

# Mathematics

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(Chapter – 5) (Introduction to Euclid’s Geometry)(Exemplar Problems)  
(Class – IX)

## Exercise 5.3

Solve each of the following question using appropriate Euclid’s axiom:

### Question 6:

In the Fig.5.6, we have  $BX = \frac{1}{2} AB$  and  $BY = \frac{1}{2} BC$  and  $AB = BC$ . Show that  $BX = BY$ .

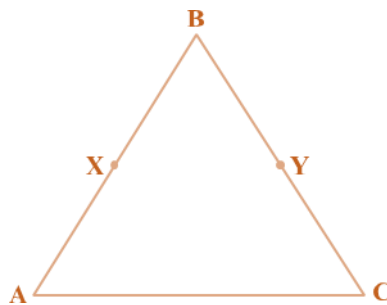


Fig.5.6

### Answer 6:

Given that:

$$BX = \frac{1}{2} AB$$
$$\Rightarrow 2BX = AB \quad \dots (i)$$

and

$$BY = \frac{1}{2} BC$$
$$\Rightarrow 2BY = BC \quad \dots (ii)$$

and

$$AB = BC \quad \dots (iii)$$

On putting the values from equations (i) and (ii) in equation (iii), we get

$$2BX = 2BY$$

According to Euclid’s axioms, things which are double of the same things are equal to one another.

$$\therefore BX = BY$$

