**Lesson 1.1 Trigonometry Ratios in Right Triangles**

***Goal: Find the measure of sides and angles in right triangles using trigonometry ratios***

***RECALL***: 🡪 Right triangles have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angle

🡪The sum of all angles equal \_\_\_\_\_\_\_\_\_\_\_

 🡪Capital letters = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Lower case letters = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 🡪 Angles are ACROSS from their corresponding \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 🡪 If two sides are known use Pythagorean theorem (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) to find the third side

***Can only be used for RIGHT TRIANGLES***

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***Put your calculator in DEGREE mode***

**Three Primary Trigonometric Ratios:**

**SOH CAH TOA**

$sin θ=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$

$cos θ=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$

$$tan θ=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$$

Example 1:

1. State the 3 primary trig ratios for the following triangle
2. Find the trig ratios for the other acute angle. What is the measure of that angle?



sin(37°)=

cos(37°)=

370

tan(37°)=

Example 2: Evaluate using your calculator. Round to 3 decimal places.

1. $\sin(30°)=$b)$\cos(45°)=$c)$\tan(60°)=$

Example 3: Solve for the unknown angle θ. Round your answers to 1 decimal place.

$sin θ=0.707$ c$os θ=0.139tan θ=\frac{6}{7}$

***Use 2nd or Shift on your calculator to access the INVERSE buttons***

***sin-1, cos-1, tan-1***

***Use***

Example 4: Find the length of side x. Example 5: Find the measure of angle A.





 10

x

 250

Example 6: Solve the triangle (find the lengths of all sides and measures of all angles).

1.  b)

Seatwork/Homework: p. 8 #3, 4, 5, 6