

**Geometry
Guided Notes**

Name: _____

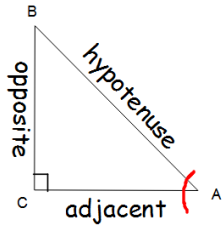
Trigonometric Ratios

Date: _____ Period: _____

Trigonometry - from the Greek language. It means "triangle measurement."

trigonometric ratio - ratio of the lengths of two sides of a right triangle

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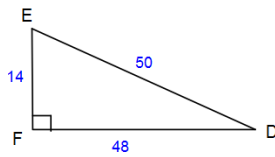


$$\sin A = \frac{\text{opposite}}{\text{hypotenuse}}$$

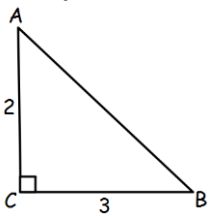
$$\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan A = \frac{\text{opposite}}{\text{adjacent}}$$

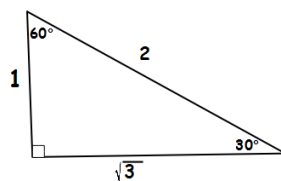
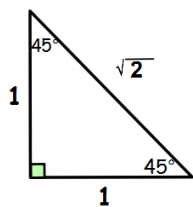
Example #1: Find the sine, cosine, and tangent of the indicated angle ($\angle D$ & $\angle E$).



Example #2: Find the sine, cosine, and tangent of the indicated angle ($\angle A$ & $\angle B$)



Trigonometric Ratios for Special Right Triangles



$\sin 45^\circ =$ _____

$\sin 30^\circ =$ _____

$\sin 60^\circ =$ _____

$\cos 45^\circ =$ _____

$\cos 30^\circ =$ _____

$\cos 60^\circ =$ _____

$\tan 45^\circ =$ _____

$\tan 30^\circ =$ _____

$\tan 60^\circ =$ _____

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Finding trigonometric ratios for triangles that are not 45° - 45° - 90° or 30° - 60° - 90°

YOU MUST USE A CALCULATOR!

1. Place the calculator in degree mode.
2. Find the sin, cos and tan buttons.

Example #3: Use a calculator to approximate the given value to four decimal places.

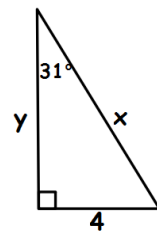
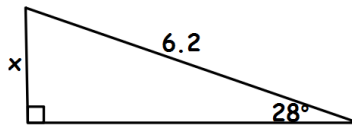
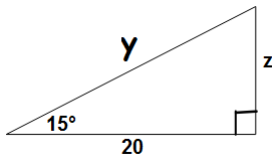
1. $\sin 35^\circ =$ _____

2. $\cos 10^\circ =$ _____

3. $\tan 74^\circ =$ _____

Using trigonometric functions to find a side

Example #4: Solve for the variable(s). Round the final answer(s) to one decimal place. Do not round until the final answer.



Angle of Elevation

Example #5: You are measuring the height of a building. You stand 100 feet from the base of the building. You measure the angle of elevation from a point on the ground to the top of the building to be 48° . Estimate the height of the building.

