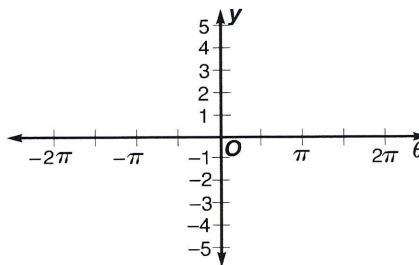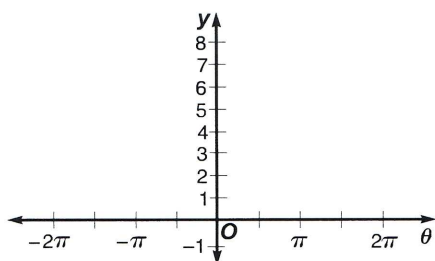**6-5**

Practice

Translations of Sine and Cosine Functions

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

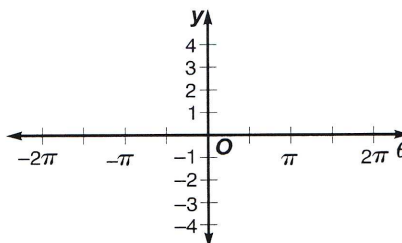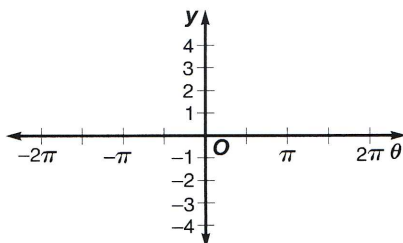**1.** $y = 4\cos\theta + 4$

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 $= 4\pi$, 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 $= \pi$, phase shift $= 0$, vertical shift $= -\frac{3}{2}$