Unit 5 Trig Functions Test

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
Block: \_\_\_\_\_\_\_\_\_\_

***Level 2:***

1. *Identify the 6 Trig Functions*

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s

*Evaluate and Indicate Number of Full Rotations.*

4

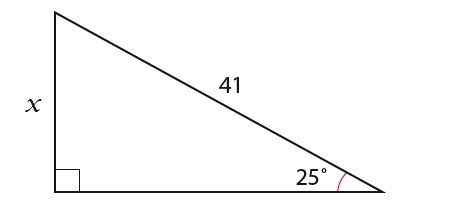
# of rotations # of rotations # of rotations

, find the value of sin and tan.   
[Hint: Remember: ]

sin tan

*Find the Inverse.*

7.)

9.) Given the triangle (at right), find the missing side length.

x

***Level 3:***

10.) Given that and Find the following.

11.) Let (-12, 5) be a point on the terminal side of Find the cosine, sine, and tangent of Also find the secant, cosecant, and cotangent. [Hint: If the radius is not 1 make sure to indicate what it is]

12. Given the equation for simple harmonic motion: , find the maximum displacement, frequency, the value of d when t = 10, and the least positive value for t for which d = 0.

Maximum Displacement Frequency

d (when t = 10) Least Positive Value for t (for d = 0)

13.) A safety regulation states that the max angle of elevation for a rescue ladder is . A fire department’s longest ladder is 110 feet. There is a cat that needs to be rescued from a tree, and the cat is 105 feet off the ground. Are they able to successfully rescue the cat or do they need to find another ladder? *Justify your answer*.

Is the ladder long enough? \_\_\_\_\_\_\_\_\_\_

Justification:

***Level 4:***

14.) You are standing *directly* between two buildings. You know that one building is 500 feet tall and the angle from where you are standing to the top is The other building 375 feet tall, what is the angle of elevation to the top of the second building from where you are standing?

Angle of elevation

15.) You are standing about 450 feet from a building that has a smoke stack attached to the roof of the building. The angle of elevation to the top of the building (base of the smoke stack) from where you are standing is . How tall is the just the smoke stack if the angle of elevation to the top the smoke stack from where you are standing is?

Height of smoke stack