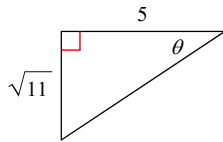


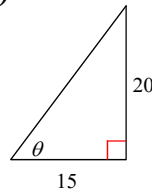
## Spring 2014 Review #3

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Date \_\_\_\_\_ Period \_\_\_\_\_

**Find the value of the trig function indicated.**1)  $\sin \theta$ 

- A)  $\frac{5}{6}$       B)  $\frac{5\sqrt{11}}{11}$   
 C)  $\frac{\sqrt{11}}{6}$       D)  $\frac{6\sqrt{11}}{11}$

2)  $\cos \theta$ 

- A)  $\frac{5}{4}$       B)  $\frac{3}{5}$   
 C)  $\frac{3}{4}$       D)  $\frac{4}{3}$

**In each problem, angle C is a right angle. Find the side indicated to the nearest tenth.**3) Find  $a$  if  $c = 4$ ,  $m\angle B = 42^\circ$ 

- A) 3.3      B) 2.7  
 C) 3.7      D) 3

4) Find  $c$  if  $m\angle A = 21^\circ$ ,  $a = 7$ 

- A) 18.8      B) 19.5  
 C) 24.2      D) 19.1

5) A building 300 feet high casts a shadow 50 feet long. What is the angle of elevation of the Sun?

6) A guy wire 80 feet long is attached to the top of a radio transmission tower, making an angle of  $25^\circ$  with the ground. How high is the tower?7) Suppose that you are headed toward a plateau 50 meters high. If the angle of elevation to the top of the plateau is  $20^\circ$ , how far are you from the base of the plateau?

## Answers to Spring 2014 Review #3

- 1) C                                      2) B                                      3) D                                      4) B
- 5) The dot next to the choice indicates that it is the answer.
- 6) The dot next to the choice indicates that it is the answer.
- 7) The dot next to the choice indicates that it is the answer.

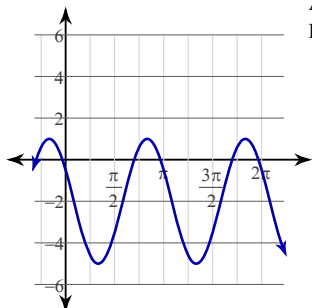
Spring 2014 Final Review #3

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Using radians, find the amplitude and period of each function. Then graph.

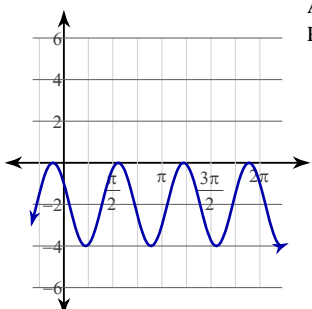
1)  $y = 3\sin\left(2\theta + \frac{5\pi}{6}\right) - 2$

A)



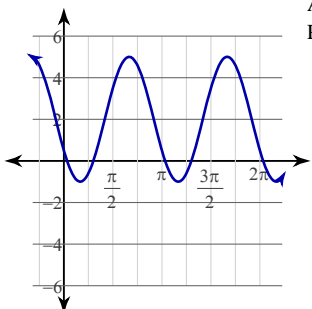
Amplitude: 3  
Period:  $\pi$

B)



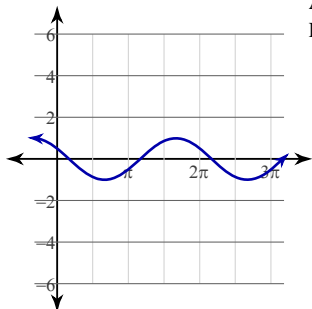
Amplitude: 3  
Period:  $\pi$

C)



Amplitude: 3  
Period:  $\pi$

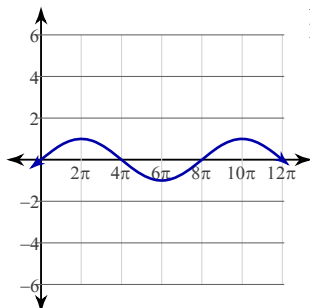
D)



Amplitude: 1  
Period:  $2\pi$

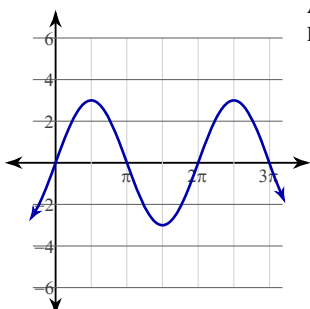
2)  $y = \frac{1}{2} \cdot \sin\left(\frac{\theta}{2} - \frac{\pi}{3}\right) - 2$

A)



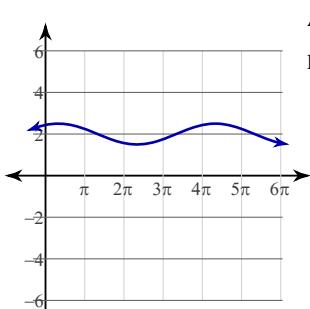
Amplitude: 1  
Period:  $8\pi$

B)



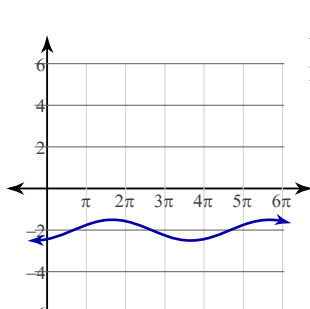
Amplitude: 3  
Period:  $2\pi$

C)



Amplitude:  $\frac{1}{2}$   
Period:  $4\pi$

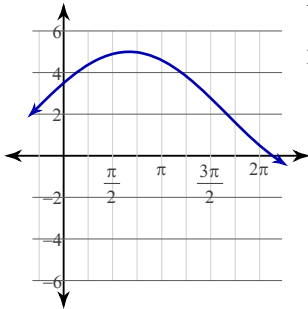
D)



Amplitude:  $\frac{1}{2}$   
Period:  $4\pi$

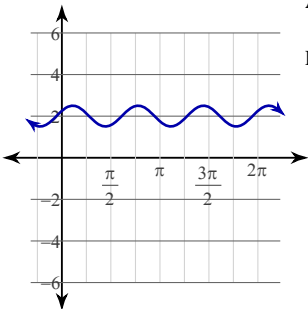
$$3) y = \frac{1}{2} \cdot \cos\left(3\theta - \frac{\pi}{3}\right) + 2$$

A)



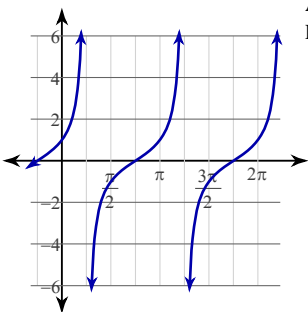
Amplitude:  $\frac{1}{2}$   
Period:  $\frac{2\pi}{3}$

B)



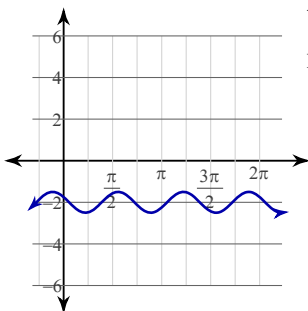
Amplitude:  $\frac{1}{2}$   
Period:  $\frac{2\pi}{3}$

C)



Amplitude: None  
Period:  $\pi$

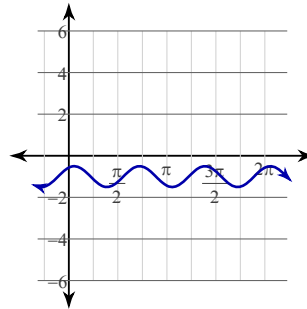
D)



Amplitude:  $\frac{1}{2}$   
Period:  $\frac{2\pi}{3}$

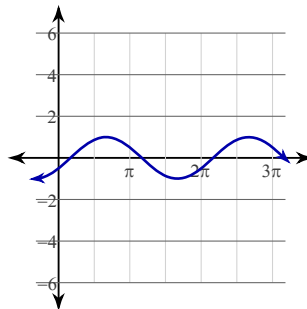
$$4) y = \frac{1}{2} \cdot \sin\left(3\theta + \frac{\pi}{3}\right) - 1$$

A)



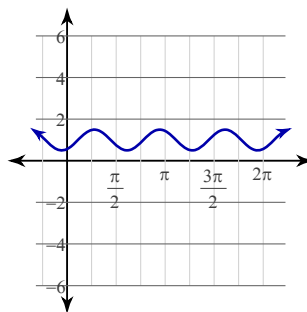
Amplitude:  $\frac{1}{2}$   
Period:  $\frac{2\pi}{3}$

B)



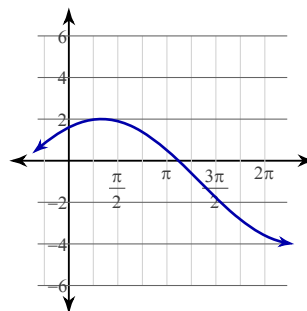
Amplitude: 1  
Period:  $2\pi$

C)



Amplitude:  $\frac{1}{2}$   
Period:  $\frac{2\pi}{3}$

D)



Amplitude:  $\frac{1}{2}$   
Period:  $\frac{2\pi}{3}$

Convert each degree measure into radians and each radian measure into degrees.

5)  $-\frac{5\pi}{4}$

- A)  $-225^\circ$       B)  $-450^\circ$   
C)  $-220^\circ$       D)  $-230^\circ$

6)  $\frac{7\pi}{6}$

- A)  $210^\circ$       B)  $180^\circ$   
C)  $490^\circ$       D)  $430^\circ$

7)  $130^\circ$

- A)  $\frac{13\pi}{18}$       B)  $\frac{23\pi}{18}$   
C)  $\frac{2\pi}{3}$       D)  $\frac{13\pi}{9}$

8)  $30^\circ$

- A)  $\frac{5\pi}{36}$       B)  $\frac{\pi}{6}$   
C)  $\frac{\pi}{3}$       D)  $\frac{2\pi}{9}$

9)  $-\frac{\pi}{6}$

- A)  $-25^\circ$       B)  $-35^\circ$   
C)  $-30^\circ$       D)  $-50^\circ$

10)  $-160^\circ$

- A)  $-\frac{8\pi}{9}$       B)  $-\frac{11\pi}{12}$   
C)  $-\frac{31\pi}{18}$       D)  $-\frac{5\pi}{6}$

11)  $-20^\circ$

- A)  $-\frac{\pi}{6}$       B)  $-\frac{5\pi}{36}$   
C)  $-\frac{2\pi}{9}$       D)  $-\frac{\pi}{9}$

12)  $330^\circ$

- A)  $\frac{11\pi}{6}$       B)  $\frac{14\pi}{9}$   
C)  $\frac{19\pi}{9}$       D)  $\frac{11\pi}{3}$

## Answers to Spring 2014 Final Review #3

1) A  
5) A  
9) C

2) D  
6) A  
10) A

3) B  
7) A  
11) D

4) A  
8) B  
12) A

13) Given that  $\sin \theta = \frac{3}{5}$  and that the terminal side is in quadrant II, find  $\tan \theta$  and  $\sec \theta$ .

A)  $\tan \theta = -\frac{3}{4}$  and  $\sec \theta = \frac{5}{3}$

B)  $\tan \theta = -\frac{3}{4}$  and  $\sec \theta = -\frac{5}{4}$

C)  $\tan \theta = -\frac{4}{3}$  and  $\sec \theta = \frac{5}{3}$

D)  $\tan \theta = -\frac{4}{3}$  and  $\sec \theta = -\frac{5}{4}$

Answer: A

14) Find  $\cos s$  if  $\tan s = \frac{2}{5}$  and  $s$  is in quadrant III.

A)  $\frac{\sqrt{33}}{4}$

B)  $-\frac{\sqrt{11}}{6}$

C)  $\frac{4}{5}$

D)  $-\frac{5\sqrt{29}}{29}$

Answer: D

15) If  $\cos t = \frac{1}{3}$  and angle  $t$  is in quadrant IV, then  $\sin t =$

a)  $\frac{-2}{3}$

b)  $\frac{-2\sqrt{2}}{3}$

c)  $-\sqrt{\frac{2}{3}}$

d)  $\pm\frac{2\sqrt{2}}{3}$

Answer: B

16) Find the exact value of the  $\sin \theta$  if the terminal side of  $\theta$  passes through  $(3, -7)$ .

a)  $2\sqrt{15}$

b)  $\frac{-6\sqrt{15}}{5}$

c)  $\frac{-7\sqrt{58}}{58}$

d)  $\frac{3\sqrt{21}}{21}$

Answer: C

17) Find the exact value of the  $\tan \theta$  if the terminal side of  $\theta$  passes through  $(-2, -5)$ .

a)  $\frac{3}{5}$

b)  $\frac{5}{2}$

c)  $\frac{-7}{2}$

d)  $\frac{-\sqrt{3}}{2}$

Answer: B