6-4

NAME _____ DATE _____ PERIOD _____

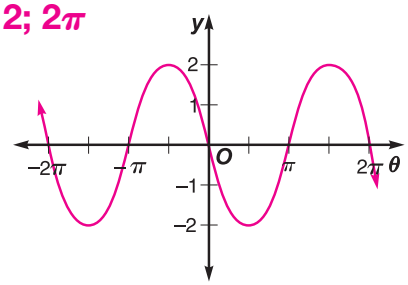
# Practice

## Amplitude and Period of Sine and Cosine Functions

***State the amplitude and period for each function. Then graph each function.***

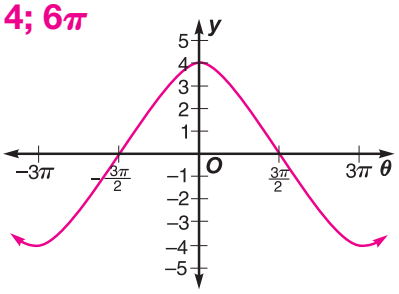
**1.** $y = -2 \sin \theta$

**2; 2π**



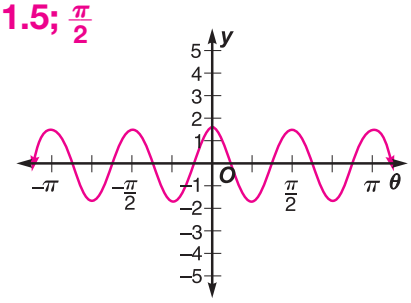

**2.** $y = 4 \cos \frac{\theta}{3}$

**4; 6π**



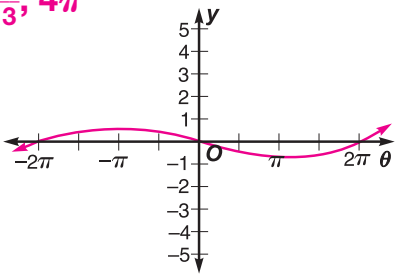

**3.** $y = 1.5 \cos 4\theta$

**1.5; $\frac{\pi}{2}$**




**4.** $y = -\frac{2}{3} \sin \frac{\theta}{2}$

**$\frac{2}{3}$; 4π**




***Write an equation of the sine function with each amplitude and period.***

**5.** amplitude = 3, period = $2\pi$

**$y = \pm 3 \sin \theta$**

**6.** amplitude = 8.5, period = $6\pi$

**$y = \pm 8.5 \sin \frac{\theta}{3}$**

***Write an equation of the cosine function with each amplitude and period.***

**7.** amplitude = 0.5, period = $0.2\pi$

**$y = \pm 0.5 \cos 10\theta$**

**8.** amplitude = $\frac{1}{5}$, period = $\frac{2}{5}\pi$

**$y = \pm \frac{1}{5} \cos 5\theta$**

**9.** ***Music*** A piano tuner strikes a tuning fork for note A above middle C and sets in motion vibrations that can be modeled by the equation $y = 0.001 \sin 880\pi t$. Find the amplitude and period for the function.

**0.001; $\frac{1}{440}$**

6-4

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**3.** Find the

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**5.** Write an
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