

$$AH = \frac{1}{2} AB$$

$$\cos A = \frac{AH}{AC}$$

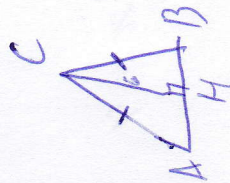
$$AH = \cos A \cdot AC$$

$$AH = \frac{\sqrt{10}}{10} \cdot 2\sqrt{10}$$

$$AH = 2$$

$$AB = 2AH$$

$$AB = 4$$



Drawn:

$\triangle ABC$

$AC = BC$

$CH = 6$

$$\cos A = \frac{\sqrt{10}}{10}$$

$AB = ?$

~~$$\cos B = \frac{CH}{BC}$$~~

~~$$\cos A = \frac{CH}{AC}$$~~

~~$$\cos A = \frac{CH}{AC}$$~~

$$\sin A = \frac{CH}{AC}$$

$$(\sin A)^2 = 1 - (\cos A)^2$$

$$(\sin A)^2 = 1 - 0,1$$

$$\sin A^2 = 0,9$$

$$\sin A = \frac{3}{\sqrt{10}} = \frac{3\sqrt{10}}{10}$$

$$\frac{3\sqrt{10}}{10} = \frac{6}{AC}$$

$$60 = 3\sqrt{10} AC$$

$$20 = \sqrt{10} AC$$

$$AC = 2\sqrt{10}$$