

Class: VII
Subject: Math's
Topic: Properties of triangle
No. of Questions: 20

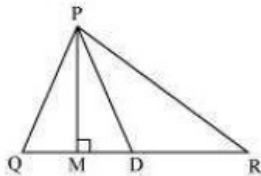
Q1. The sum of the lengths of any two sides of a triangle is always _____ (greater/lesser) than the length of the third side.

Q2. In $\triangle PQR$, D is the mid-point of \overline{QR} .

\overline{PM} is _____ .

PD is _____ .

Is $QM = MR$?



Q3. Draw rough sketches for the following:

- (i) In $\triangle ABC$, BE is a median.
- (ii) In $\triangle PQR$, PQ and PR are altitudes of the triangle.
- (iii) In $\triangle XYZ$, YL is an altitude in the exterior of the triangle.

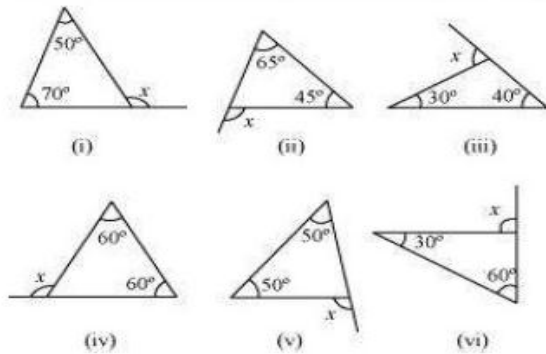
Q4. Q. Define parallel lines?

Q5. Verify by drawing a diagram if the median and altitude of an isosceles triangle can be same.

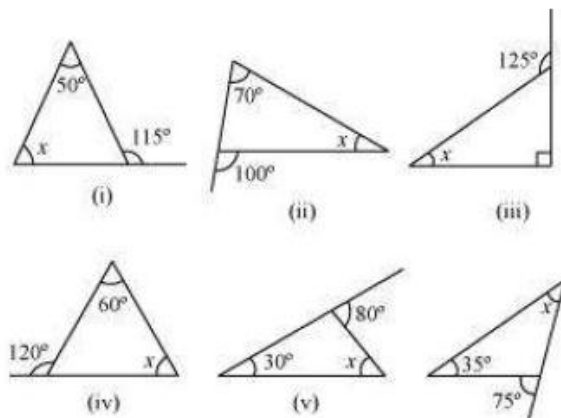
Q6. The difference between the measures two complementary angles is 18. What are the measures of the two angles

Q7. Each of the two angles of triangle is $\frac{3}{4}$ th of the third angle. Find the angles.

Q8. Find the value of the unknown exterior angle x in the following diagrams:



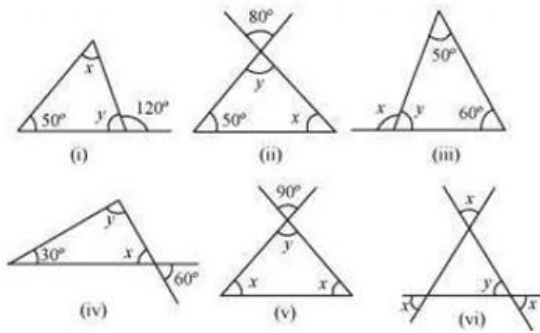
Q9. Find the value of the unknown interior angle x in the following figures:



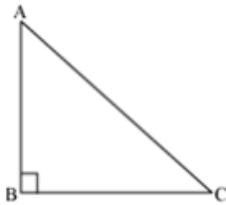
Q10. The hypotenuse of a right triangle is 2 cm more than the longer side of the triangle. The shorter side of the triangle is 7 cm less than the longer side. Find the length of hypotenuse.

Q11. If the angles of a triangle are in the ratio 3:4:5 determine the three angles

Q12. Find the value of the unknowns x and y in the following diagrams:



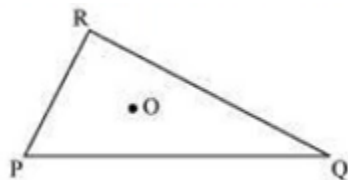
Q13. $\triangle ABC$ is a right triangle right angled at B. If $AC = 25$ cm and $AB = 15$ cm, then find the side BC.



Q14. A tree height 36m broke at a point P, but it did not separate. The top of the tree touched the ground at a distance of 12m from the base. Find the distance of the point P from the base of the tree.

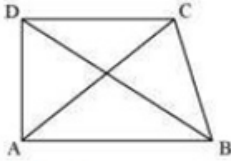
Q15. In a right angled isosceles triangle, find the ratio of their sides.

Q16. Take any point o in the interior of a triangle PQR. Is



- (i) $OP + OQ > PQ$?
- (ii) $OQ + OR > QR$?
- (iii) $OR + OP > RP$?

- Q17. ABCD is quadrilateral.
Is $AB + BC + CD + DA > AC + BD$?



- Q18. The lengths of two sides of a triangle are 12 cm and 15 cm. Between what two measures should the length of the third side fall?
- Q19. A tree is broken at a height of 5 m from the ground and its top touché the ground at a distance of 12 m from the base of the tree. Find the original height of the tree.
- Q20. Which of the following can be the sides of a right triangle?
(i) 2.5 cm, 6.5 cm, 6 cm
(ii) 2 cm, 2 cm, 5 cm
(iii) 1.5 cm, 2 cm, 2.5 cm
In the case of right-angled triangles, identify the right angles.