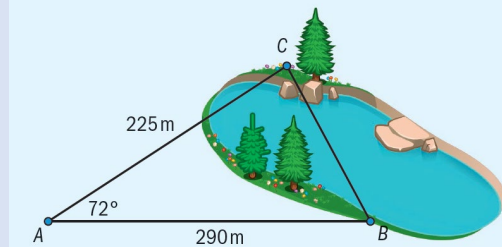


Chapter 1 / Example 13

Using the cosine rule

A surveyor of a lake measures $AB = 225$ m, and $AC = 290$ m, and $\hat{BAC} = 72^\circ$ in the diagram at right.

- a** Find BC .
b Find \hat{C} .



Open a new document and add a Calculator page.

Use the touchpad to click on the wheel icon in the page header.

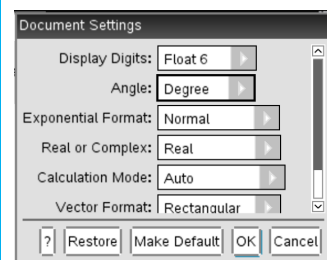


Select 2:Document Settings...

Select 'Degree' as the unit for Angle.

Use the touchpad to select OK or click **enter**.

The page header should now show 'DEG'.

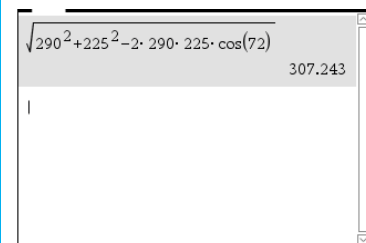


$$CB^2 = 290^2 + 225^2 - 2 \times 290 \times 225 \times \cos 72^\circ$$

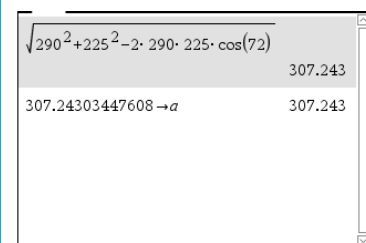
Enter $\sqrt{290^2 + 225^2 - 2 \times 290 \times 225 \times \cos(72)}$ and press **enter**.

To enter \cos press **trig** and select \cos from the menu with the touchpad.

$$CB = 307 \text{ m.}$$



Save your answer to CB as A by pressing **ctrl** **var** **sto→** **A**.



Chapter 1 / **Example 13**

Using the cosine rule

$$290^2 = CB^2 + 225^2 - 2 \times CB \times 225 \times \cos \hat{C}^\circ$$

$$\hat{C} = \cos^{-1} \left(\frac{CB^2 + 225^2 - 290^2}{2 \times CB \times 225} \right)$$

Enter $\cos^{-1} \left(\frac{A^2 + 225^2 - 290^2}{2 \times A \times 225} \right)$ directly and press **enter**.

Press **ctrl** **[]** **[]** to enter a fraction template.

To enter \cos^{-1} press **trig** and select \cos^{-1} from the menu with the touchpad.

$$C = 63.9^\circ$$

$\sqrt{290^2 + 225^2 - 2 \cdot 290 \cdot 225 \cdot \cos(72)}$	307.243
$307.24303447608 \rightarrow a$	307.243
$\cos^{-1} \left(\frac{a^2 + 225^2 - 290^2}{2 \cdot a \cdot 225} \right)$	63.855