

## VII- Mathematics Assignment No-05- $\triangle$ and its Properties.

Q1. The exterior angle  $\angle ACD$

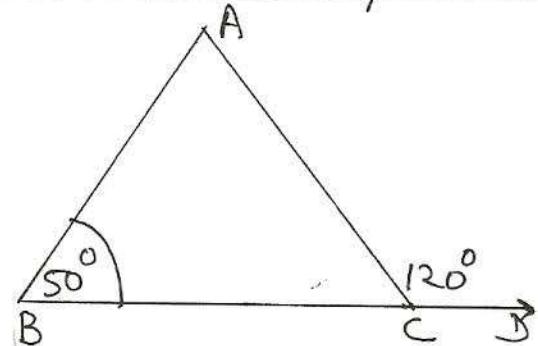
of  $\triangle ABC$  is  $120^\circ$  and

$\angle ABC = 50^\circ$ . Find

(i)  $\angle ACB$  (ii)  $\angle BAC$

Is (iii)  $\angle ACD > \angle A$  ?

(iv)  $\angle ACD = \angle A + \angle B$  ?



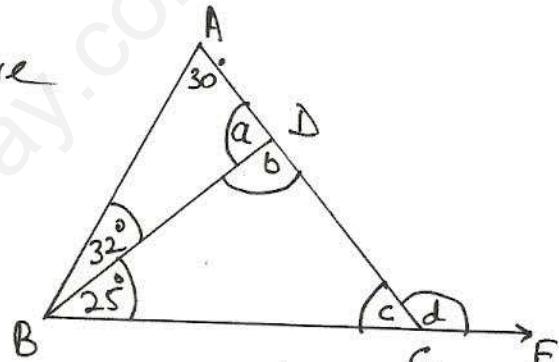
Q2. In the adjoining figure

$$\angle BAC = 30^\circ$$

$$\angle ABD = 32^\circ$$

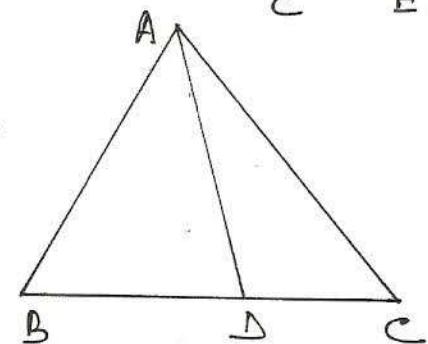
$$\angle CBD = 25^\circ$$

Find the marked angles.



Q3. In the adjoining figure, D is a point on the side BC of  $\triangle ABC$ . Prove that

$$AB + AC + BC > 2AP$$



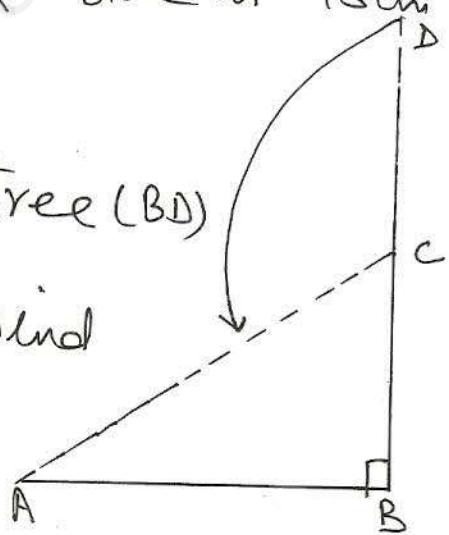
Q4. O is a point in the interior of  $\triangle ABC$

Show that  $2(OA + OB + OC) > (AB + BC + CA)$

[Hint: Join OA, OB, OC and apply result]

Q5 The length of two sides of a  $\triangle$  are 6cm and 7cm. Between what two measure should the length of the third side fall?

- Q6. Is it possible to construct a  $\Delta$  with sides 4.5cm, 5.5cm and 6.5cm, If yes how?
- Q7. length of two diagonals of a rhombus are 24cm and 10cm. Find its perimeter.
- Q8. Find the perimeter of a square if the length of one diagonal is  $5\sqrt{2}$ cm.
- Q9. The length of diagonal of a rectangle is 17cm and one of its side is 15cm. Find its perimeter.
- Q10. The upper part of a tree (BD) in broken over by the wind and the top touches the ground at A which is 9m away from the base of tree. The remaining part (Bc) of the tree is 12m. Find the total height of the tree.



## ANSWERS

(Q1) (i) $60^\circ$ (ii) $70^\circ$ (iii) Yes (iv) Yes	$b = 62^\circ$ $c = 93^\circ$ $d = 87^\circ$ (Q5) More than 1 and less than 13	(Q6) Yes (Q7) 52cm (Q8) 20cm	(Q9) 46cm (Q10) 27m.
(Q2) $a = 118^\circ$			