

## SM3 HW#6-7 (graph sine and cosine)

Period \_\_\_\_\_

**Using degrees, find the centerline, amplitude, period, and phase shift (left/right) of each function.**

1)  $y = \frac{1}{10} \cdot \cos \theta + 4$

2)  $y = 3\sin(4(\theta - 15)) - 2$

3)  $y = \frac{1}{2} \cdot \sin(6(\theta - 10)) + 0.75$

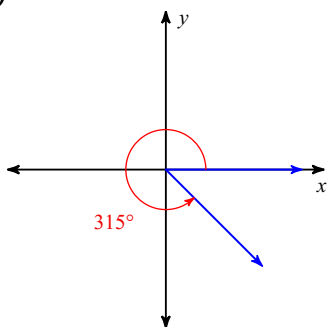
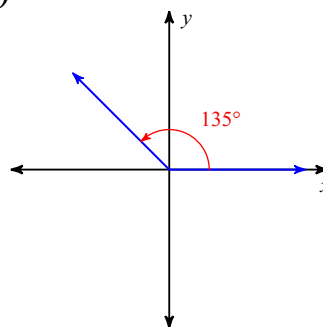
4) Before you can find the phase shift you must factor out the common factor inside the parentheses (compare to previous problems)  $y = 3\cos(3\theta + 45)$ **Using radians, find the centerline, amplitude, period, and phase shift (left/right shift) of each function.**

5)  $y = 5\sin\left(7\left(\theta + \frac{7\pi}{4}\right)\right) + 4$

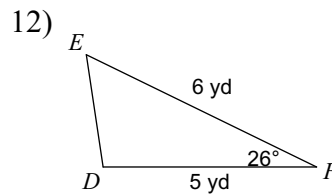
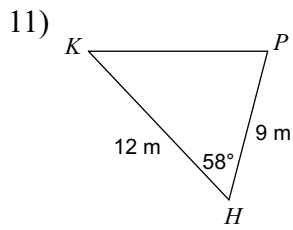
6) You must factor out the common factor to find the phase shift.  
 $y = 5\cos(6\theta - 6\pi)$ 

7)  $y = 7\cos\left(5\left(\theta + \frac{3\pi}{4}\right)\right) - 3$

8)  $y = 3 + 8\cos\left(5\theta + \frac{\pi}{4}\right)$

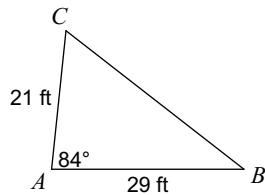
**Find the exact value of each trigonometric function.**9)  $\sec \theta$ 10)  $\csc \theta$ 

Find the area of each triangle to the nearest tenth.



Find each measurement indicated. Round your answers to the nearest tenth.

13) Find BC

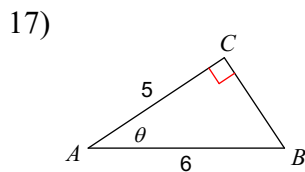


14)  $m\angle A = 22^\circ$ ,  $c = 24$  in,  $a = 4$  in  
Find  $m\angle B$

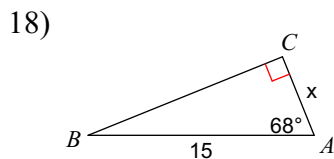
15) Convert to radian measure:  $150^\circ$

16) Convert the and measure (radians) into degrees.  $-\frac{7\pi}{4}$

Find the measure of each angle indicated. Round to the nearest tenth.

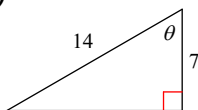


Find the measure of each side indicated. Round to the nearest tenth.



Find the value of the trig function indicated.

19)  $\tan \theta$



- 20) A metal alloy weighing 3 oz. and containing 34% gold is melted and mixed with 1 oz. of a different alloy which contains 10% gold.  
What percent of the resulting alloy is gold?

21) Solve:  
 $\log_2(x^2 + 3) - \log_2 6 = 1$

**Find the inverse of each function.**

22)  $y = \log_6(x + 2)$

23)  $g(x) = \frac{3x}{x - 1} - 2$

**Perform the indicated operation.**

24)  $f(x) = 4x + 4$   
 $g(x) = x^3 + x^2$   
Find  $(f \circ g)(x)$

25)  $g(n) = n + 4$   
 $f(n) = -2n - 1$   
Find  $(g \circ f)(3)$