

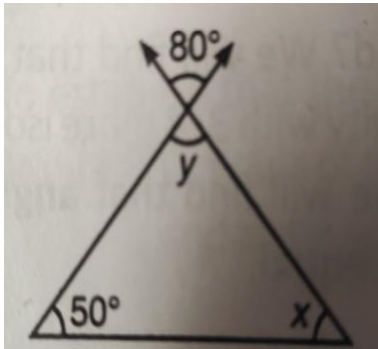
Himalaya International School
Class- VII
Subject- Mathematics
Practice Assignment - 4
Symmetry
Triangles and it's Properties
Congruence of Triangles

Q1 Write the order of rotational symmetry for each of the following:

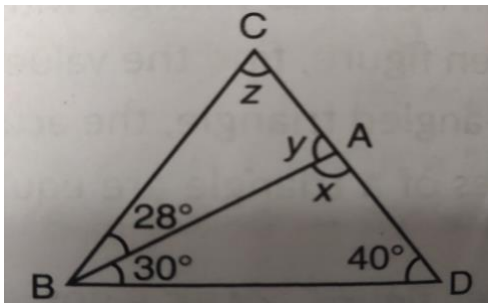
- i) H
- ii) X
- iii) M
- iv) W
- v) C
- v) Z

Q2 In a right-angled triangle, the acute angles are in the ratio 3:7. Find the acute angles.

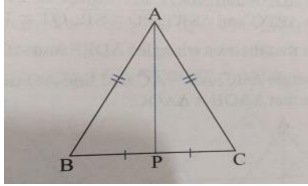
Q3 Find the values of x and y.



Q4 Find the values of x, y and z.



Q5 ΔABC is an isosceles triangle with $AB=AC$ and P is the midpoint of BC .



i) Is $\triangle ABP \cong \triangle ACP$?

ii) Name three corresponding parts used to establish (i).

iii) Is angle BAP = angle CAP?

Q6 In $\triangle PQR$, the angles are in the ratio 2:3:4. Find the measures of all the angles.

Q7 A ladder is placed in such a way that it reaches the top of a wall 12m high. If the length of ladder is 13cm, find the distance of the foot of the ladder from the wall.

Q8 Which of the following measures of line segments can form a triangle?

i) 3cm, 4cm and 8cm

ii) 3.5cm, 4cm and 4.7cm

Q9 One of the angles of a triangle is 70° and the other two angles are equal. Find these two angles.

Q10 The angles of a triangle are in the ratio 1:2:3. Determine the shortest and the largest angles.

Q11 Identify the line of symmetry in the following in the following letters of English alphabet.

i) A iv) D

ii) B v) E

iii) C

Q12 Name the figure having 1 line of symmetry and whose order of rotational symmetry is also 1.

Q13 How many lines of symmetry are there in number eight (8)? What is the order of its rotational symmetry?

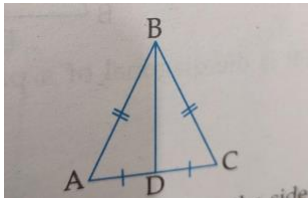
Q14 One of the exterior angles of a triangle is 70° and the interior opposite angles are in the ratio 3:4. Find the angles of the triangle.

Q15 The lengths of two sides of a triangle are 12cm and 15cm. Between what two measures should the length of third side fall?

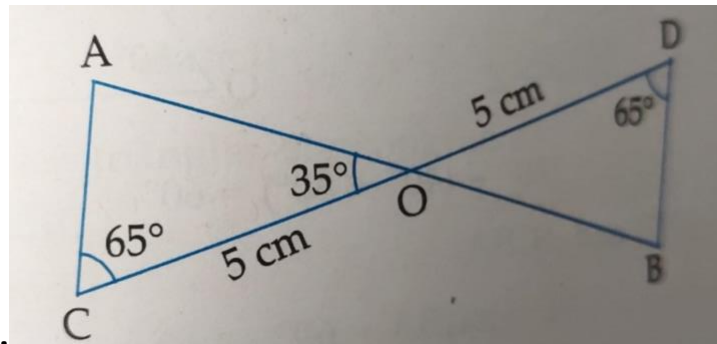
Q16 Trees are an essential resource for everyone. They provide habitat for various species, clean the air and produce oxygen. Besides, they give us shade in

the summer, and their leaves can be used for numerous purposes, such as making perfumes, medicines, etc. A tree is broken at a height of 5m from the ground and its top touches the ground at a distance of 12m from the base of the tree. Find the original height of the tree.

Q17 In the given figure, $\triangle ABC$ is an isosceles triangle with $AB=BC$ and BD is the median. Prove that $\triangle ABD \cong \triangle CBD$.

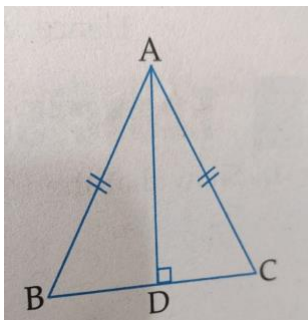


Q18 In the given figure, AB and CD intersect at O and $OC = OD = 5\text{cm}$.



Prove that $\triangle AOC \cong \triangle BOD$.

Q19 In $\triangle ABC$, $AB = AC$ and AD is perpendicular to BC . Prove that D is the midpoint of BC .



Q20 Find the length of the diagonal of a rectangle having sides 16cm and 12cm.