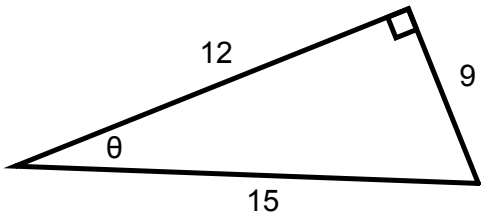
L03 - Trigonometry (Solving for Sides)

Part 1 - Solving for Angles

1. Label all sides of the triangle (opp, adj, hyp).
2. Using each ratio, solve for the angle (yes, you should get the same answer all 3 times)



SohCahToa

$\sin\theta = \frac{o}{h}$ $\cos\theta = \frac{a}{h}$ $\tan\theta = \frac{o}{a}$

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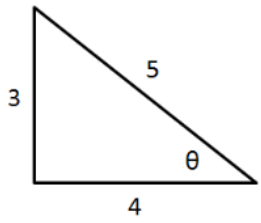
Use the following information to answer Q1-3:

Labelling the Sides of a Triangle



Trigonometric Ratio

1 – Sin
2 – Cos
3 – Tan

Q1: Determine the length of each side of the triangle.

Orientation:	_____	_____	_____
Description:	**Length of the Adjacent side**	**Length of the Hypotenuse**	**Length of the Opposite side**

*(Record your **three-digit** answer in the Numerical Response boxes below)*

Q2: To solve the triangle above for θ, we will use a trigonometric ratio ***a*** from the text box above. The value of this ratio is $\frac{b}{c}$, where ***a, b,*** and ***c*** are ___, ___, and ___.

*(Record your **three digit** answer in the Numerical Response boxes below)*

Q3: What is the value of θ?

*(Record your **three digit** answer in the Numerical Response boxes below)*

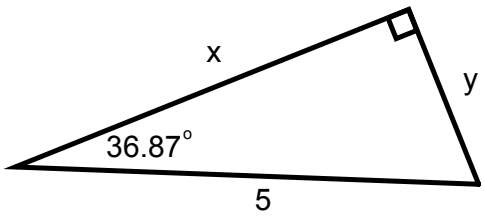
Part 2 - Solving for Sides - Easy Calculations

Step 1: Label all sides.

Step 2: Which side are you solving for? Choose your appropriate ratio.

Step 3: Convert your angle to a ratio (in decimal form).

Step 4: Solve for the unknown side.



SohCahToa

$\sin\theta = \frac{o}{h}$ $\cos\theta = \frac{a}{h}$ $\tan\theta = \frac{o}{a}$

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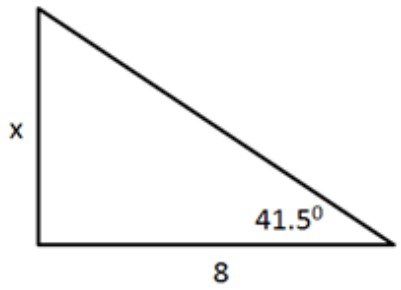
Use the following information to answer Q4-6:

Labelling the Sides of a Triangle



Side Orientation

1 – Diagonal
2 – Horizontal
3 – Vertical

Q4: Use the numbers above to identify each side of the triangle.

Orientation:	_____	_____	_____
Description:	**Adjacent**	**Hypotenuse**	**Opposite**

*(Record your **three-digit** answer in the Numerical*

Q5: To solve the triangle above for side ***x***, we will use which trigonometric ratio?

a. Sin
b. Cos
c. Tan
d. All of the above

Q6: What is the value of x, to the nearest tenth?

(Record your answer in the Numerical Response boxes below)

Part 3 - Solving for Sides - Hard Calculations

Step 1: Label all sides.

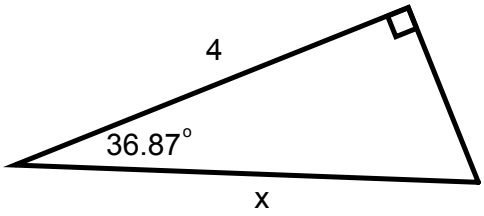
Step 2: Which side are you solving for?
Choose your appropriate ratio.

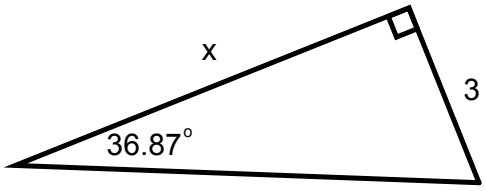
Step 3: Convert your angle to a ratio
(in decimal form).

Step 4: Solve for the unknown side.

SohCahToa

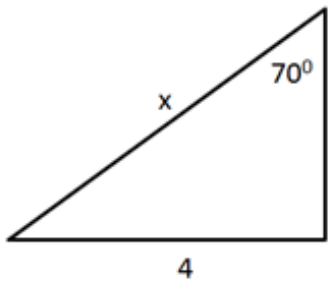
$\sin\theta = \frac{o}{h}$ $\cos\theta = \frac{a}{h}$ $\tan\theta = \frac{o}{a}$





Use the following information to answer Q7-9:

Labelling the Sides of a Triangle



Side Orientation

1 – Diagonal
2 – Horizontal
3 – Vertical

Q7: Use the numbers above to identify each side of the triangle.

Orientation:	_____	_____	_____
Description:	**Adjacent**	**Hypotenuse**	**Opposite**

*(Record your **three-digit** answer in the Numerical*

Q8: To solve the triangle above for side ***x***, we will use which trigonometric ratio?

a. Sin
b. Cos
c. Tan
d. All of the above

Q9: What is the value of x, to the nearest tenth?

(Record your answer in the Numerical Response boxes below)
