**Tangent, Sine, and Cosine Ratio Assignment - Value 60 DATE: November 21, 2016**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DUE: NOVEMBER 21, 2016**

1. **Multiple Choice – Circle *one correct* answer for each of the following. Value 5**
2. The three interior angles of a right triangle angles add up to \_\_\_\_\_\_\_\_\_\_ degrees.
3. 90 degrees
4. 120 degrees
5. 160 degrees
6. 180 degrees
7. Which two sides make up the 90 degrees angle of a right triangle?
8. Hypotenuse and opposite side
9. Adjacent and hypotenuse side
10. Opposite and adjacent side
11. Other terms for hypotenuse side of a right triangle include all of the following **EXCEPT**:
12. Slant
13. Steepness
14. Horizontal
15. Slope
16. The longest side of a right triangle is the:
17. opposite side
18. adjacent side
19. hypotenuse side
20. From the diagram below, indicate the ***adjacent side*** of the right triangle.



44 m

1. 27
2. X
3. 29 degrees
4. 44 m
5. **Tangent, Sine, and Cosine Ratios**
6. Using the formulas provided below to determine the value of “X” in each right triangle below.

|  |  |
| --- | --- |
| **FIRST**: Use the *right triangles* below to determine the **opposite** and **adjacent** sides. **Value 2** | Then calculate the ***tangent ratio*** and round off to the ***nearest tenth*** (of the unit indicated). **Value 4**  |
| Angle B = **28 degrees**opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_**adjacent = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **tan ϴ = opposite** **adjacent** |
| FIRST: Use the *right triangles* below to determine the **opposite** and **hypotenuse**  sides. **Value 2** | Then calculate the ***sine ratio*** and round off to the nearest tenth (of the unit indicated). **Value 4** |
| \_X\_angle D.PNGAngle D = **36 degrees**opposite = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_hypotenuse = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **sin ϴ = opposite** **hypotenuse** |
| FIRST: Use the *right triangles* below to determine the **adjacent** and **hypotenuse** side. **Value 2** | Then calculate the ***cosine ratio*** and round off to the nearest tenth (of the unit indicated). **Value 4** |
| NL11 taBLM7-2-4**Angle A**Angle A = **52 degrees**adjacent = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_hypotenuse = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **cosine ϴ = adjacent** **hypotenuse** |

1. Using the right triangles below: **Value 18**
2. ***First*** identify each of the following sides (the sides that are marked as a measurement AND the letter X)
3. ***then***, determine which of the following formulas to use to determine the unknown side (or X) for each
4. ***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**

**A**

Angle measurement = \_\_\_\_\_\_\_\_\_\_\_\_

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

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

FORMULA:

****

**50 degrees**

 **ANS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Angle measurement = \_\_\_\_\_\_\_\_\_\_\_\_

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

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

FORMULA:

 **B**

 ****

**C.**

 **ANS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Angle measurement = \_\_\_\_\_\_\_\_\_\_\_\_

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

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

FORMULA:



 **ANS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**WORD PROBLEMS**

1. Label the right triangle below, MNO, where
2. Angle N or **∠N** is the right angle (900) below. **Value 2**

b. Label side MN as 28 meters. **Value 1**

c. Label ∠O as 32 degrees. **Value 1**

d. Label the hypotenuse side (MO) as X. **Value 1**

e. Determine (from the information provided) which formula should be used to determine the value of X. **Value 2**

f. Using the formula to solve for X to the nearest meter. **Value 5**

Angle measurement = \_\_\_\_\_\_\_\_\_\_\_\_

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

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

FORMULA:

 **ANS: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. A guy wire that is 30 m long supports a tower and forms an angle of 75° with the ground. How far is the tower base from the guy wire attachment on the ground, to the nearest tenth of a metre?
2. Draw a diagram of the information provided first. **Value 3**
3. Label the diagram with the information provided. **Value 3**
4. Determine which formula to use based on the information provided. **Value 2**
5. Solve for the missing value in the question. **Value 5**

**TOTAL VALUE 60**