10.1

SM3 Graphing sine and cosine #1

Name _____ **Date** _____ **Period** _____

Write the amplitude and vertical shift of the following without using a calculator.

1. $f(\theta) = 6\sin\theta + 3$ Amplitude _____ Vertical Shift _____

2. $f(\theta) = \frac{1}{8}\cos\theta$ Amplitude _____ Vertical Shift _____

3. $f(\theta) = \sin\theta - 2$ Amplitude _____ Vertical Shift _____

4. $f(\theta) = \cos\theta$ Amplitude _____ Vertical Shift _____

5. $f(\theta) = \frac{1}{4}\sin\theta - \frac{3}{5}$ Amplitude _____ Vertical Shift _____

6. $f(\theta) = 2 - 8\cos\theta$ Amplitude _____ Vertical Shift _____

7. $f(\theta) = 3 - 2\cos\theta$ Amplitude _____ Vertical Shift _____

8. $f(\theta) = 5 - \sin\theta$ Amplitude _____ Vertical Shift _____

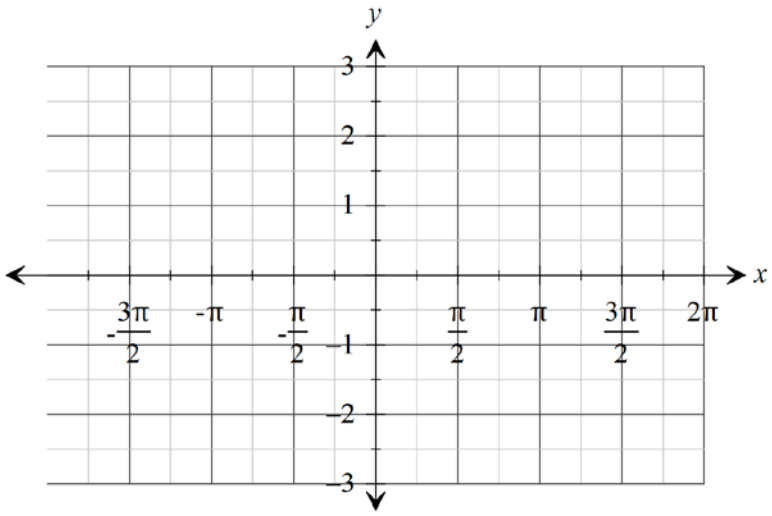
Find the vertical shift and amplitude. Then graph at least 1 period without a calculator, label 5 key points.

9. $f(\theta) = \sin\theta + 1$

Vertical shift_____

Amplitude _____

θ					
$y = \sin\theta$					

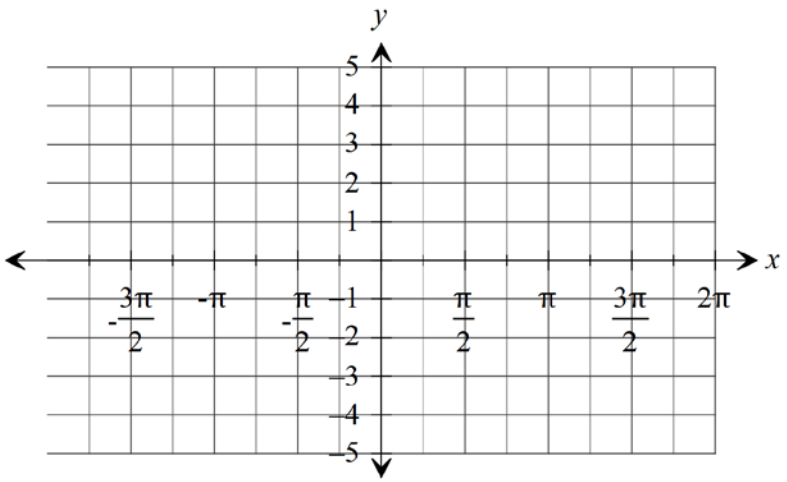


10. $f(\theta) = \cos\theta - 3$

Vertical shift_____

Amplitude _____

θ					
$y = \cos\theta$					

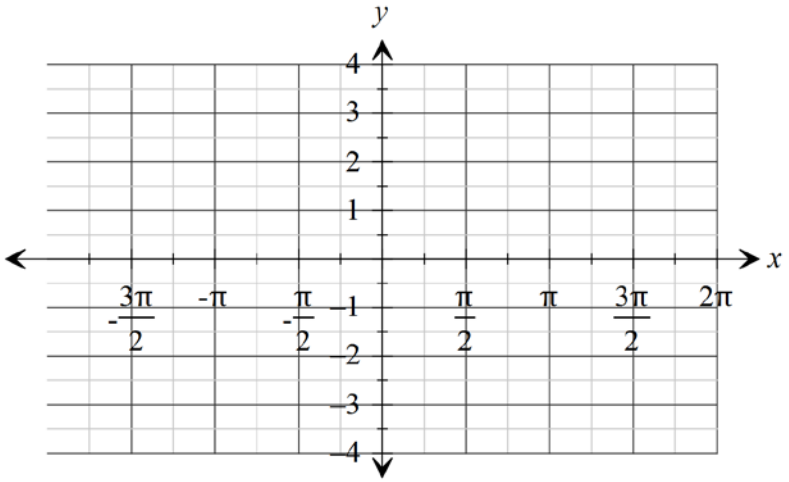


11. $f(\theta) = 2 + \sin\theta$

Vertical shift_____

Amplitude _____

θ					
$y = \sin\theta$					

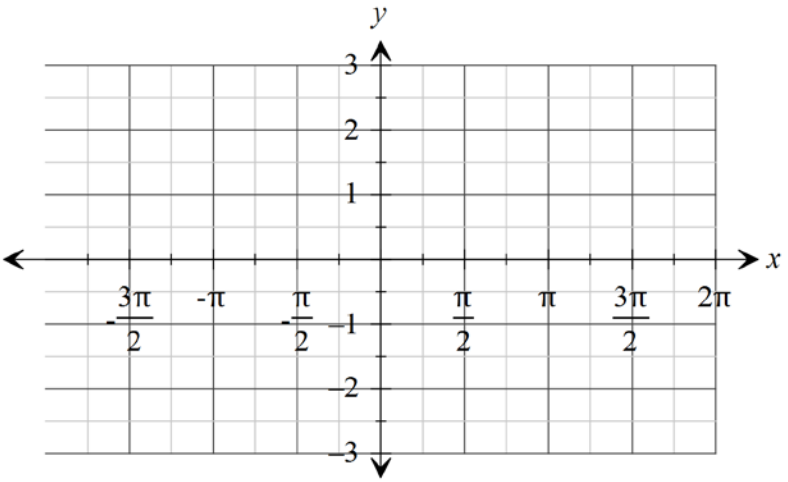


12. $f(\theta) = 2\cos\theta$

Vertical shift_____

Amplitude _____

θ					
$y = \cos\theta$					

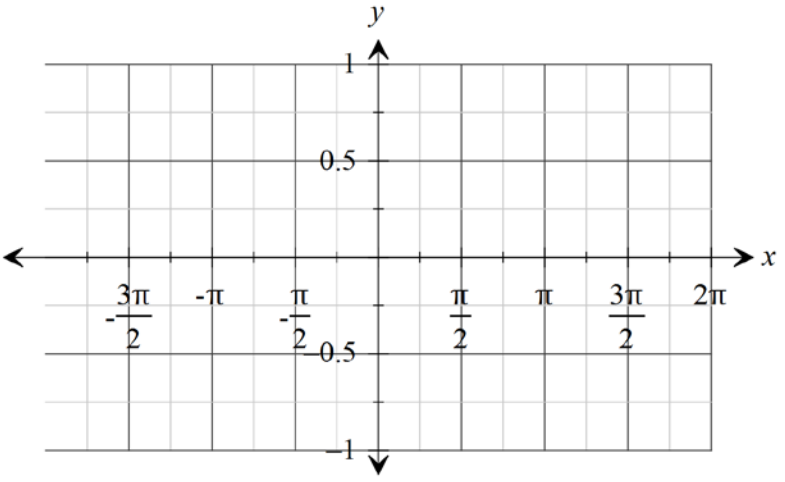


13. $f(\theta) = -\frac{1}{2}\sin\theta$

Vertical shift_____

Amplitude _____

θ					
$y = \sin\theta$					

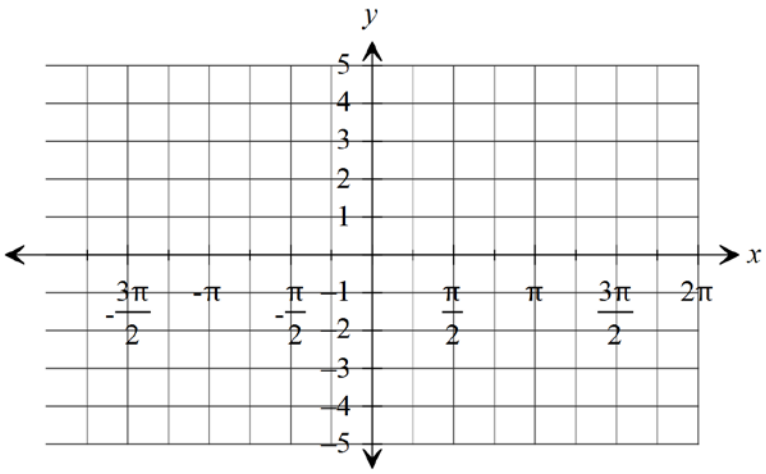


14. $f(\theta) = -4\cos\theta$

Vertical shift_____

Amplitude _____

θ					
$y = \cos\theta$					

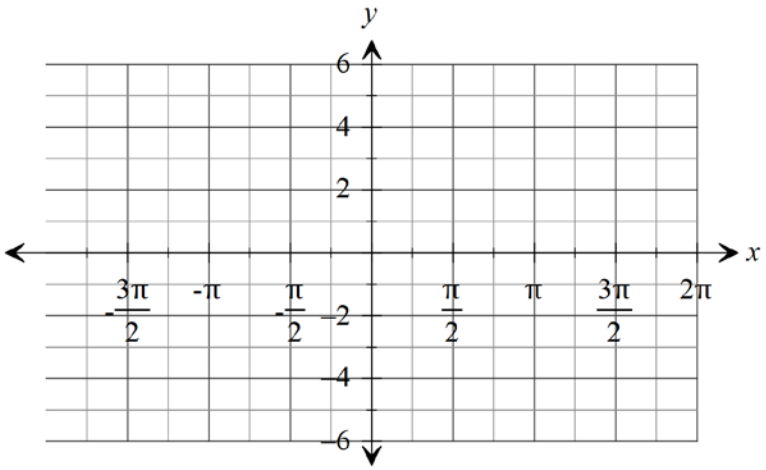


15. $f(\theta) = 3\cos(\theta) - 2$

Vertical shift_____

Amplitude _____

θ					
$y = \cos\theta$					

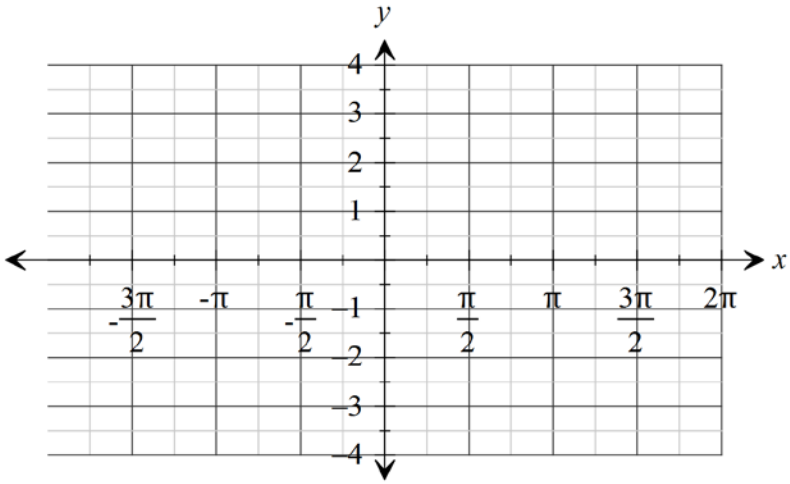


16. $f(\theta) = -2\sin\theta - 1$

Vertical shift_____

Amplitude _____

θ					
$y = \sin\theta$					



Write an equation for the sine curve that has the given amplitude and vertical shift.

17. Amplitude = 3 Vertical Shift = 7

18. Amplitude = 1 Vertical Shift = -3

19. Amplitude = 5 Vertical Shift = $\frac{5}{6}$

20. Amplitude = 1 Vertical Shift = 0