

10.2

SM3 Graphing Sine and Cosine #2

Name _____ Date _____ Period _____

Answer the following about each equation.

1. $f(\theta) = 6 \sin 4\left(\theta - \frac{\pi}{2}\right) - 3$

a= _____

b= _____

h= _____

k= _____

2. $f(\theta) = 10 - 3 \cos \pi(\theta)$

a= _____

b= _____

h= _____

k= _____

Write the phase shift (c value), b value, period and frequency of the following without using a calculator.

3. $f(\theta) = \sin\left(\theta + \frac{\pi}{2}\right)$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

4. $f(\theta) = \cos 2\theta$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

5. $f(\theta) = \sin \frac{\theta}{3}$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

6. $f(\theta) = \cos 2(\theta - \pi)$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

7. $f(\theta) = \frac{1}{4} \sin 6\theta$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

8. $f(\theta) = 8 \cos \frac{\theta}{4}$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

9. $f(\theta) = -3 \cos 2(\theta - 4\pi)$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

10. $f(\theta) = \sin \theta$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

11. $f(\theta) = 8 \cos \theta - \pi$

phase shift (h)= _____

b= _____

period= _____

frequency= _____

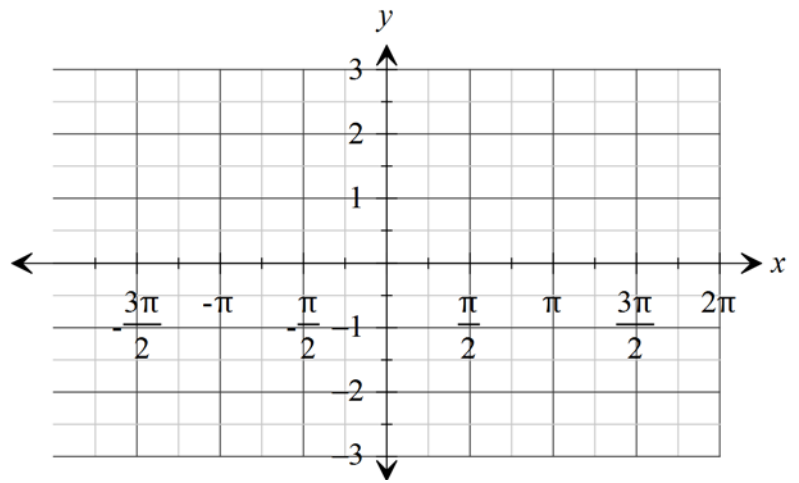
Find the phase shift (c) and period ($\frac{2\pi}{b}$). Then graph at least 1 period without a calculator, label 5 key points.

12. $f(\theta) = \cos\left(\theta - \frac{\pi}{2}\right)$

phase shift _____

period _____

θ					
$y = \cos \theta$					

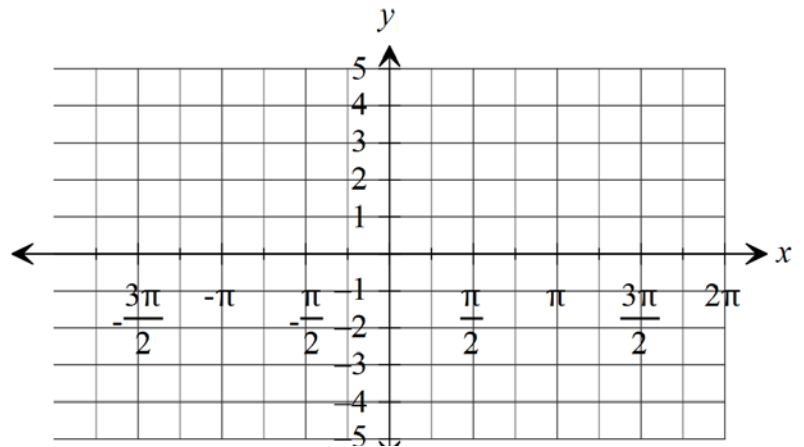


13. $f(\theta) = \sin\left(\theta + \frac{3\pi}{2}\right)$

phase shift _____

period _____

θ					
$y = \sin \theta$					

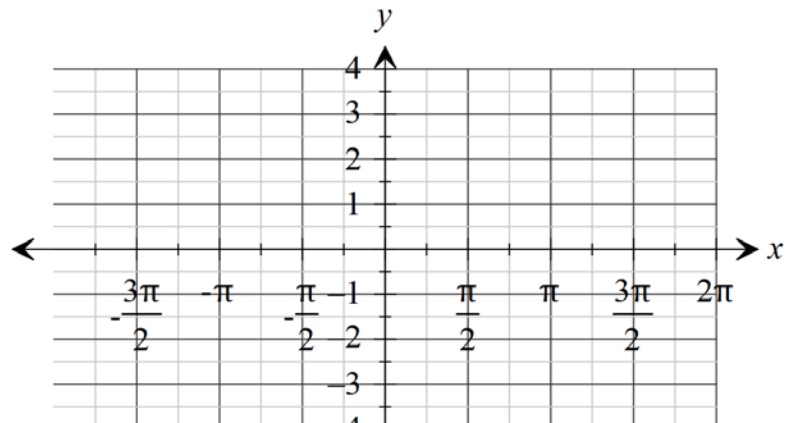


14. $f(\theta) = \sin(4\theta)$

phase shift _____

period _____

θ					
$y = \sin \theta$					

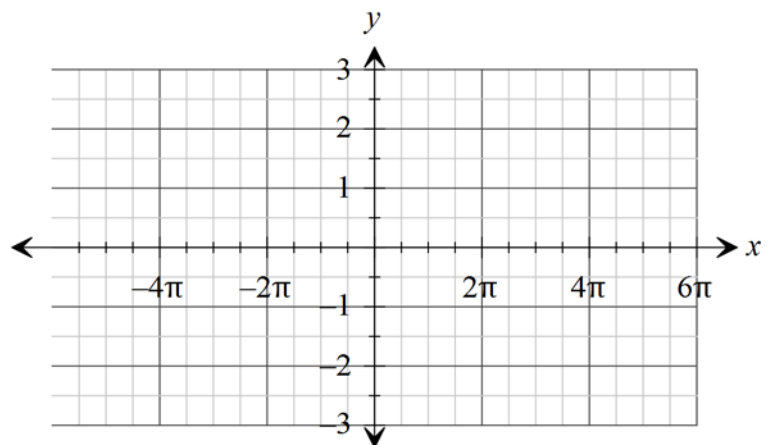


15. $f(\theta) = -\cos\frac{\theta}{3}$

phase shift _____

period _____

θ					
$y = \cos \theta$					

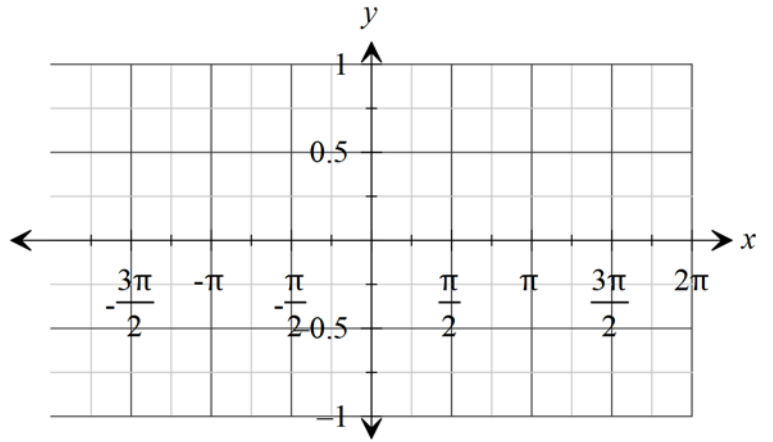


16. $f(\theta) = -\cos 2(\theta - \pi)$

phase shift _____

period _____

θ					
$y = \cos \theta$					

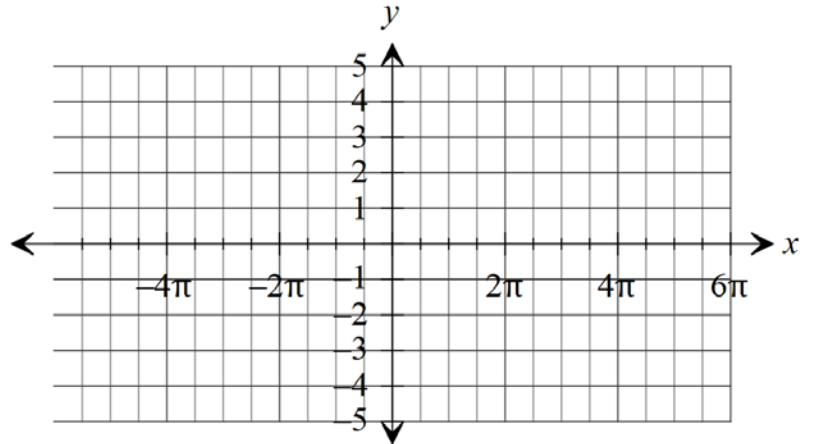


17. $f(\theta) = \cos \frac{1}{2}(\theta - \frac{\pi}{4})$

phase shift _____

period _____

θ					
$y = \cos \theta$					

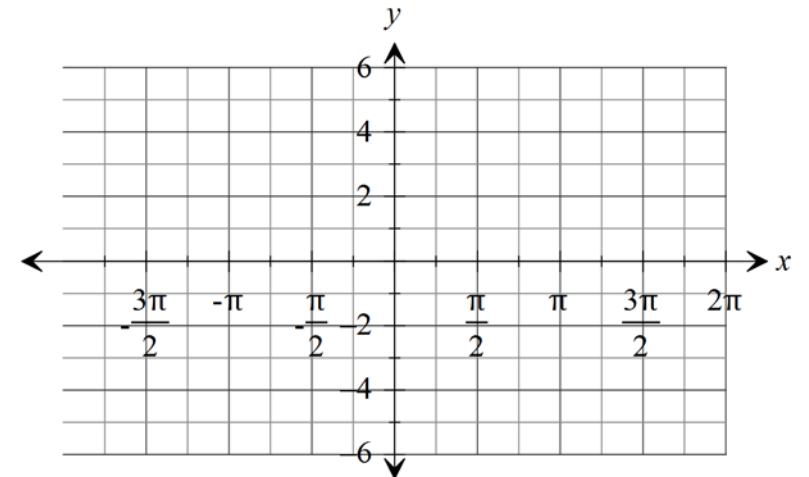


18. $f(\theta) = -\sin(\theta - \frac{\pi}{4})$

phase shift _____

period _____

θ					
$y = \sin \theta$					



Write an equation for the sine curve that has the given period and phase shift.

19. phase shift 3, period π

20. phase shift $\frac{\pi}{2}$, period $\frac{\pi}{2}$

21. phase shift 0, period 2π

22. phase shift π , period $\frac{\pi}{3}$