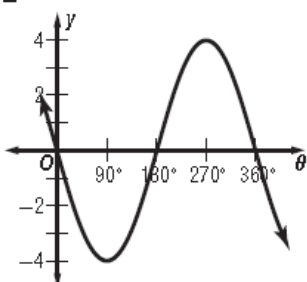


13-7 Practice

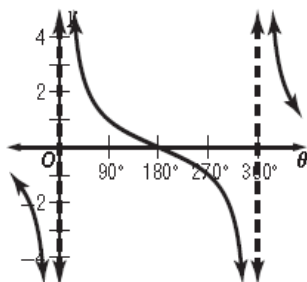
Graphing Trigonometric Functions

Find the amplitude, if it exists, and period of each function. Then graph the function.

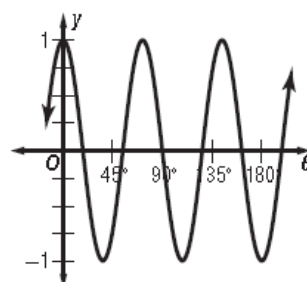
1. $y = \frac{3}{2} \sin \theta$
 $\frac{3}{2}$; 360°



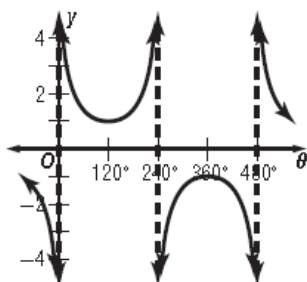
2. $y = \cot \frac{1}{2} \theta$
no amplitude; 360°



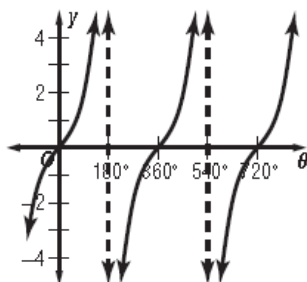
3. $y = \cos 5\theta$
1; 72°



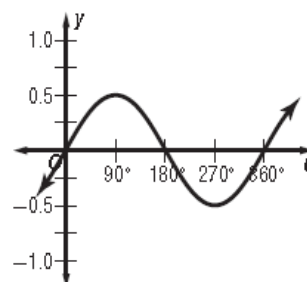
4. $y = \csc \frac{3}{4} \theta$
no amplitude; 480°



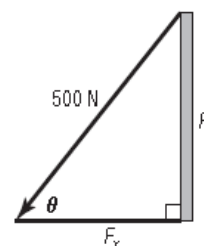
5. $y = 2 \tan \frac{1}{2} \theta$
no amplitude; 360°



6. $y = \frac{1}{2} \sin \theta$
 $\frac{1}{2}$; 360°



7. **FORCE** An anchoring cable exerts a force of 500 Newtons on a pole. The force has the horizontal and vertical components F_x and F_y . (A force of one Newton (N), is the force that gives an acceleration of 1 m/sec^2 to a mass of 1 kg.)



a. The function $F_x = 500 \cos \theta$ describes the relationship between the angle θ and the horizontal force. What are the amplitude and period of this function? **500; 360°**

b. The function $F_y = 500 \sin \theta$ describes the relationship between the angle θ and the vertical force. What are the amplitude and period of this function? **500; 360°**

8. **WEATHER** The function $y = 60 + 25 \sin \frac{\pi}{6} t$, where t is in months and $t = 0$ corresponds to April 15, models the average high temperature in degrees Fahrenheit in Centerville.

a. Determine the period of this function. What does this period represent?

12; a calendar year

b. What is the maximum high temperature and when does this occur? **85°F ; July 15**