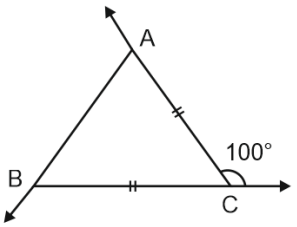
1. In ΔABC, if $AB = BC$ and $\angle B = 80^\circ$, then what is the measure of $\angle C$?

2. In a $\Delta PQR, PQ = PR$ and $\angle P$ is twice that of $\angle Q$, then what is the measure of $\angle Q$?

3. If in a $\Delta ABC, \angle A = 60^\circ$ and $AB = AC$, then what type of triangle is this?

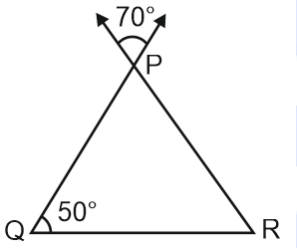
4. Name the triangle for which centroid, circumcentre, orthocentre and incentre coincide with each other.

5. In the given figure, $AC = BC$ what is the measure of $\angle B$?



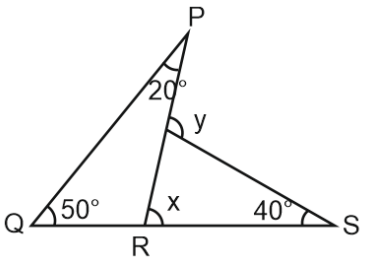
6. The ratio of three angles of a triangle is 1: 2: 3. What are the measure of the three angles of triangle?

7. What is the measure of $\angle R$ in the given figure?

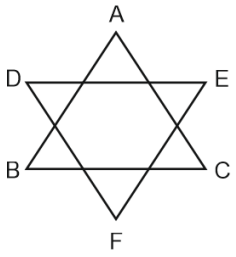


8. If $m^2 + 1, m^2 - 1$ and 2 m form a Pythagorean triplet for all $m > 1$, then what is the measure of Pythagorean triplet for $m = 3$?

9. In the given figure, what are the measure of x and y ?



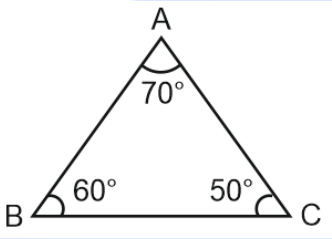
10. What is the measure of $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$?



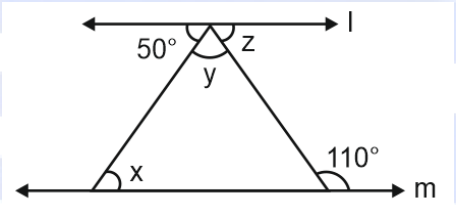
11. In a right angled triangle ABC, if $AB^2 = AC^2 + BC^2$, then which angle of the triangle is 90°?

12. A square is described on the hypotenuse of a right angled triangle whose other two sides are $6m$ and $8m$. What is the area of this square?

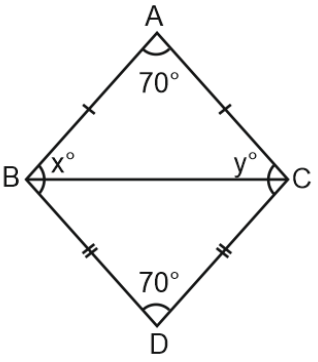
13. In the given ΔABC, which is the greatest side?



14. In the given figure, what is the measure of x, y, z? [Given $l \parallel m$]

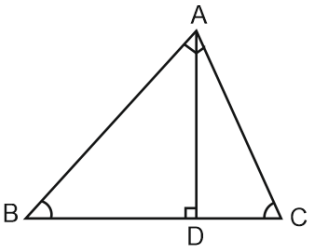


15. In the given figure, what are the measure of x and y?

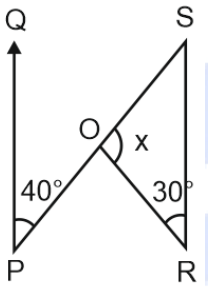


16. The diagonals of a rhombus measure $16cm$ and $30cm$, then what is the perimeter of the rhombus?

17. In $\Delta ABC, \angle BAC = 90^\circ$ and $AD \perp BC$. If $\angle BAD = 40^\circ$ then, what is the measure of $\angle ACD$?



18. In the given figure, what is the measure of x ? [PQ II RS]



19. A ladder $13m$ long reaches a window of a building $12m$ above the ground. What is the distance of the foot of the ladder from the building?

20. In a ΔPQR, if $\angle P = 4\angle Q = 6\angle R = 2$, calculate the angles.

21. In a $\Delta DEF, \angle E = 70^\circ$ and $\angle F = 60^\circ$. The bisector of $\angle F$ meets DE in G. Find $\angle DGF$ and $\angle EGF$

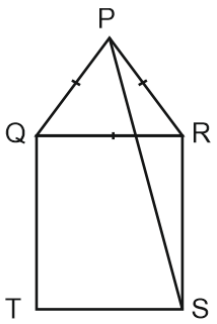
22. In $\Delta XYZ, \angle X = 40^\circ, \angle Y = 80^\circ$, and the bisector of $\angle Y$ and $\angle Z$ meet at O. Find) $\angle YOZ$

23. Two poles of height $6m$ and $11m$ stand on a plane ground. If the distance between their feet is $12m$. What is the distance between their tops?

24. A man goes $25m$ due south, then $20m$ due east and then again he turns $40m$ due north. How far is he from his starting point?

25. A ladder $15m$ long reaches a window which is $9m$ above the ground on one side of a street keeping its foot at the same point, the ladder is turned do the other side of the street to reach a window $12m$ high. Find the width of the street.

26. ΔPQR is an equilateral triangle and QRST is a square. What is the measure of $\angle RPS$?



27. In the given figure, P is a point on side B C, prove that: $AP > \frac{1}{2}(AB + BC + AC)$