

Mathematics

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(Chapter – 7) (Triangles)(Exemplar Problems)
(Class – IX)

Exercise 7.1

Write the correct answer in each of the following:

Question 6:

D is a point on the side BC of a $\triangle ABC$ such that AD bisects $\angle BAC$. Then

- (A) $BD = CD$ (B) $BA > BD$ (C) $BD > BA$ (D) $CD > CA$

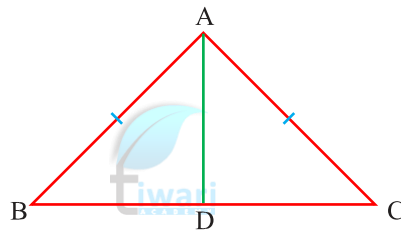
Answer 6:

- (B) $BA > BD$

Solution:

Given that: In $\triangle ABC$, AD bisects $\angle BAC$

$$\Rightarrow \angle BAD = \angle CAD$$



$\angle ADB$ is the exterior angle of triangle ADC.

$$\Rightarrow \angle ADB = \angle DAC + \angle ACD$$

$$\Rightarrow \angle ADB > \angle DAC$$

$$\Rightarrow \angle ADB > \angle DAB$$

$$[\because \angle BAD = \angle CAD]$$

Now, in triangle ADB, $\angle ADB > \angle DAB$

$$\Rightarrow BA > BD$$

[\because Greater angle has longer side opposite to it]

Hence, the option (B) is correct.

