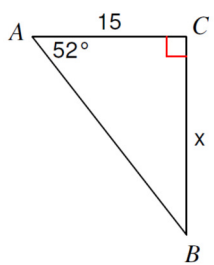
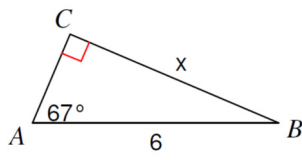
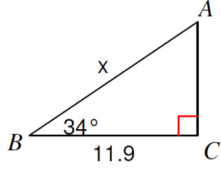
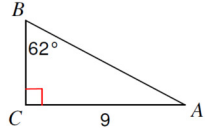


## 5 -3 Inverse Trigonometric Ratios Notes

### Let's Review Trig Ratios!

<p>1. Find side x.</p> 	<p>2. Find side x.</p> 	<p>3. Find side x.</p> 	<p>4. Solve triangle ABC.</p> 
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### Finding a Missing Angle with a Trigonometric Ratio –

- With trigonometry, you only need to know \_\_\_\_\_ in order to find a(n) \_\_\_\_\_ in a right triangle.
- Decide how the two given sides relate to the \_\_\_\_\_.
- Set up a(n) \_\_\_\_\_ using the appropriate \_\_\_\_\_ BUT will have to use the \_\_\_\_\_ in calculator to produce the angle measurement!

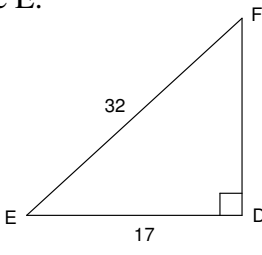
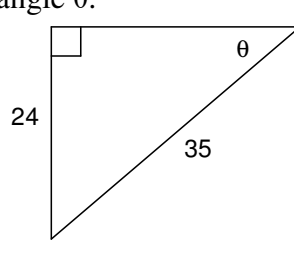
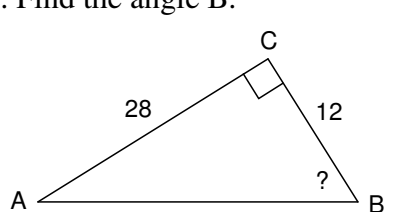
## Inverse Trigonometric Ratios: Use ONLY when FINDING an ANGLE MEASUREMENT!

Trig Ratios	Inverse Trig Ratios	Calculator Keys	Example: Find $\theta$
$\sin \theta = \frac{\textit{opposite}}{\textit{hypotenuse}}$		$2^{\text{nd}}$ sin ( _____ )	$\sin \theta = \frac{1}{2} \rightarrow \theta = \underline{\hspace{2cm}}$
$\cos \theta = \frac{\textit{adjacent}}{\textit{hypotenuse}}$		$2^{\text{nd}}$ cos ( _____ )	$\cos \theta = 0.7498 \rightarrow \theta = \underline{\hspace{2cm}}$
$\tan \theta = \frac{\textit{opposite}}{\textit{adjacent}}$		$2^{\text{nd}}$ tan ( _____ )	$\tan \theta = \frac{\sqrt{19}}{3} \rightarrow \theta = \underline{\hspace{2cm}}$

**Example 1:** Solve each equation by find the value of angle  $\theta$ . Round to tenth place.

a. $\sin \theta = \frac{\sqrt{3}}{2}$	b. $\cos \theta = 0.7498$	c. $\tan \theta = 2$
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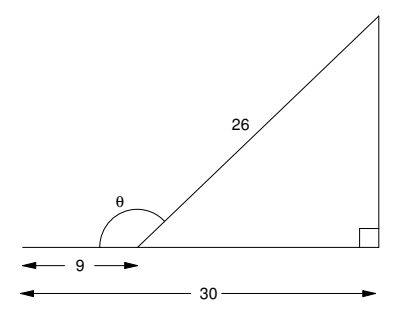
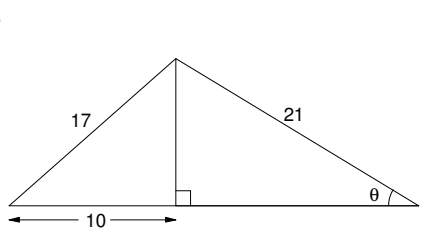
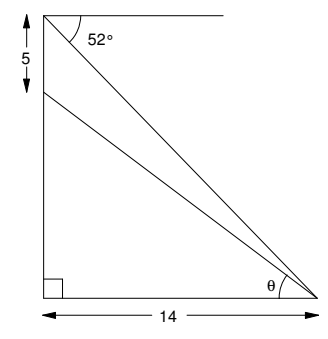
**Example 2: Find the indicated angle. Round to nearest tenth.**

<p>a. Find angle E.</p> 	<p>b. Find angle <math>\theta</math>.</p> 	<p>c. Find the angle B.</p> 
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**Example 3: Solve triangle ABC. Round to tenth place.**

<p>a. <math>a = 12</math>, <math>b = 18</math></p>	<p>b. <math>a = 23</math>, <math>c = 45</math></p>
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**Example 4 – Critical Thinking: Find the value of angle  $\theta$ . Round to tenth place.**

<p>a.</p> 	<p>b.</p> 	<p>c.</p> 
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