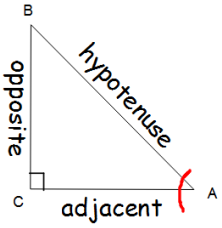
**Geometry** **Name:** _____
**Guided Notes**
**Trigonometric Ratios** **Date:** _____ **Period:** ____

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

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



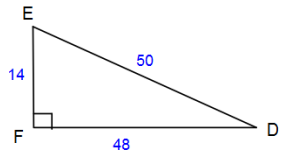

**SOH CAH TOA**

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

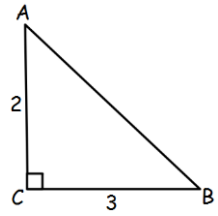
$\cos A = \frac{adjacent}{hypotenuse}$

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

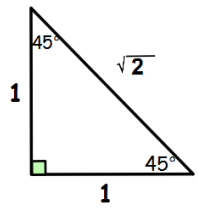
**Example #1**: Find the sine, cosine, and tangent of the indicated angle (∡D & ∡E).

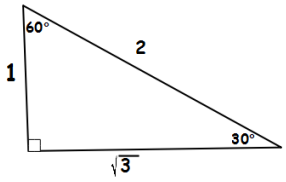



**Example #2**: Find the sine, cosine, and tangent of the indicated angle (∡A & ∡B)




**Trigonometric Ratios for Special Right Triangles**




sin 45° = _____ sin 30° = _____ sin 60° = _____

cos 45° = _____ cos 30° = _____ cos 60° = _____

tan 45° = _____ tan 30° = _____ tan 60° = _____

**Geometry** **Name:** _____
**Guided Notes**
**Trigonometric Ratios** **Date:** _____ **Period:** ____

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

**YOU MUST USE A CALCULATOR!**

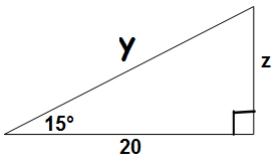
1. **Place the calculator in degree mode.**
2. **Find the sin, cos and tan buttons.**

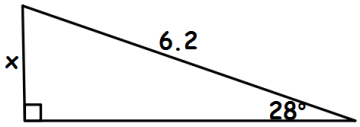
**Example #3:** Use a calculator to approximate the given value to four decimal places.

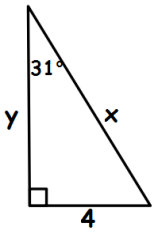
**1. sin 35° = _____** **2. cos 10° = _____** **3. tan 74° = _____**

**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.