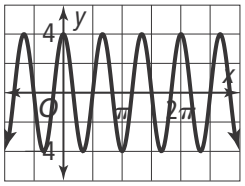
# 7-4 Additional Practice

## Graphing Sine and Cosine Functions

**Identify the domain, range, and period of the functions below.**

**1.** $y = 4 \cos 3\theta$

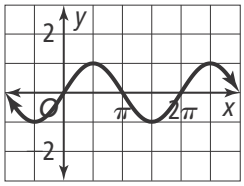



Domain: _____

Range: _____

Period: _____

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




Domain: _____

Range: _____

Period: _____

**What are the amplitude and period of each function?**

**3.** $y = 4 \sin 5\theta$

**4.** $y = 3 \cos 4\theta$

**Use a graphing calculator to graph the functions shown. What is the frequency? What is the average rate of change over the interval $\left[0, \frac{\pi}{4}\right]$?**

**5.** $y = 3 \sin 6\theta$

Frequency: _____

Average rate of change: _____

**6.** $y = 5 \cos 2\theta$

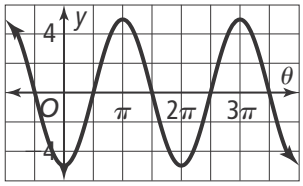
Frequency: _____

Average rate of change: _____

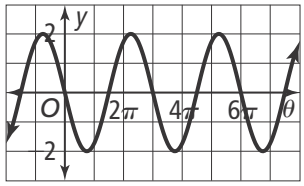
**7.** A helicopter lowers a rope ladder to a scuba diver floating on the ocean's surface. The waves crest at 4 ft above the lowest level of the water every 8 s. Write a cosine equation to describe the height of the diver as a function of time $t$.

**What equation represents the graphs?**

**8.**




**9.**




**10.** Describe and correct the error a student made in creating an equation with the given information: $y = 2 \sin 4\theta$, a period of $4\pi$, and amplitude of 2.