



Triangles Ex 4.3 Q2

**Answer :**

It is given that  $AE$  is the bisector of the exterior  $\angle CAD$

Meeting  $BC$  produced  $E$  and  $AB = 10\text{cm}$ ,  $AC = 6\text{cm}$  and  $BC = 12\text{cm}$

Since  $AE$  is the bisector of the exterior  $\angle CAD$

$$\text{So } \frac{BE}{CE} = \frac{AB}{AC}$$

$$\frac{12+x}{x} = \frac{10}{6}$$

$$72 + 6x = 10x$$

$$4x = 72$$

$$x = 18$$

Hence  $CE = 18\text{cm}$

Triangles Ex 4.3 Q3

**Answer :**

It is given that in  $\triangle ABC$ ,  $\frac{AB}{AC} = \frac{BD}{DC}$ ,  $\angle B = 70^\circ$  and  $\angle C = 50^\circ$ .

We have to find  $\angle BAD$ .

In  $\triangle ABC$ ,

$$\angle A = 180^\circ - (70^\circ + 50^\circ)$$

$$= 180^\circ - 120^\circ$$

$$= 60^\circ$$

Since  $\frac{AB}{AC} = \frac{BD}{DC}$ , therefore,  $AD$  is the bisector of  $\angle A$ .

$$\text{Hence, } \angle BAD = \frac{60^\circ}{2} = 30^\circ$$

Triangles Ex 4.3 Q4

**Answer :**

We have to prove that  $\frac{AB}{AC} = \frac{BD}{DC}$ .

In  $\triangle ABC$ ,

$$\angle 1 = \angle 2 \quad (\text{Given})$$

So,  $AD$  is the bisector of  $\angle A$ .

Therefore,  $\boxed{\frac{AB}{AC} = \frac{BD}{DC}}$

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