

# DAV PUBLIC SCHOOL, IFFCO, PARADEEP

CLASS-IX  
SUB-MATHEMATICS  
TOPIC-TRIANGLES  
WORKSHEET-BASIC

TIME-45 Min

MAX.MARKS:20

**Choose the most appropriate option:**

(2 × 1=2)

- Which of the following is not a criterion for congruence of triangles?  
(A) SAS (B) ASA (C) SSA (D) SSS
- It is not possible to construct a triangle when sides are:  
(A) 8.3cm, 3.4cm, 6.1cm (B) 5.4cm, 2.3cm, 3.1cm  
(C) 6cm, 7cm, 10cm (D) 3cm, 5cm, 5cm

**Fill in the blanks:**

(2 × 1=2)

- In  $\Delta ABC$  measure of  $\angle A = 50^\circ$ ,  $\angle B = 30^\circ$  and  $\angle C = 100^\circ$ . Then the longest side of the triangle is \_\_\_\_\_.
- Difference of two sides of a triangle is \_\_\_\_\_ than the third side.

**Answer the following question:**

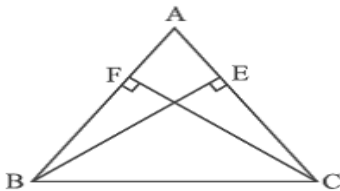
(2 × 1 =2)

- $\Delta PQR$  is a right angled triangle isosceles triangle having  $\angle Q=90^\circ$ . Name the sides of the triangle which are equal in length.
- It is given that  $\Delta ABC \cong \Delta RPQ$ . Is it true to say that  $BC = QR$ ? Why?

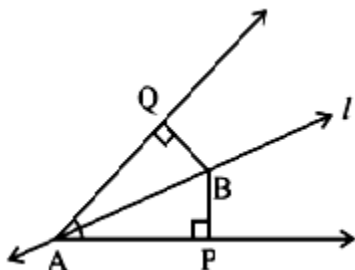
**Short Answer Type Question –I**

(2 × 2=4)

- ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB respectively. Show that these altitudes are equal.



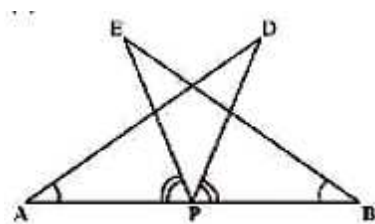
8. Line  $l$  is the bisector of an angle  $\angle A$  and  $B$  is any point on  $l$ .  $BP$  and  $BQ$  are perpendiculars from  $B$  to the arms of  $\angle A$ . Show that:
- (i)  $\triangle APB \cong \triangle AQB$
- (ii)  $BP = BQ$  or  $B$  is equidistant from the arms of  $\angle A$



**Short Answer Type Question –II**

**(2 × 3=6)**

9.  $AB$  is a line segment and  $P$  is its mid-point.  $D$  and  $E$  are points on the same side of  $AB$  such that  $\angle BAD = \angle ABE$  and  $\angle EPA = \angle DPB$ . Show that  $\triangle DAP \cong \triangle EBP$



10.  $BE$  and  $CF$  are two equal altitudes of a triangle  $ABC$ . Using RHS congruence rule, prove that the triangle  $ABC$  is isosceles.

**Long answer type question:**

**(1 × 4= 4)**

11. In an isosceles triangle  $ABC$  with  $AB = AC$ ,  $D$  and  $E$  are points on  $BC$  such that  $BE = CD$ . Show that  $AD = AE$ .

