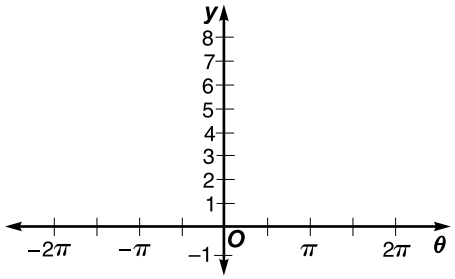
6-5

Practice

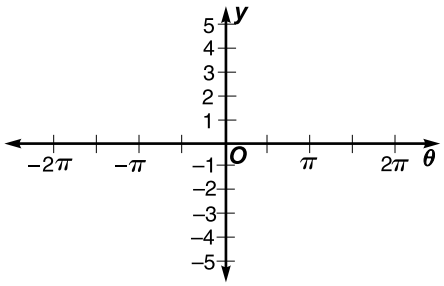
Translations of Sine and Cosine Functions

State the vertical shift and the equation of the midline for each function. Then graph each function.

1. $y = 4 \cos \theta + 4$

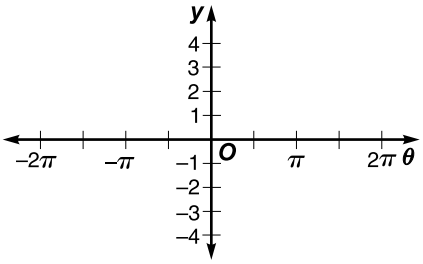


2. $y = \sin 2\theta - 2$

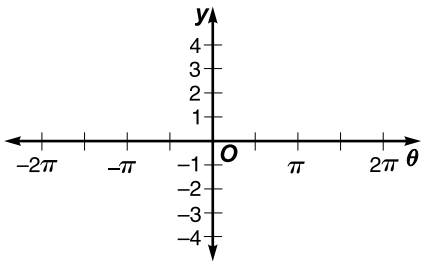


State the amplitude, period, phase shift, and vertical shift for each function. Then graph the function.

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



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



Write an equation of the specified function with each amplitude, period, phase shift, and vertical shift.

5. sine function: amplitude = 15, period = 4π, phase shift = $\frac{\pi}{2}$, vertical shift = -10

6. cosine function: amplitude = $\frac{2}{3}$, period = $\frac{\pi}{3}$, phase shift = $-\frac{\pi}{3}$, vertical shift = 5

7. sine function: amplitude = 6, period = π, phase shift = 0, vertical shift = $-\frac{3}{2}$