ$ then $m\angle R =$

- A) 100° B) 50° C) 80° D) 180°

iv) Two parallel lines are intersected by a transversal. If measure of one of the interior angles is 75° , then the measure of the other angle is _____.

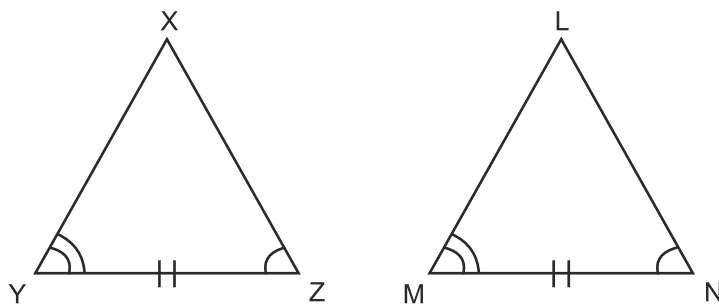
- A) 75° B) 100° C) 105° D) 45°

B) Attempt the following subquestions. (4)

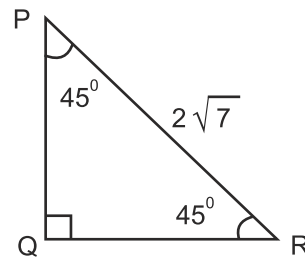
1. Write the following statement in a conditional form.

'Angles in linear pair are supplementary.'

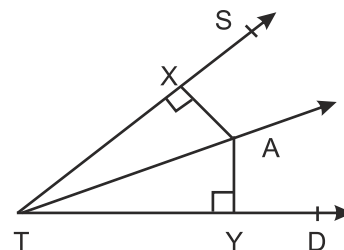
2. Observe the adjoining figure and write the test of congruency of $\triangle XYZ$ & $\triangle LMN$



3. In a right angled triangle PQR
if $PR = 2\sqrt{7}$, then find
the length of PQ.
Stating the reason.



4. In the adjoining figure point A
is on the bisector of $\angle STD$.
If $AX = 3$ cm then find seg AY.
Stating the reason.



Q2. A) Complete the following activity (Any 2)

(4)

1. Observe the adjoining figure and
find the value of AB.

→ Solution : In $\triangle ABC$, $\angle ABC = 90^\circ$

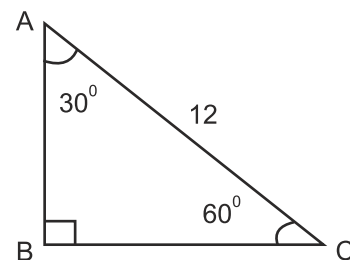
$\angle A = 30^\circ$ and $\angle C = 60^\circ$

∴ By theorem.

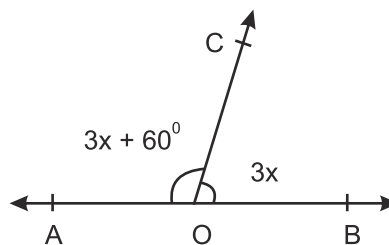
$$AB = \text{---} \times AC$$

$$= \text{---} \times \text{---} \text{-----[Substituting the values]}$$

$$= \text{---}$$



2. Observe the adjoining figure
to find the value of 'x'.



→ Solution : In the figure $\angle AOB$ & $\angle BOC$ are angles in linear pair.

$$\therefore \angle AOC + \angle BOC = \text{---}$$

$$3x + 60^\circ + 3x = \text{---}$$

$$\therefore 6x = \text{---}$$

$$\therefore x = \text{---}$$

3. Observe the adjoining figure and prove that $\triangle ABD \cong \triangle CBD$.

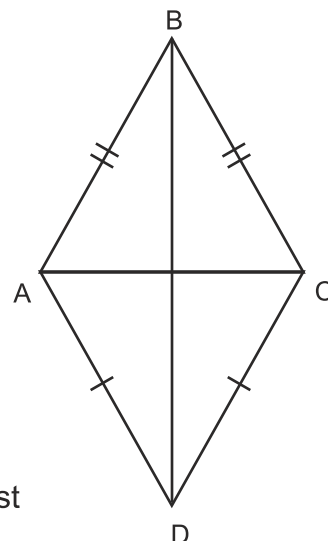
Solution : In $\triangle ABD$ & $\triangle CBD$

seg $AB \cong$ given.

seg $\cong$ seg CD given.

seg $BD \cong$ seg BD

$\therefore \triangle ABD \cong \triangle CBD$ test

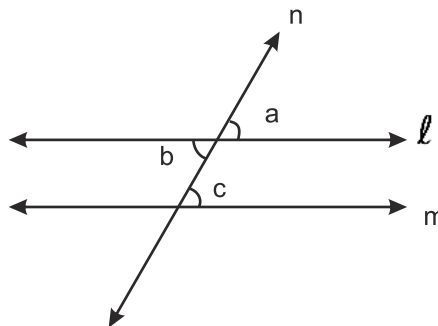


B) Attempt the following subquestions. (Any 4)

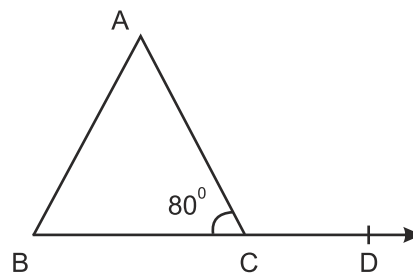
(8)

- Construct $\triangle ABC$, in which $BC = 6.3$ cm, $\angle B = 75^\circ$ and $AB + AC = 9$ cm.
- Points A, B and C are collinear points such that A - B - C. If $\ell(AC) = 11$ cm $\ell(AB) = 6$ cm then find $\ell(BC)$.

- In the adjoining figure, line $\ell \parallel$ line m & Line n is a transversal. If $m\angle a = 75^\circ$, then find $m\angle b$ & $\angle c$ stating the reason.



- If $\triangle XYZ \sim \triangle LMN$, then write the corresponding angles of the two triangles and ratio of the corresponding sides.
- In $\triangle ABC$, $\angle ACD$ is exterior angle. If $m\angle A = m\angle B$ and $m\angle ACB = 80^\circ$, then find $m\angle A$.



(3)

- Solution :** In $\triangle PQR$, $PQ = 12$ cm, $PR = 8$ cm & $QR = 10$ cm

$PQ > QR > \boxed{}$

$$\therefore \boxed{} > \angle P > \boxed{}$$

Reason :

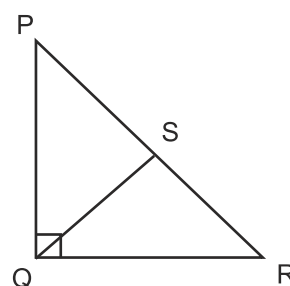
$\therefore$ Greatest angle =

Smallest angle =

- Solution :** In $\triangle PQR$, $\angle PQR = 90^\circ$

$$PR^2 = PQ^2 + \boxed{}$$

$$\therefore PR^2 = \boxed{}$$

PR =
$$QS = \frac{1}{2} \times \boxed{}$$

$$QS = \frac{1}{2} \times \boxed{} \text{ ————— (substituting values)}$$

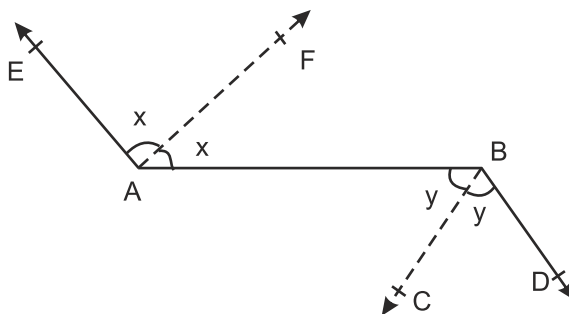
$$\therefore QS = \boxed{}$$

B) Attempt the following subquestions. (Any two) (6)

1. Prove that : If two sides of a triangle are congruent then the angles opposite to them are congruent.
2. Construct $\triangle PQR$, in which $PQ - PR = 2.4$ cm, $QR = 6.4$ cm and $\angle PQR = 50^\circ$.
3. Prove that : The measure of an exterior angle is equal to the sum of its remote interior angles.
4. In $\triangle XYZ$, $XY = 4$ cm, $YZ = 6$ cm and $XZ = 5$ cm.
If $\triangle XYZ \sim \triangle PQR$, & $QR = 12$ cm. Find the length of remaining sides of $\triangle PQR$.

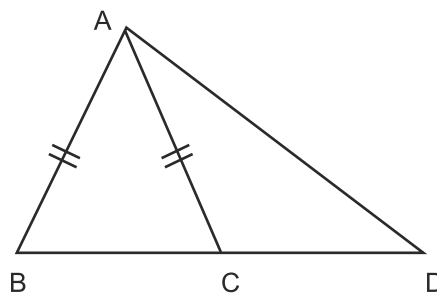
Q4. Attempt the following. (Any two) (8)

1. In $\triangle ABC$, bisectors of $\angle A$ & $\angle B$ intersect at point O. If $m \angle C = 70^\circ$ then find $m \angle AOB$.
2. Construct $\triangle LMN$ where $m \angle L = 70^\circ$ and $m \angle M = 50^\circ$ and perimeter of $\triangle LMN$ is 10 cm.
3. In the adjoining figure
Ray $AE \parallel$ Ray BD , ray AF
is a bisector of $\angle EAB$ and
ray BC is a bisector of
 $\angle ABD$. Prove that :
line $AF \parallel$ Line BC



Q5. Attempt the following. (Any one)

1. In the adjoining figure
 $AB = AC$ and $B - C - D$.
Prove that : $AD > AB$.



2. The perimeter of a triangle is 14.4 cm and the ratio of length of its sides is 2 : 3 : 4. Construct the triangle.



