**Tangent Ratio & Pythagorean Theorem Class Practice Assignment – April 21, 2017**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Using the ***right triangles*** below, determine the ***tangent ratio*** for each.
2. (c)

**14 m**

**X**

**Angle A = 240**

**Angle B = 300**

**50 ft**

**X**

Angle A = **\_\_\_\_\_\_\_ degrees** Angle B = **\_\_\_\_\_\_\_\_\_ degrees**

opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_** opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

adjacent = **\_\_\_\_\_\_\_\_\_\_\_\_\_** adjacent = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**tan ϴ = opposite tan ϴ = opposite**

 **adjacent adjacent**

**X\_\_\_\_\_\_\_**

1. (d)

**X**

**Angle D = 120**

**2.8 miles**

**42 m**

**Angle E = 310**

Angle D = **\_\_\_\_\_\_\_\_\_\_\_ degrees** Angle E = **\_\_\_\_\_\_\_\_\_\_\_ degrees**

opposite = \_\_\_\_\_\_\_\_\_\_\_ opposite = \_\_\_\_\_\_\_\_\_\_

adjacent = \_\_\_\_\_\_\_\_\_\_\_ adjacent = \_\_\_\_\_\_\_\_\_\_

**tan ϴ = opposite tan ϴ = opposite**

 **adjacent adjacent**

1. Using ***right triangles*** below, determine the **tangent ratio** for each.

(a) (c)

**X**

**25 m**

**Angle B = 350**

**48 ft**

ft

**Angle A = 200**

**X**

Angle A = **\_\_\_\_\_\_\_ degrees** Angle B = **\_\_\_\_\_\_\_\_\_ degrees**

opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_** opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

adjacent = **\_\_\_\_\_\_\_\_\_\_\_\_\_** adjacent = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**tan ϴ = opposite tan ϴ = opposite**

 **adjacent adjacent**

**X**

(b) (d)

**X**

**Angle D = 180**

**225 cm**

 **42 in**

**Angle E = 150**

Angle D = **\_\_\_\_\_\_\_ degrees** Angle E = **\_\_\_\_\_\_\_\_\_ degrees**

opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_** opposite = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

adjacent = **\_\_\_\_\_\_\_\_\_\_\_\_\_** adjacent = **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**tan ϴ = opposite tan ϴ = opposite**

 **adjacent adjacent**

1. Identify **any three facts** below about right triangles in complete sentences.

**(1)**

**(2)**

**(3)**

1. Use the following diagram to answer the following questions below.

Side C

Side A

**Angle X**

Side B

1. Indicate which side is the **longest side** of a right triangle above, **side A, B, or C**?

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

1. What is the **name of the longest side** (opposite, adjacent or hypotenuse)?

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

1. Both side A and B make up which angle measurement?

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

1. If side A = 5 and side B = 7, determine the measurement of **side C** using the Pythagorean Theorem (a2 + b2 = c2).

**ANS:**

1. Draw a right angle triangle below (indicate the 90 degree angle).
2. Draw a right triangle and indicate the 90 degree angle. Select one of the other two angles and indicate it as 28 degrees. The opposite side to the 28 degree angle is 65 m and the adjacent side is X. Solve the value of X using the tangent formula.
3. Using the ***right triangles*** below, determine the ***ANGLE MEASUREMENTS*** for each. NOTE: Use 2nd tan!

**C**

**16m**

1. C.

**24 m**

**24 m**

**84 cm**

**A**

**12 ft**

1. D.

**D**

**100 in**

**125 in**

**B**

**16 ft**