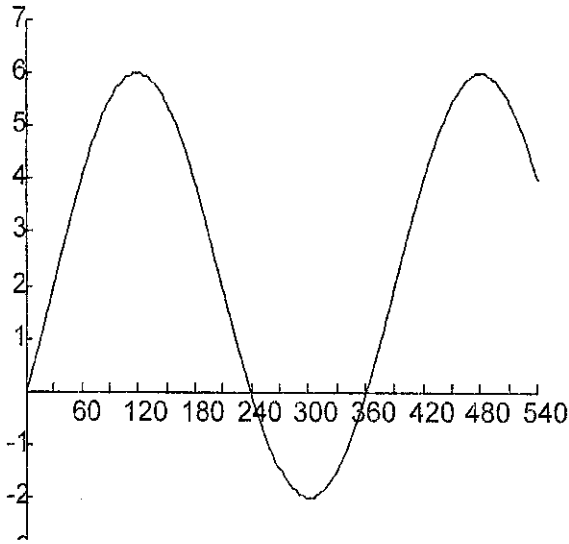
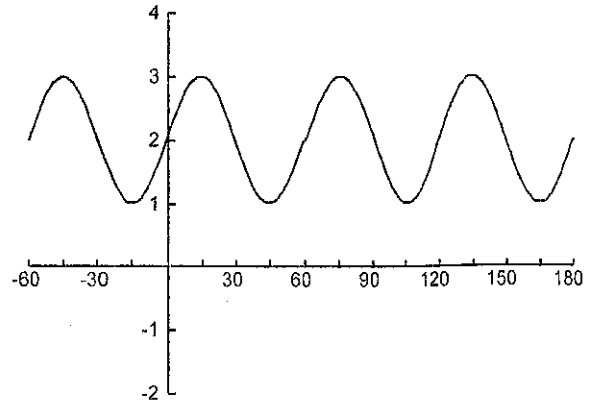


Determine the equation of the following graphs.

7.)



8.)



Write an equation using the function indicated that has the characteristics provided:

$$f(x) = a \sin b(x-c) + d$$

9. Sine Function: up 5; left  $\frac{5\pi}{6}$ ; amplitude is 3, has a period of  $10\pi$

$$a = 3 \quad b = \frac{1}{5} \quad c = x + \frac{5\pi}{6} \quad d = 5$$

$$f(x) = 3 \sin \frac{1}{5}(x + \frac{5\pi}{6}) + 5$$

10. Cosine Function: reflected over the x-axis; stretch by 5, has a period of  $\frac{7\pi}{3}$

$$f(x) = a \cos b(x-c) + d$$

$$a = -5 \quad b = \frac{6}{7} \quad c = x \quad d = 0$$

$$f(x) = -5 \cos \frac{6}{7}x$$

Evaluate using exact values.

11.)  $\sin 180 = 0$

13.)  $\sec(\frac{7\pi}{6}) \quad \sec \frac{7\pi}{6} = -\frac{2}{\frac{\sqrt{3}}{2}} = -\frac{4}{\sqrt{3}} = -\frac{4\sqrt{3}}{3}$

15.)  $\cot(-\frac{\pi}{2})$

$$-\frac{\pi}{2} + \frac{2\pi}{1}$$

$$-\frac{\pi}{2} + \frac{4\pi}{2} = \frac{3\pi}{2}$$

$$\cot = \frac{\cos \theta}{\sin \theta} = \frac{0}{-1} = 0$$

12.)  $\csc(\frac{3\pi}{4})$   
 $\sin \frac{3\pi}{4} = \frac{\sqrt{2}}{2}$   
 $\csc \frac{3\pi}{4} = \frac{2}{\sqrt{2}} = \sqrt{2}$

14.)  $\cos 300^\circ = \frac{1}{2}$

16.)  $\tan 150^\circ = -\frac{\sqrt{3}}{3}$

$$10\pi = \frac{2\pi}{b} \Rightarrow b = \frac{1}{5}$$

$$\frac{7\pi}{3} = \frac{2\pi}{b} \Rightarrow b = \frac{6}{7}$$

$$\frac{7\pi}{7} = \frac{6\pi}{7} \Rightarrow b = \frac{6}{7}$$

