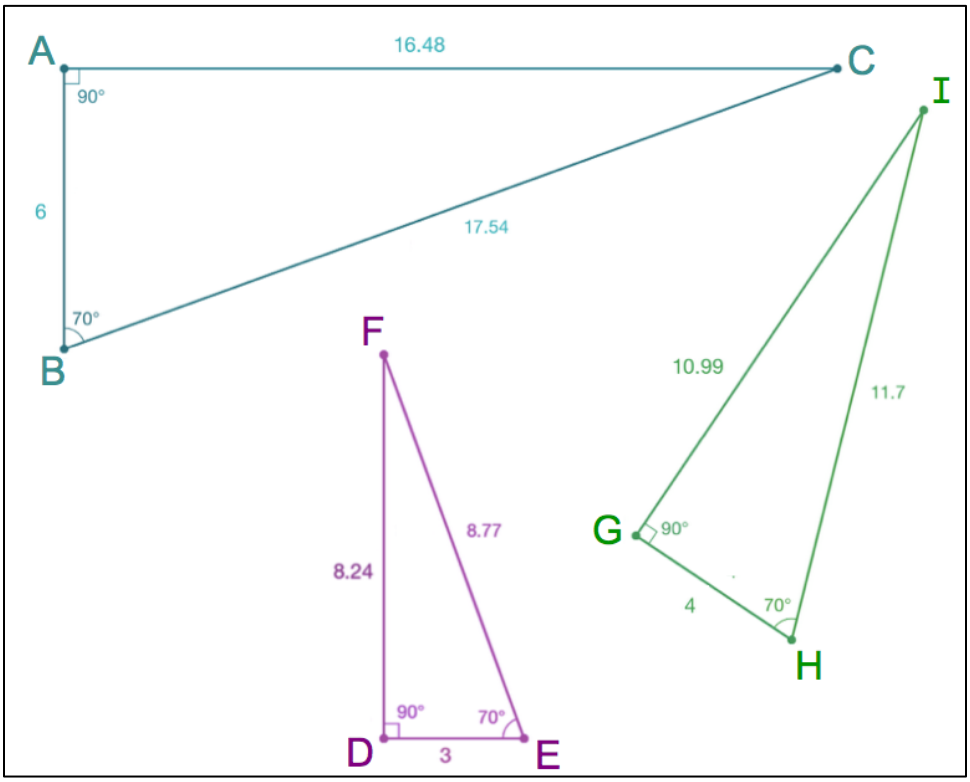
Right Triangle Trig Review

Warm Up - What IS Trigonometry?

1. Compare the three triangles in the box below. Are the three triangles congruent? Are they similar? Explain how you know.

2. Label the sides of each triangle as hypotenuse, opposite, and adjacent to the $70°$ angle.



3. Fill in the following table with the ratios from the sides of each triangle. Round the divided ratios to nearest ten-thousandth (4 places after the decimal).

Triangle ABC	$\frac{opposite}{hypotenuse} =$	$\frac{adjacent}{hypotenuse} =$	$\frac{opposite}{adjacent} =$
Triangle DEF	$\frac{opposite}{hypotenuse} =$	$\frac{adjacent}{hypotenuse} =$	$\frac{opposite}{adjacent} =$
Triangle GHI	$\frac{opposite}{hypotenuse} =$	$\frac{adjacent}{hypotenuse} =$	$\frac{opposite}{adjacent} =$

4. What do you notice about each column?

5. Make sure your yellow calculator is in degree mode (MODE -> Degree).
Find the following values. Round to the nearest ten-thousandth.

$\sin 70° =$ _____ $\cos 70° =$ _____ $\tan 70° =$ _____

6. Did your findings from the table match up to the calculator values? Explain.

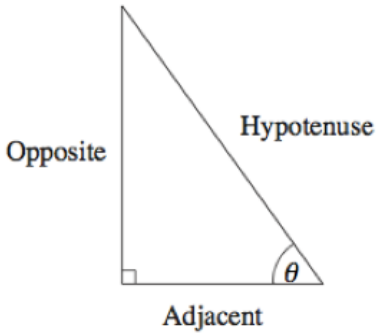
**7. Using the side lengths in triangle ABC, find the following values based of of the $20°$ angle. Confirm using the calculator.

$\sin 20° =$ _____ $\cos 20° =$ _____ $\tan 20° =$ _____

Trig Ratio Recap

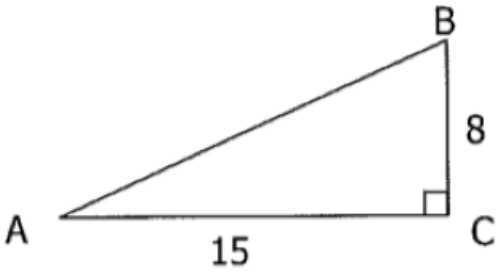
For a right triangle, the sine, cosine, and tangent of the angle θ is defined as:

$\sin\theta =$ _____ $\cos\theta =$ _____ $\tan\theta =$ _____



Remember:

Example 1 Using Trig Ratios



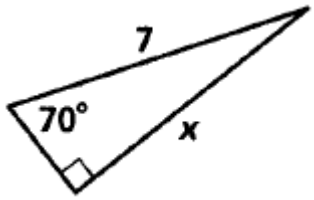
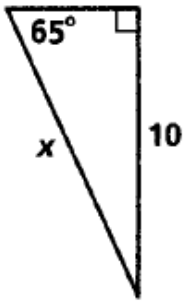
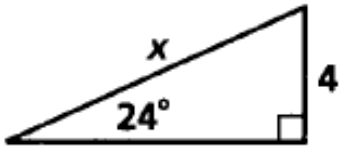
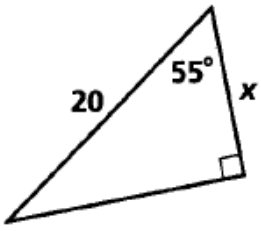
sin A = _____ sin B = _____

cos A = _____ cos B = _____

tan A = _____ tan B = _____

Example 2 Finding Missing Sides

Use trig ratios to find the missing sides of the following triangles.

1.	2.	3.	4.
			

Example 3 Finding Missing Angles

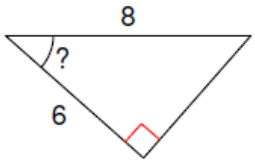
To find a missing _____ in a right triangle, we must use _____ trigonometry.

Ex: $\sin(\text{angle}) = value \rightarrow sin^{-1}(\text{value}) = \text{angle}$

$\sin(30°) = 0.5 \rightarrow sin^{-1}(0.5) =$

Find the ? angle measure to the nearest degree.

1.



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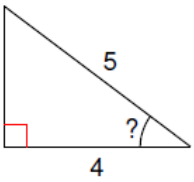

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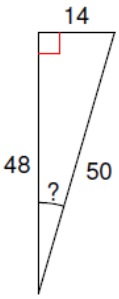

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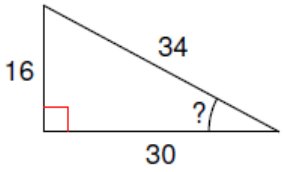

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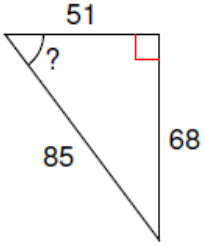


Scavenger Hunt

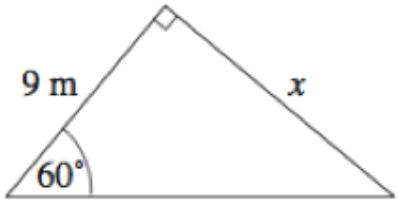
Letter	Problem/Work	Answer

Letter	Problem/Work	Answer

Practice

Find the missing side or missing angle. Show your set-up and solution.

1.



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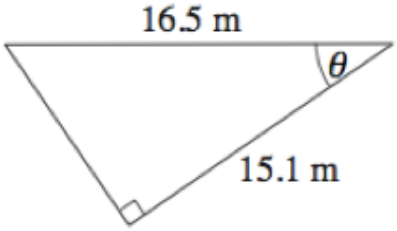

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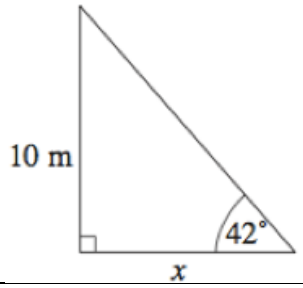

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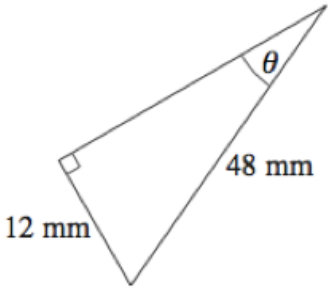

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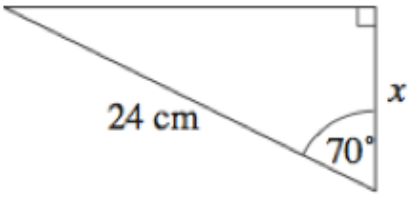

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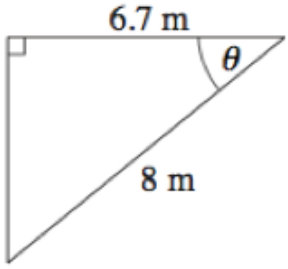

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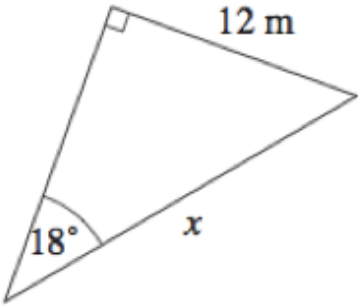

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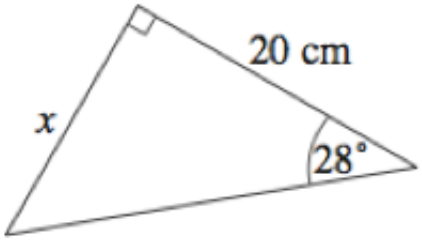

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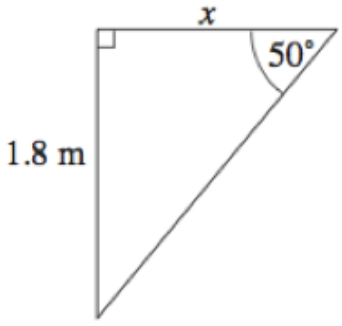
10.



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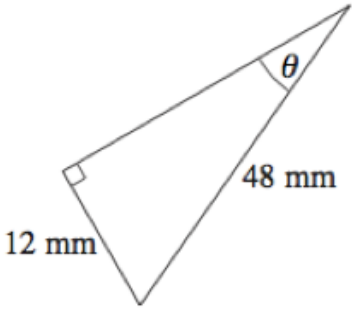

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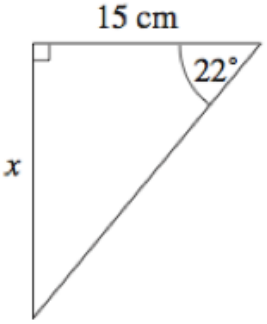
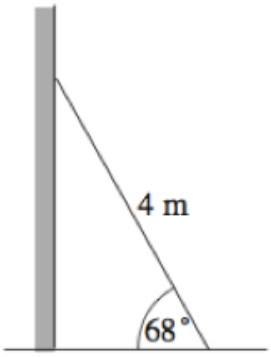


13.

A ladder leans against a wall as shown in the diagram.

(a) How far is the top of the ladder from the ground?

(b) How far is the bottom of the ladder from the wall?

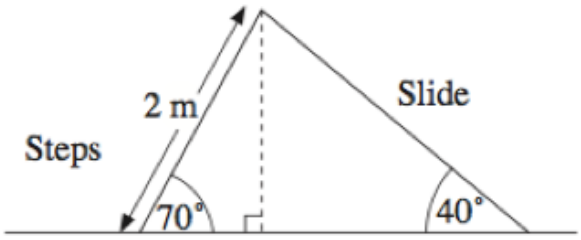


14.

The diagram shows a slide.

(a) Find the height of the top of the slide.

(b) Find the length of the slide.



15.

As cars drive up a ramp at a multi-storey car park, they go up 2 metres. The length of the ramp is 10 metres. Find the angle between the ramp and the horizontal.