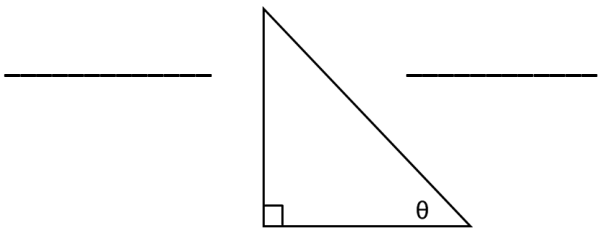
Guided Notes – Trigonometric Ratios and SOHCAHTOA

Name_____

Triangle Sides (based on θ):

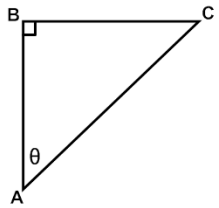
1. **Label the triangle below with the correct sides labeled as either hypotenuse, opposite, or adjacent in relation to where θ is located.**



_____ _____

_____

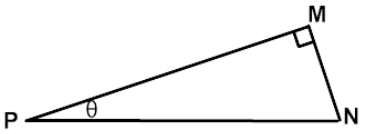
2. **Complete the following based off of the corresponding triangles below.**



Which side is the hypotenuse? _____

Which leg is opposite θ? _____

Which leg is adjacent to θ?_____

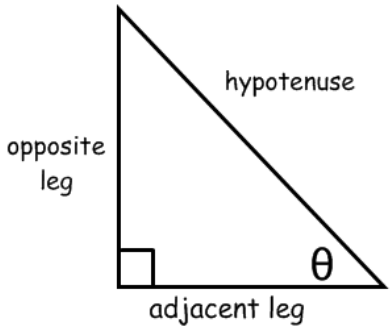


Which side is the hypotenuse? _____

Which leg is opposite θ? _____

Which leg is adjacent to θ?_____

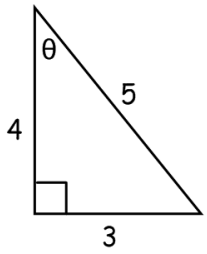
What are the Trigonometric Ratios?



SohCahToa

Sine	**Sin θ =** _____
Cosine	**Cos θ =** _____
Tangent	**Tan θ =** _____

How do we use these ratios?

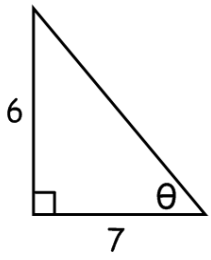


$\sin\theta = \frac{o}{h} =$ _____

$\cos\theta = \frac{a}{h} =$ _____

$\tan\theta = \frac{o}{a} =$ _____

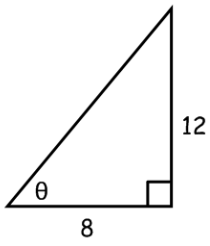
Find the missing side (use Pythagorean Theorem) and evaluate each for sin θ, cos θ, and tan θ.



$\sin\theta = \frac{o}{h} =$ _____

$\cos\theta = \frac{a}{h} =$ _____

$\tan\theta = \frac{o}{a} =$ _____



$\sin\theta = \frac{o}{h} =$ _____

$\cos\theta = \frac{a}{h} =$ _____

$\tan\theta = \frac{o}{a} =$ _____

How would you solve the following problem?

Suppose $\angle$J and $\angle$K are complementary angles in a right triangle. The value of tan J = $\frac{12}{5}$.

What is the value of sin J?

1. Draw and label a triangle for the problem.

2. Use the given trig ratio to label the lengths of two sides. Then use the Pythagorean Theorem to find the third side.

3. Using the measures of the sides of the triangle, find sin J.

Try this one...

Suppose $\angle$A and $\angle$B are complementary angles in a right triangle. The value of sin A = $\frac{7}{14}$.

What is the value of cos A?