**Pythagorean Theorem Tangent Sine Cosine Ratio Test Review – November 22, 2016**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TEST: THURSDAY, NOV 24/16**

**HOW TO DETERMINE WHICH TRIGONOMETRIC RATIO (FORMULA) TO USE TO CALCULATE THE VALUE OF THE UNKNOWN SIDE MEASUREMENT (X)**

**FORMULAS:**

**tan ϴ = opposite sin ϴ = opposite cos ϴ = adjacent adjacent hypotenuse hypotenuse**

*Identify (name) the TWO SIDES* (the two sides with either with a value or an X) in each of the following right triangles below (as either opposite, adjacent, hypotenuse)

The **two sides identified** in each diagram below **will determine the formula to use**.

**  **

angle measurement = \_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

angle measurement = \_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

angle measurement = \_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

**FORMULA: FORMULA: FORMULA:**

 **  **

angle measurement = \_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

angle measurement = \_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

angle measurement = \_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_

**TEST REVIEW PRACTICE QUESTIONS**

1. **Multiple Choice – Circle one correct answer for each of the following.**
2. **TRUE or FALSE** – Indicate whether the following statement are true or false. **Value 5**

(a) ( TRUE / FALSE ) The three angles of a right triangle add up to 160 degrees.

(b) ( TRUE / FALSE ) The two sides (opposite side and adjacent side) make up the 90 degree angle of a right triangle.

(c) ( TRUE / FALSE ) Another term for hypotenuse side of a right triangle is slant or slope.

(d) ( TRUE / FALSE ) The longest side of a right triangle is the opposite side.

(e) ( TRUE / FALSE ) The longest side of a right triangle is the hypotenuse side.

1. **Tangent, Sine, and Cosine Ratio**
2. Using the right triangles below: **Value 18**
3. ***First,*** noteeach of the following sides are marked as a measurement (units) or the letter (X).
4. ***then***, determine which of the following formulas to use according to the information provided.
5. ***and*** ***last***, determine the value of the unknown side measure to the nearest whole number.

**FORMULAS:**

**tan ϴ = opposite sin ϴ = opposite cos ϴ = adjacent**

 **adjacent hypotenuse hypotenuse**

1.

****

Angle measurement = \_\_\_\_\_\_\_\_ FORMULA:

\_\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_side = \_\_\_\_\_\_\_\_\_\_

Angle measurement = \_\_\_\_\_\_\_\_ FORMULA:

\_\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_side = \_\_\_\_\_\_\_\_\_\_

**B.**



**tan ϴ = opposite sin ϴ = opposite cos ϴ = adjacent**

 **adjacent hypotenuse hypotenuse**

**C.**

Angle measurement = \_\_\_\_\_\_\_\_ FORMULA:

\_\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_side = \_\_\_\_\_\_\_\_\_\_

 ****

1. A **guy wire** that is **40 m long** supports a tower and forms an **angle of 35**° with the **ground**. How far is the tower base from the guy wire attachment **on the ground**, to the nearest meter?
2. Label the diagram below with the information provided.
3. Determine which formula to use based on the information provided.
4. Solve for the missing value in the question.

Angle measurement = \_\_\_\_\_\_\_\_ FORMULA:

\_\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_side = \_\_\_\_\_\_\_\_\_\_

1. Using the right triangle below, MNO, label the diagram as indicated below:

a. Indicate **∠N** as the right angle (**90 degree angle**).

b. Label **side MN** as **40 meters**.

c. Label **∠M** as **25 degrees**.

d. Label the **hypotenuse side or side MO** as **X**.

e. Determine which formula should be used to determine the value of X.

**M**

Angle measurement = \_\_\_\_\_\_\_\_ FORMULA:

\_\_\_\_\_\_\_\_\_\_\_\_\_ side = \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_side = \_\_\_\_\_\_\_\_\_\_

**N**

**O**

1. Using ***right triangles*** below, determine the **hypotenuse side** **or c2** for each triangle below.

**a2 + b2 = c2**

1. (c)

12 m

25 ft

**Side C (hypotenuse)**

**Side C (hypotenuse)**

15 ft

16 m

**a2 + b2 = c2 a2 + b2 = c2**

1. Calculate the value of **side A** or **side B** in the right triangles below. NOTE: All triangles have the hypotenuse provided = C2.
2. **(b)**

**Side C (hypotenuse) = 30 km**

**Side C (hypotenuse) = 40 m**

20 km

A

B

28 m

**a2 + b2 = c2 a2 + b2 = c2**

**QUESTIONS WILL BE REVIEWED ON WEDNESDAY TO PREPARE FOR THURSDAYS TEST - NOVEMBER 24, 2016**