Geometry Honors
Unit 8: Similarity within Triangles
8.3c Inverse Trig (finding missing angles)

Mathematician: _____
Period:_____

LEVEL: EMERGING

Directions: Use your calculator to find the value of the inverse trig function.

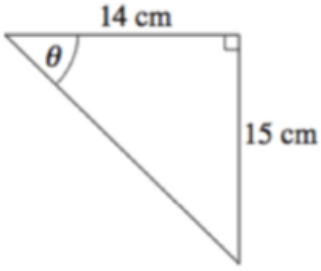
1) $\tan^{-1}(.234) =$

2) $\cos^{-1}(.5) =$

3) $\tan^{-1}(8) =$

4) $\sin^{-1}(.87) =$

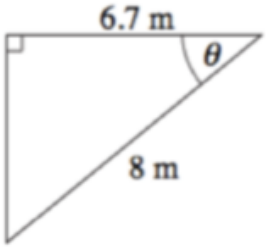
5)



a) What is the trig function that relates the two given sides?

b) Find the angle θ.

6)



a) What is the trig function that relates the two given sides?

b) Find the angle θ.

7)

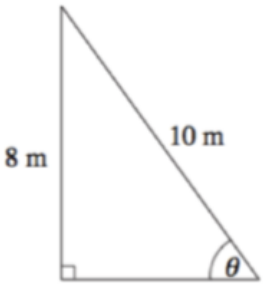
a) What is the trig function that relates the two given sides?

b) Find the angle θ.

LEVEL: PROFICIENT

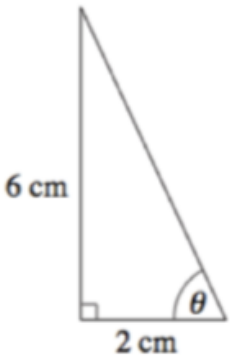
Directions: Find the angle θ of the given triangle.

8)



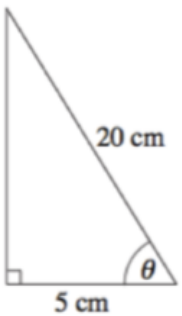
$\theta =$ _____

9)



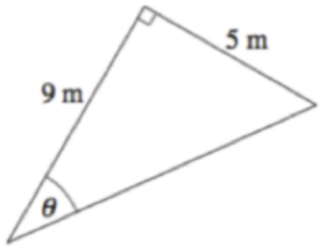
$\theta =$ _____

10)



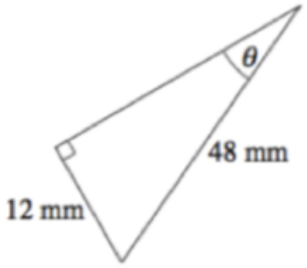
$\theta =$ _____

11)



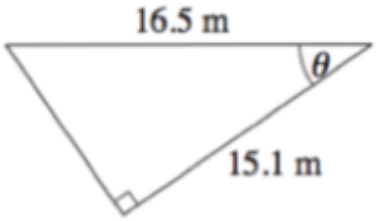
$\theta =$ _____

12)



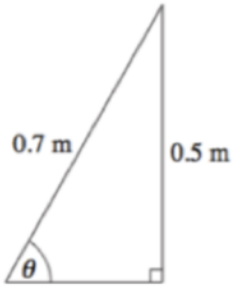
$\theta =$ _____

13)



$\theta =$ _____

14)



$\theta =$ _____

LEVEL: MASTERY

Directions: Draw a diagram to solve the following problems, and then answer the questions.

15) A ladder leans against a wall. The length of the ladder is 4 meters and the distance from the base of the wall to the base of the ladder is 2 meters. Find the angle between the ladder and the ground.

16) As cars drive up a ramp, at a multi-story car garage, they travel a distance of 10 meters. The car travels a vertical distance of 2 meters. Find the angle between the ramp and the ground

17) A pilot needs to begin his decent when his plane is 7500 m above the ground and 200 km straight to the airport. At what angle should his descent be?