

WORK SHEET - 1/4

TRIANGLES

CLASS : IX

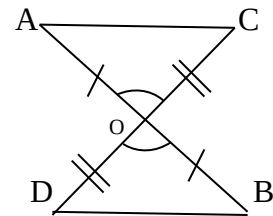
SUB : MATHEMATICS

Fill in the blanks:

1. The sum of the three angles of a triangle is _____
2. If a side of a triangle is produced, the exterior angle so formed is equal to the sum of the two _____ opposite angles.
3. Two figures are _____, if they are of the same shape and of the same size.
4. Two figures are congruent if _____ sides and the _____ angles of one triangle are equal to the _____ sides and the included angle of the other triangle.

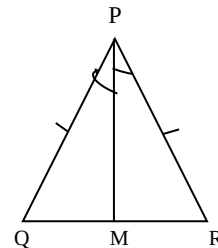
Multiple choice questions:

1. An exterior angle of a triangle is 105° and its two interior opposite angles are equal. Each of these equal angle is
(a) $37\frac{1}{2}^\circ$ (b) $52\frac{1}{2}^\circ$ (c) $72\frac{1}{2}^\circ$ (d) 75°
2. The angles of a triangle are in the ratio of 5 : 3 : 7. The triangle is
(a) an acute angled triangle. (b) an obtuse angled triangle
(c) a right triangle (d) an isosceles triangle
3. If $AB = QR$, $BC = RP$ and $CA = PQ$ then
(a) $\triangle ABC \cong \triangle PQR$ (b) $\triangle CBA \cong \triangle PRQ$ (c) $\triangle BAC \cong \triangle RPQ$ (d) $\triangle BCA \cong \triangle PQR$
4. Write the correspondence, if the triangles are congruent
(a) $\triangle OAC \cong \triangle ODB$ (b) $\triangle AOC \cong \triangle DOB$
(c) $\triangle AOC \cong \triangle BOD$ (d) None of these



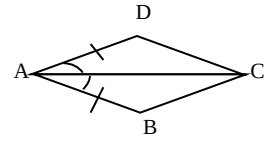
Solve the following problems :

1. In the given fig. PM is the bisector of $\angle P$ and $PQ = PR$.
By which congruence criteria $\triangle PQM$ and $\triangle PRM$ are congruent.



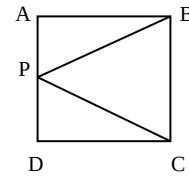
2. In quadrilateral ABCD, $AB = AD$ and AC bisects $\angle A$.

Show that $\triangle ABC \cong \triangle ADC$. What can you say about BC and CD.



3. ABCD is a square and P is the midpoint of AD.

BP and CP are joined. Prove that $PC = PB$.



4. In fig. $AC = AE$, $AB = AD$ and $\angle BAD = \angle EAC$. Prove that $BC = DE$.

