

Eureka

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STD : IX

DATE : 24-08-2017

MARKS : 40

SUB : GEOMETRY

MODEL QUESTION PAPER CHP 1 to 4

TIME - 2 HRS.

Q.1[A] Select the correct alternative and fill in the blanks.

[5]

- a) If $\ell(AB) = 7\text{cm}$, $\ell(BP) = 4\text{cm}$ and $\ell(AP) = 5.4\text{cm}$ then which of the following statement is true.
- (A) $AB < BP < AP$ (B) $AP < AB < BP$
(C) $BP < AP < AB$ (D) $BP < AB < AP$.
- b) The number of angles formed by a transversal of two lines is
(A) 2 (B) 4 (C) 8 (D) 16.
- c) In ΔTPQ , $\angle T = 65^\circ$, $\angle P = 65^\circ$ which is the true statement?
(A) $PQ < TP$ (B) $PQ < TQ$ (C) $TQ < TP < PQ$ (D) $PQ < TP < TQ$.
- d) If two sides of a triangle are 5 cm and 1.5 cm, the length of its third side cannot be
(A) 3.7 cm (B) 4.1 cm (C) 3.8 cm (D) 3.4 cm
- e) If $P - Q - R$ & $d(P,Q) = 2$, $d(P,R) = 10$ then $d(Q,R)$ is
(A) 12 (B) 8 (C) $\sqrt{96}$ (D) 20.

[B] Attempt the following : (Any 5)

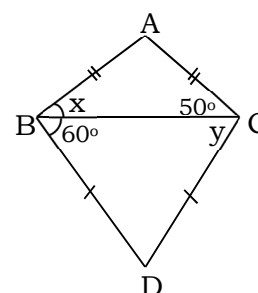
[5]

- 1) Find the distance between the pair of points having coordinates 0 & -2 .
- 2) Write the converse of :
The opposite angles of a parallelogram are congruent
- 3) In ΔPQR , $\angle Q = 90^\circ$, $PQ = 12$, $QR = 5$ & QS is the median. Find $\ell(QS)$
- 4) In an isosceles triangle with one angle 90° , if the length of the hypotenuse is $16\sqrt{2}$ find the length of each congruent side.
- 5) If P is the midpoint of segment AB & $\ell(AP) = 5\text{cm}$ then find $\ell(AB)$.
- 6) Every point on a line is equidistant from two and points of a given segment then what is that line called as?

Q.2 Attempt the following : (Any 4)

[8]

- 1) Draw a segment AB of length 7.8 cm and draw line ' ℓ ' the perpendicular bisector of seg AB .
- 2) Find the values of x & y in the following figure.
- 3) On a number line, points A , B and C are such that $\ell(AB) = 5$, $\ell(BC) = 11$ & $\ell(AC) = 6$. Which of the points is between the other two?



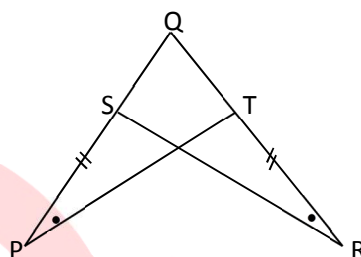
- 4) The measure of one of the angles of a triangle is twice the measure of its smallest angle and the measure of the other is thrice the measure of the smallest angle.
- 5) In ΔXYZ , $XY = 4\text{cm}$, $YZ = 6\text{cm}$, $XZ = 5\text{cm}$, If $\Delta XYZ \sim \Delta PQR$ and $PQ = 8\text{ cm}$ then find QR & PR .
- 6) Prove that an equilateral triangle is equiangular.

Q.3 Attempt the following : (Any 3)

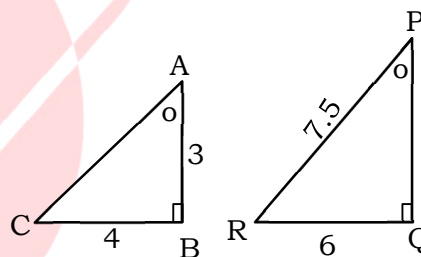
[9]

- 1) Coordinate of point 'A' on a number line is 1. What are the coordinates of points on the number line which are at a distance of 7 units from A?
- 2) Prove that if a line is perpendicular to one of the two parallel lines, then it is perpendicular to the other line also.

- 3) In the adjacent figure,
 $\angle P \cong \angle R$
 $\text{seg } PQ \cong \text{seg } RQ$
 Prove that :
 $\Delta PQT \cong \Delta RQS$.



- 4) Construct ΔPQR in which $QR = 4.2\text{ cm}$
 $m \angle Q = 40^\circ$, $PQ + PR = 8.5\text{ cm}$.
- 5) Some information is shown in ΔABC and ΔPQR . Observe it and find the lengths of side AC and PQ .



Q.4 Attempt the following : (Any 2)

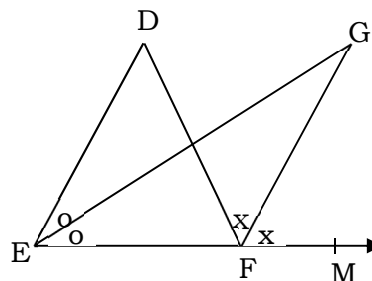
[8]

- 1) Prove that "In a triangle the sum of measures of all angles is 180° ".
- 2) Prove that, "In a triangle if two sides are congruent then the angles opposite to them are also congruent."
- 3) Construct ΔPQR , such that $QR = 6.5\text{ cm}$, $\angle PQR = 60^\circ$ and $PQ - PR = 2.5\text{cm}$. Justify your construction.

Q.5 Attempt the following : (Any 1)

[5]

- 1) In the adjoining figure, line $DE \parallel$ line GF Ray EG and ray FG are bisector's of $\angle DEF$ and $\angle DEM$ respectively then
 Prove that : i) $\angle DEG = \frac{1}{2} \angle EDF$
 ii) $EF = FG$



- 2) Construct ΔABC such that $AB + BC + CA = 11.3\text{ cm}$ $\angle B = 70^\circ$, $\angle C = 60^\circ$. Justify your construction.

*** BEST OF LUCK ***