Name:_____ Date:_____Per:___

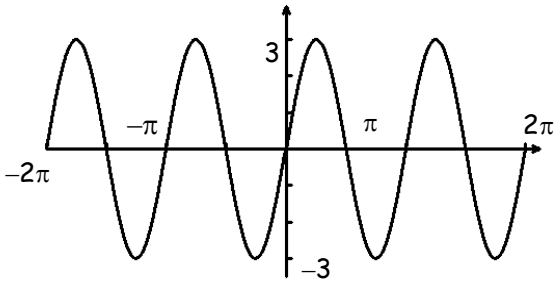
Amplitude and Period for Sine and Cosine Functions Worksheet

Determine the amplitude and period of each function.

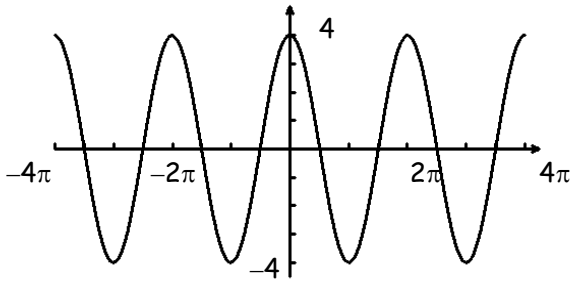
1. $y = \sin 4x$
2. $y = \cos 5x$
3. $y = \sin x$
4. $y = 4 \cos x$
5. $y = -2 \sin x$
6. $y = 2 \sin(-4x)$
7. $y = 3 \sin \frac{2}{3}x$
8. $y = -4 \cos 5x$
9. $y = 3 \cos(-2x)$

Give the amplitude and period of each function graphed below. Then write an equation of each graph.

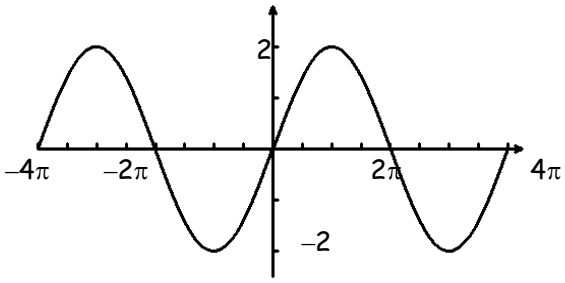
10. _____



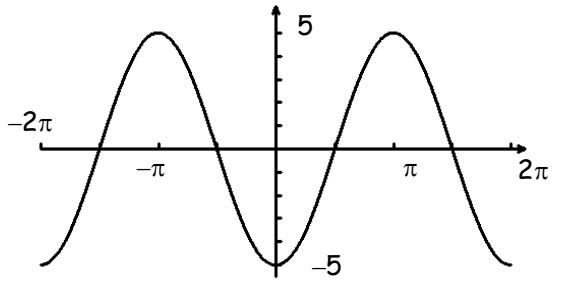
11. _____



12. _____

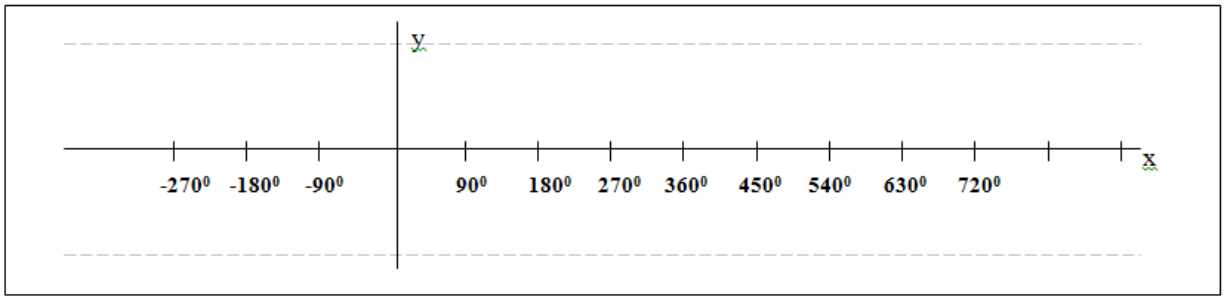


13. _____



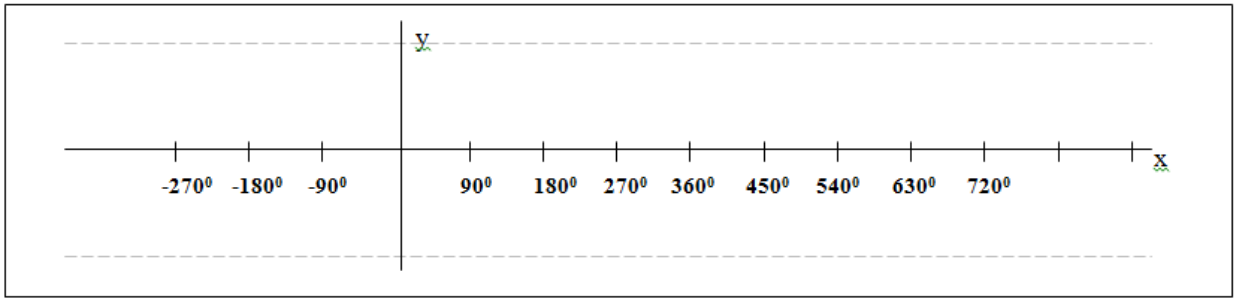
Give the amplitude and period of each function. Then graph of the function over the interval $-2\pi \le x \le 2\pi$. Graphs provided. BE as accurate with your graphing as possible. Make sure your zero crossing are correct.

14. $y = 3 \sin x$
15. $y = 2 \cos x$
16. $y = 3 \sin 2x$
17. $y = 5 \cos 2x$
18. $y = 3 \cos \frac{1}{2}x$
19. $y = -\cos(-3x)$
20. $y = -2 \sin(-2x)$



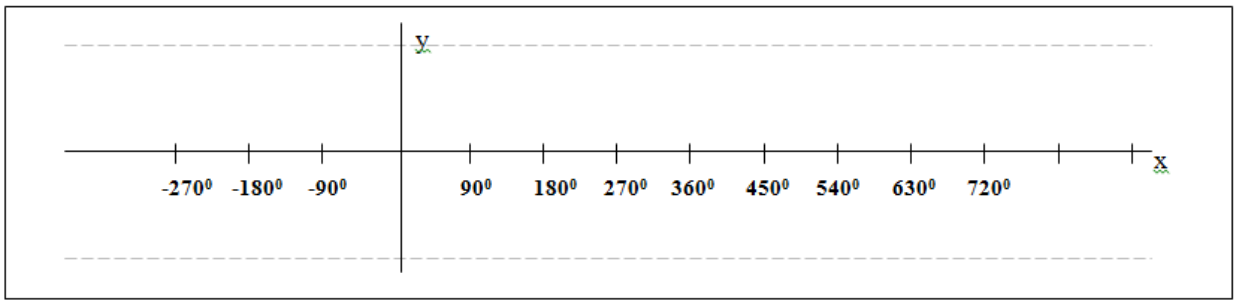
14.

$y = 3 \sin x$



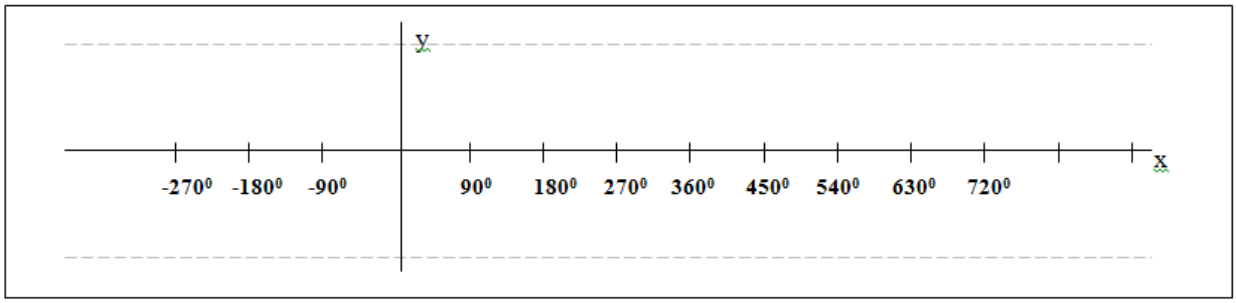
15.

$y = 2 \cos x$



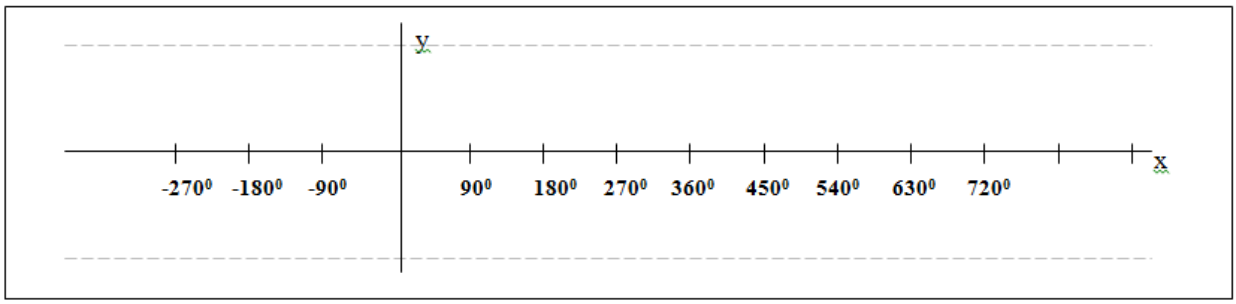
16.

$y = 3 \sin 2x$



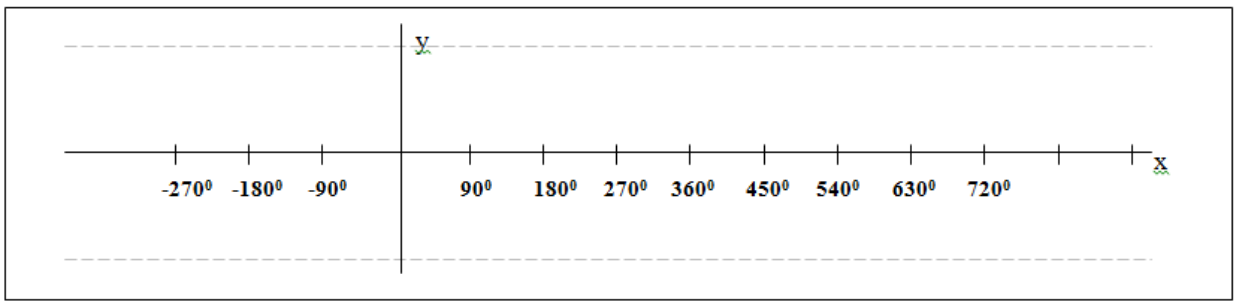
17.

$y = 5 \cos 2x$



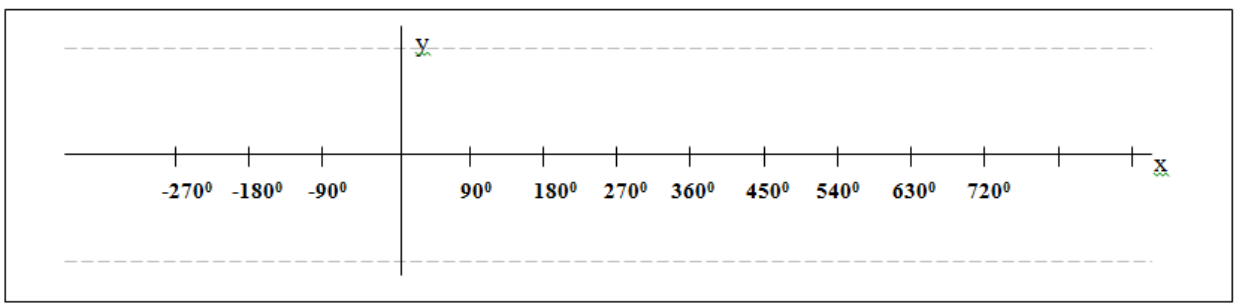
18.

$y = -\cos(-3x)$



19.

$y = 3 \cos \frac{1}{2} x$



20.

$y = -2 \sin(-2x)$

Name:_____ Date:_____Per:___

Section 4.4 Sine and Cosine Transformations Worksheet

Determine the amplitude, period, frequency, phase shift, and vertical translation for each.
Describe the transformations required to obtain the trig function starting from the parent function.

1. $y = 2 \sin 3x$
2. $y = -\sin (x - \pi)$
3. $y = 3 \cos 4x$
4. $y = 3 \sin 6x - 3$
5. $y = -\cos 2x - 5$
6. $y = \cos (x - \pi)$
7. $y = \frac{1}{4} \sin 2x$
8. $y = 3 \cos \frac{1}{2} x + 4$
9. $y = -3.5 \sin (2x - \frac{\pi}{2}) - 1$
10. $y = \sin \frac{1}{2} (x - \pi) + 2$

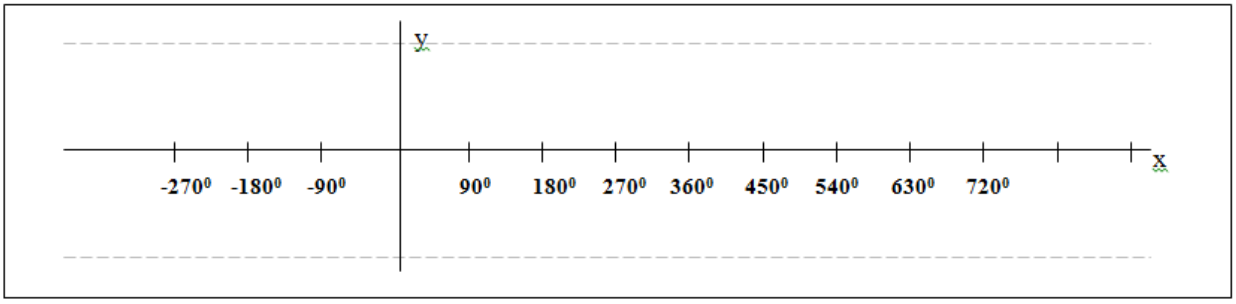
Sketch the graph of each function for one period. Use the graphs provided.

11. $y = \sin 2x + 3$
12. $y = \cos 2x - 1$
13. $y = \sin (x - \pi) - 1$
14. $y = 3 \sin x - 1$
15. $y = \cos 2(x - \frac{\pi}{3})$

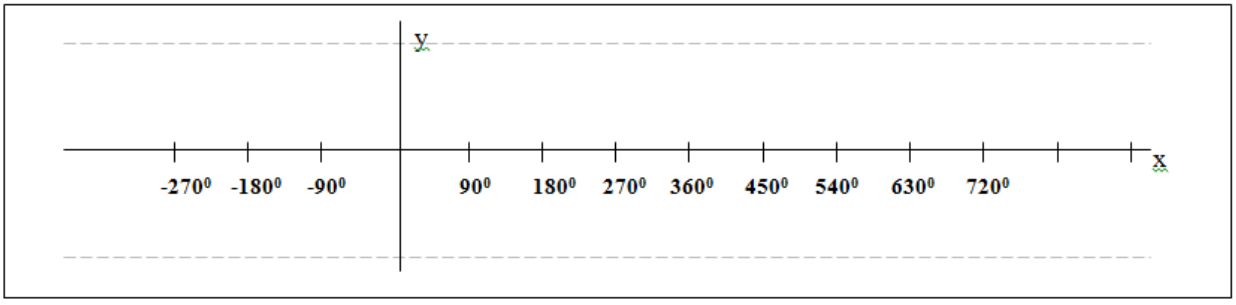
Find the equation given the information provided.

16. Find an equation for a sine function that has amplitude of 4, a period of 180°, and a y-intercept of −3.
17. Find an equation for a cosine function that has amplitude of $\frac{3}{5}$, a period of 270°, and a y-intercept of 5.
18. Find an equation for a sinusoid that has amplitude 1.5, period π/6 and goes through point (1,0).

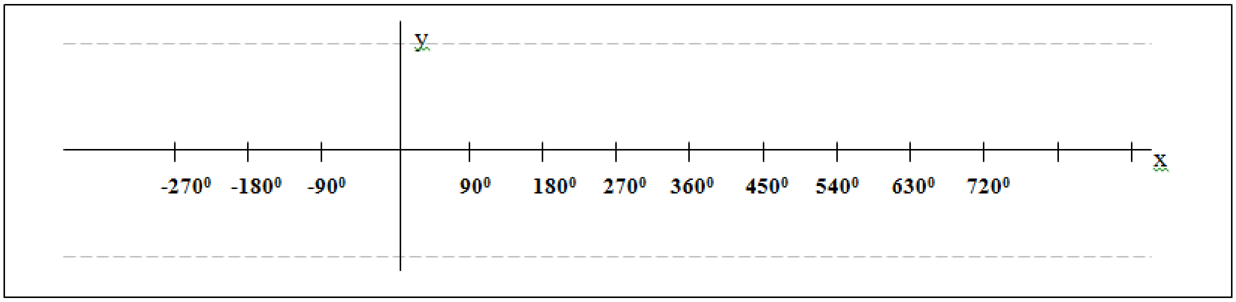
Function:_____



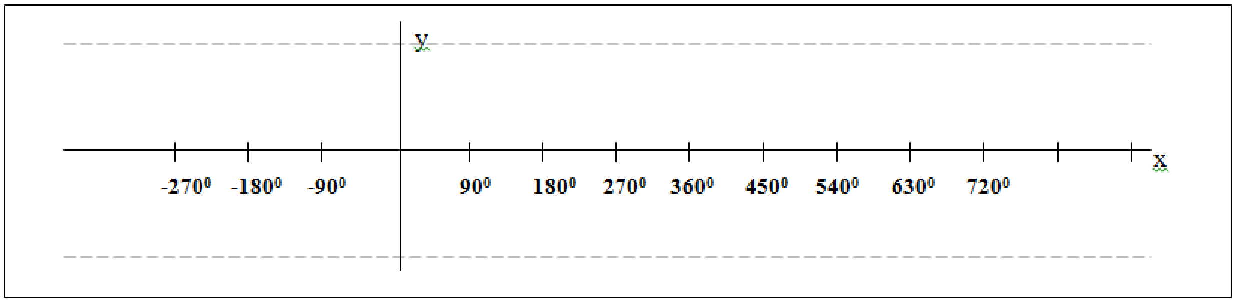
Function:_____



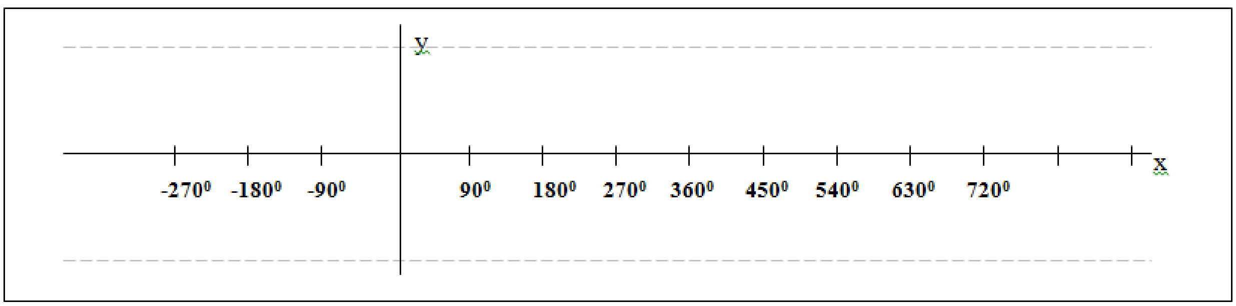
Function:____________________________



Function:____________________________



Function:____________________________



Function:____________________________