

Mathematics

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(Chapter – 6) (Lines and Angles)(Exemplar Problems)

(Class – IX)

Exercise 6.3

Question 8:

The angles of a triangle are in the ratio 2 : 3 : 4. Find the angles of the triangle.

Answer 8:

Given:

Ratio of angles are 2 : 3 : 4.

To find:

Angles of triangle.

Solution:

The ratio of angles of a triangle is 2 : 3 : 4.

Let angles of a triangle be $\angle A$, $\angle B$ and $\angle C$.

Let $\angle A = 2x$, then $\angle B = 3x$ and $\angle C = 4x$

In $\triangle ABC$, $\angle A + \angle B + \angle C = 180^\circ$

[Sum of angles of a triangle is 180°]

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

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

$$\Rightarrow x = \frac{180^\circ}{9} = 20^\circ$$

$$\therefore \angle A = 2x = 2 \times 20^\circ = 40^\circ$$

$$\angle B = 3x = 3 \times 20^\circ = 60^\circ$$

and $\angle C = 3x = 4 \times 20^\circ = 80^\circ$

Hence, the angles of the triangles are 40° , 60° and 80° .

