



### Exercise 16B

Q1

**Answer :**

Correct option: (c)

A triangle has 6 parts: three sides and three angles.

Q2

**Answer :**

Correct option: (b)

(a)  $\text{Sum} = 30^\circ + 60^\circ + 70^\circ = 160^\circ$

This is not equal to the sum of all the angles of a triangle.

(b)  $\text{Sum} = 50^\circ + 70^\circ + 60^\circ = 180^\circ$

Hence, it is possible to construct a triangle with these angles.

(c)  $\text{Sum} = 40^\circ + 80^\circ + 65^\circ = 185^\circ$

This is not equal to the sum of all the angles of a triangle.

(d)  $\text{Sum} = 72^\circ + 28^\circ + 90^\circ = 190^\circ$

This is not equal to the sum of all the angles of a triangle.

Q3

**Answer :**

(b)  $80^\circ$

Let the measures of the given angles be  $(2x)^\circ$ ,  $(3x)^\circ$  and  $(4x)^\circ$ .

$$\therefore (2x)^\circ + (3x)^\circ + (4x)^\circ = 180^\circ$$

$$\Rightarrow (9x)^\circ = 180^\circ$$

$$\Rightarrow x = 180 / 9$$

$$\Rightarrow x = 20^\circ$$

$$\therefore 2x = 40^\circ, 3x = 60^\circ, 4x = 80^\circ$$

Hence, the measures of the angles of the triangle are  $40^\circ$ ,  $60^\circ$ ,  $80^\circ$ .

Thus, the largest angle is  $80^\circ$ .

Q4

**Answer :**

Correct option: (d)

The measure of two angles are complimentary if their sum is  $90^\circ$  degrees.

Let the two angles be  $x$  and  $y$ , such that  $x + y = 90^\circ$ .

Let the third angle be  $z$ .

Now, we know that the sum of all the angles of a triangle is  $180^\circ$ .

$$x + y + z = 180^\circ$$

$$\Rightarrow 90^\circ + z = 180^\circ$$

$$\Rightarrow z = 180^\circ - 90^\circ$$

$$= 90^\circ$$

The third angle is  $90^\circ$ .

Q5

**Answer :**

Correct option: (c)

Let  $\angle A = 70^\circ$

The triangle is an isosceles triangle.

We know that the angles opposite to the equal sides of an isosceles triangle are equal.

$$\therefore \angle B = 70^\circ$$

We need to find the vertical angle  $\angle C$ .

Now, sum of all the angles of a triangle is  $180^\circ$ .

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\Rightarrow 70^\circ + 70^\circ + \angle C = 180^\circ$$

$$\Rightarrow 140^\circ + \angle C = 180^\circ$$

$$\Rightarrow \angle C = 180^\circ - 140^\circ$$

$$\Rightarrow \angle C = 40^\circ$$

\*\*\*\*\* END \*\*\*\*\*