

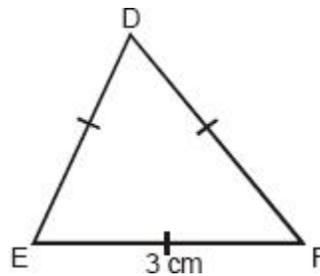
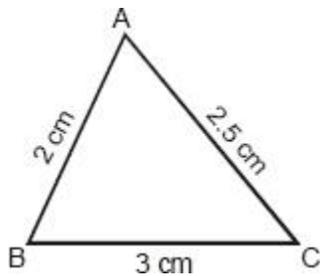
R D Public School Betul Class-9th

Triangles

MCQ for Triangles

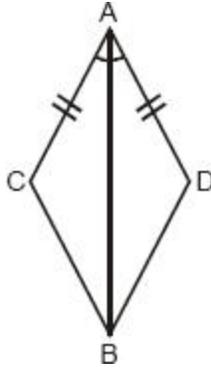
Multiple Choice Questions

- Choose the correct statement
 - a triangle has two right angles
 - all the angles of a triangle are more than 60°
 - an exterior angle of a triangle is always greater than the opposite interior angles
 - all the angles of a triangle are less than 60°
- In two triangles, ABC and PQR, $\angle A = 30^\circ$, $\angle B = 70^\circ$, $\angle P = 70^\circ$, $\angle Q = 80^\circ$ and $AB = RP$, then
 - $\triangle ABC \cong \triangle PQR$
 - $\triangle ABC \cong \triangle QRP$
 - $\triangle ABC \cong \triangle RPQ$
 - $\triangle ABC \cong \triangle RQP$
- In two triangles ABC and DEF, $AB = DE$, $BC = DF$ and $AC = EF$, then
 - $\triangle ABC \cong \triangle DEF$
 - $\triangle ABC \cong \triangle FED$
 - $\triangle ABC \cong \triangle FDE$
 - none of these
- Are the given triangles congruent?



- yes
 - no
 - can't say
- If $\triangle ABC$ is congruent to $\triangle DEF$ by SSS congruence rule, then:
 - $\angle C < \angle F$
 - $\angle B < \angle E$
 - $\angle A < \angle D$
 - $\angle A = \angle D$, $\angle B = \angle E$, $\angle C = \angle F$
 - In the given figure, the congruency rule used in proving $\angle ACD \cong \angle ADB$ is

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- (a) ASA (b) SAS
 (c) AAS (d) RHS

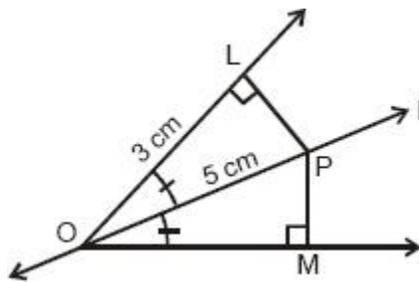
7. Given two right angles triangles ABC and PRQ, such that $\angle A = 20^\circ$, $\angle Q = 20^\circ$ and $AC = QP$. Write the correspondence if triangles are congruent.

- (a) $\triangle ABC \cong \triangle PQR$ (b) $\angle ABC \cong \triangle PRQ$
 (c) $\angle ABC \cong \triangle RQP$ (d) $\triangle ABC \cong \triangle QRP$

8. In a triangle PQR if $\angle QPR = 80^\circ$ and $PQ = PR$, then $\angle R$ and $\angle Q$ are

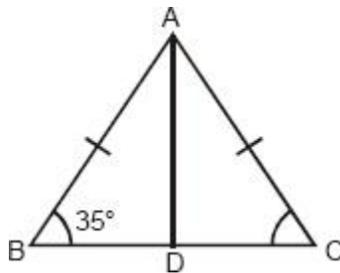
- (a) $80^\circ, 70^\circ$ (b) $80^\circ, 80^\circ$
 (c) $70^\circ, 80^\circ$ (d) $50^\circ, 50^\circ$

9. In the given figure, find PM



- (a) 3 cm (b) 5 cm
 (c) 4 cm (d) 2 cm

10. In the given figure, AD is the median then $\angle BAD$ is



- (a) 35° (b) 70°

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(c) 110°

(d) 55°

11. Prove that angles opposite to equal sides of an isosceles triangle are equal.
12. In a triangle ABC, E and F respectively are mid-points of equal sides AB and AC of $\triangle ABC$. Show that $BF = CE$.
13. AD is an altitude of an isosceles $\triangle ABC$ in which $AB = AC$. Show that AD bisects BC.
14. D is a point on side BC of $\triangle ABC$ such that $AD = AC$. Show that $AB > AD$.
15. In $\triangle ABC$, if $BC = AB$ and $\angle B = 80^\circ$ then find the measure of $\angle A$.
16. The angles of a triangle are in the ratio 2:3:4. Find the measure of the angles.
17. In $\triangle ABC$, if $\angle A = 80^\circ$, $\angle B = 70^\circ$, then identify the longest and the shortest side of the triangle.
18. ABCD is a square. P is any point inside it such that, DPQR is another square. Prove that $AP = CR$.
19. In a $\triangle ABC$, if $\angle A = \angle B$, then what is $AB : BC$
20. Prove that any two sides of a triangle are together greater than twice the median drawn to the third side.
21. ABCD is a parallelogram. If the two diagonals are equal, find the measure of $\angle ABC$.

(2 Marks)
22. In the figure below, ABC is a triangle in which $AB = AC$. X and Y are points on AB and AC such that $AX = AY$. Prove that $\triangle ABY \cong \triangle ACX$.

(2 Marks)
23. In $\triangle ABC$ and $\triangle ADC$, $AB = AD$ and $BC = CD$. Prove that $\angle ABC \cong \angle ADC$.

(2 Marks)
24. In the given figure, $AC = BC$, $\angle DCA = \angle ECB$ and $\angle DBC = \angle EAC$. Prove that $\triangle DBC \cong \triangle EAC$ and $DC = EC$.

(3 Marks)
25. In $\triangle ABC$, $AB = AC$ and the bisector of angles B and C intersect at point O. Prove that $BO = CO$ and AO bisects $\angle BAC$.

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(3 Marks)

26. Show that a median of a triangle divides it into two triangles of equal areas.

(3 Marks)

27. In a right angled triangle, one acute angle is double the other. Prove that the hypotenuse is double the smallest side.

(3 Marks)

28. Prove that angles opposite to equal sides of an isosceles triangle are equal.

(4 Marks)

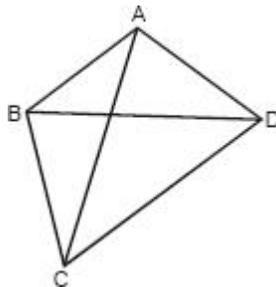
29. In the given figure, $\triangle XYZ$ and $\triangle PYZ$ are two isosceles triangle on the same base YZ with $XY = XZ$ and $PY = PZ$. If $\angle P = 120^\circ$ and $\angle XYP = 40^\circ$, then find $\angle YXZ$.

(4 Marks)

30. A point O is taken inside an equilateral four sides figure $ABCD$ such that its distances from the angular points D and B are equal. Show that AO and OC are in one and the same straight line.

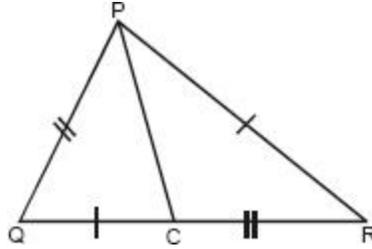
(4 Marks)

31. $ABCD$ is a quadrilateral in which $AD = BC$ and $\angle DAB = \angle CBA$. Prove that $\triangle ABD \cong \triangle BAC$.

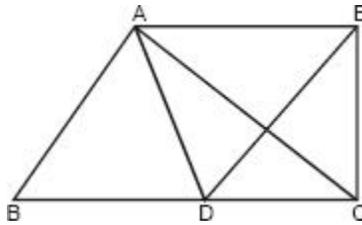


32. In the given figure, triangles PQC and PRC are such that $QC = PR$ and $PQ = CR$. Prove that $\angle PCQ = \angle CPR$.

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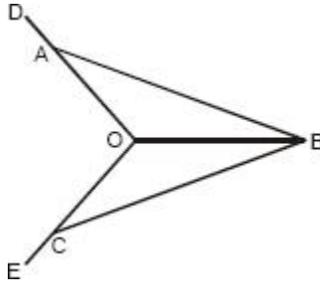


33. In the given figure, $AB = AD$, $AC = AE$ and $\angle BAD = \angle EAC$, then prove that $BC = DE$.

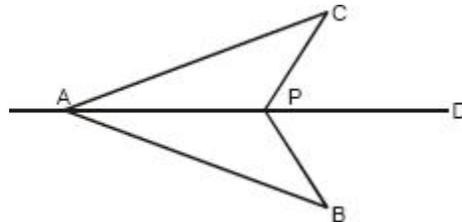


34. ΔPQR is given and the sides QP and RP have been produced to S and T such that $PQ = PS$ and $PR = PT$. Prove that the segment $QR \parallel ST$.

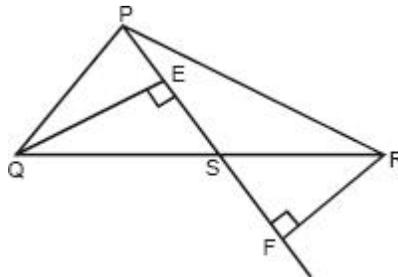
35. In the given figure, $AB = BC$ and $\angle ABO = \angle CBO$, then prove that $\angle DAB = \angle ECB$.



36. In the given figure, AD is bisector of $\angle BAC$ and $\angle CPD = \angle BPD$. Prove that $\Delta CAP \cong \Delta BAP$.

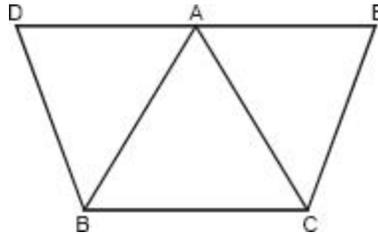


37. In the given figure, PS is median produced upto F and QE and RF are perpendiculars drawn from Q and R , prove that $QE = RF$.

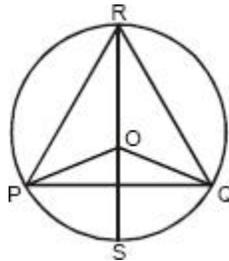


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38. In the given figure, equilateral $\triangle ABD$ and $\triangle ACE$ are drawn on the sides of a $\triangle ABC$. Prove that $CD = BE$.



39. In given figure, RS is diameter and PQ chord of a circle with centre O. Prove that (a) $\angle RPO = \angle OQR$
(b) $\angle POQ = 2\angle PRO$



40. In the given figure, T and M are two points inside a parallelogram PQRS such that $PT = MR$ and $PT \parallel MR$. Then prove that

(a) $\triangle PTR \cong \triangle RMP$

(b) $RT \parallel PM$ and $RT = RM$

