

Play
Unit 2



Reteaching

12.7 The Sine and Cosine Functions

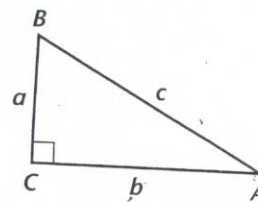
◆ Skill A Finding sines and cosines

Recall The sine and cosine ratios are also based on a right triangle.

Triangle ABC has the following sines and cosines:

$$\sin A = \frac{a}{c} \text{ and } \cos A = \frac{b}{c}$$

$$\sin B = \frac{b}{c} \text{ and } \cos B = \frac{a}{c}$$



◆ Example

Find the sine and cosine of $\angle A$.

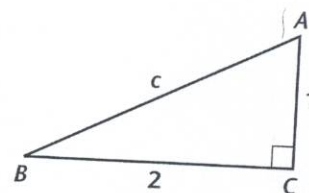
◆ Solution

Because $a = 2$ and $b = 1$, first use the Pythagorean Theorem to find c .

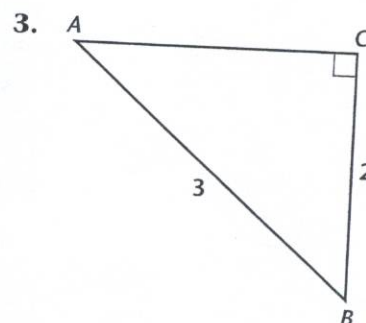
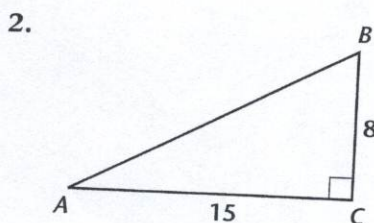
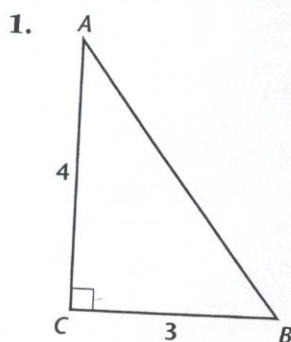
$$c = \sqrt{2^2 + 1^2} = \sqrt{5}$$

$$\sin A = \frac{2}{\sqrt{5}} = \frac{2\sqrt{5}}{5} \approx 0.894$$

$$\cos A = \frac{1}{\sqrt{5}} = \frac{\sqrt{5}}{5} \approx 0.447$$



Find the sine and cosine of each $\angle A$. Round to the nearest thousandth, if necessary.



Find the sine and cosine of each angle to the nearest thousandth.

4. 25°

5. 45°

6. 90°