



## Exercise 16A

In  $\triangle ABC$ , if we take a point D on BC, then we get three triangles, namely  $\triangle ADB$ ,  $\triangle ADC$  and  $\triangle ABC$ .

Q11

**Answer :**

(i) No

If the two angles are  $90^\circ$  each, then the sum of two angles of a triangle will be  $180^\circ$ , which is not possible.

(ii) No

For example, let the two angles be  $120^\circ$  and  $150^\circ$ . Then, their sum will be  $270^\circ$ , which cannot form a triangle.

(iii) Yes

For example, let the two angles be  $50^\circ$  and  $60^\circ$ , which on adding, gives  $110^\circ$ . They can easily form a triangle whose third angle is  $180^\circ - 110^\circ = 70^\circ$ .

(iv) No

For example, let the two angles be  $70^\circ$  and  $80^\circ$ , which on adding, gives  $150^\circ$ . They cannot form a triangle whose third angle is  $180^\circ - 150^\circ = 30^\circ$ , which is less than  $60^\circ$ .

(v) No

For example, let the two angles be  $50^\circ$  and  $40^\circ$ , which on adding, gives  $90^\circ$ . Thus, they cannot form a triangle whose third angle is  $180^\circ - 90^\circ = 90^\circ$ , which is greater than  $60^\circ$ .

(vi) Yes

Sum of all angles =  $60^\circ + 60^\circ + 60^\circ = 180^\circ$

Q12

**Answer :**

(i) A triangle has 3 sides 3 angles and 3 vertices.

(ii) The sum of the angles of a triangle is  $180^\circ$ .

(iii) The sides of a scalene triangle are of different lengths.

(iv) Each angle of an equilateral triangle measures  $60^\circ$ .

(v) The angles opposite to equal sides of an isosceles triangle are equal.

(vi) The sum of the lengths of the sides of a triangle is called its perimeter.

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