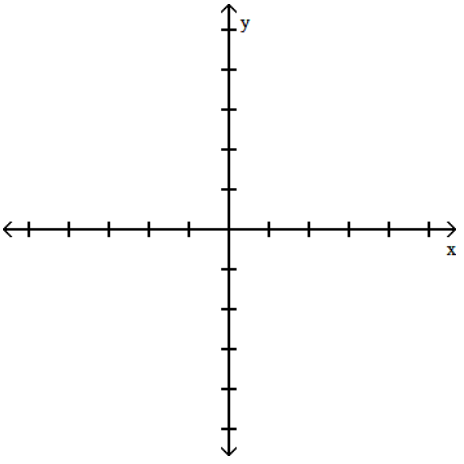
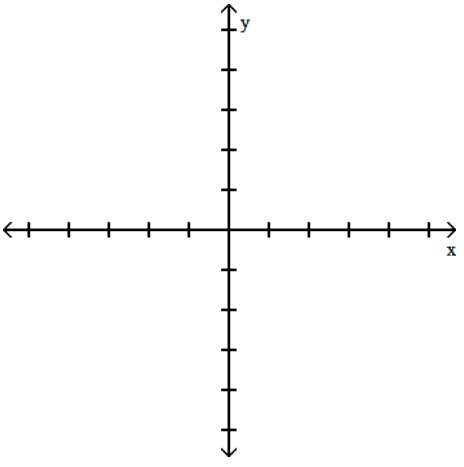
Trigonometry PracticeTest C (Graphing and Identities)
Name_____

Graph the function.

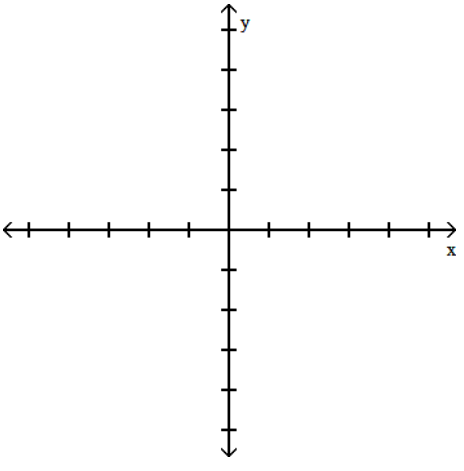
1) $y = -4 \cos x$



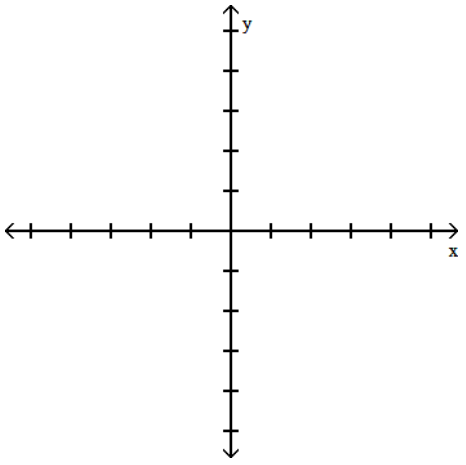
2) $y = 2 \sin x$



3) $y = \cos 4\pi x$

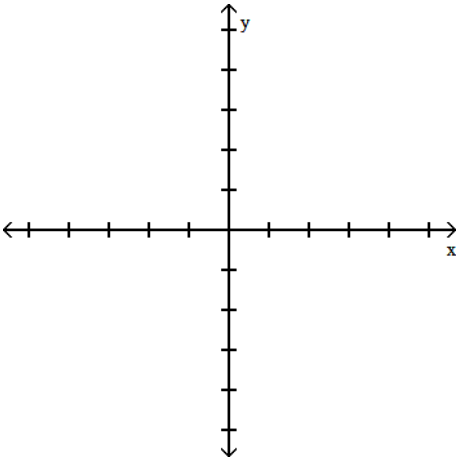


4) $y = 3 \sin \frac{1}{3}x$



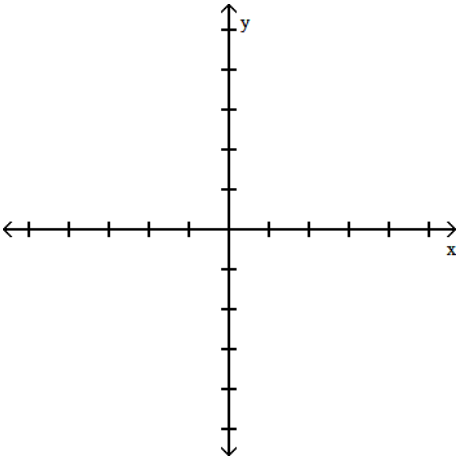
Find the amplitude, period, phase shift, and vertical shift. Then Graph the function

5) $y = -3 \sin (4x + \pi) + 2$

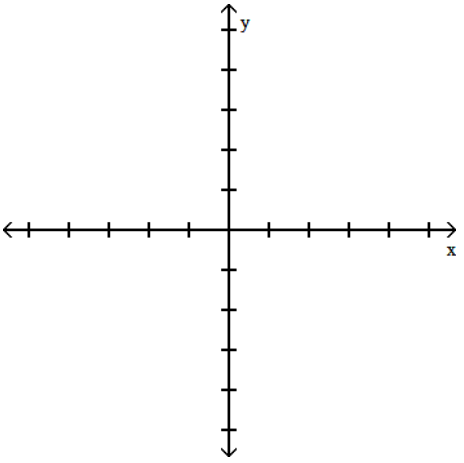


Graph the function.

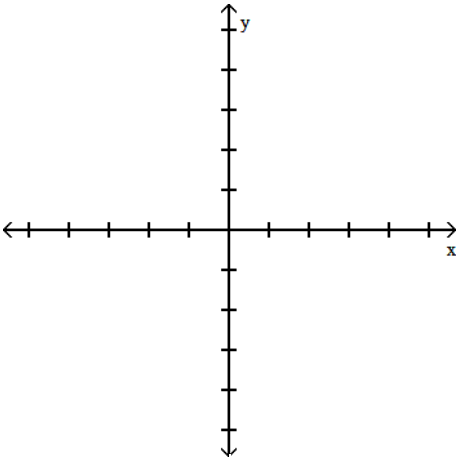
6) $y = -\tan 3x$



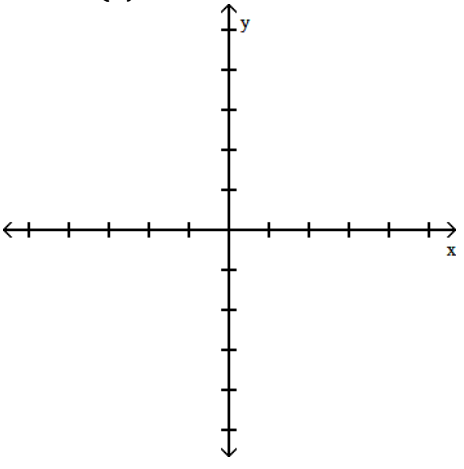
7) $y = \cot 6x$



8) $y = 4 \sec x$



9) $y = -\csc\left(\frac{x}{3}\right)$



Write an equation for a sine curve that has the given amplitude and period, and which passes through the given point.

10) Amplitude 10, period $\frac{\pi}{3}$, point (0, 0)

Solve the problem.

11) Tides go up and down during a 12.4 hour period(half lunar day). The average depth of a certain river is 10 m and ranges from a low tide of 7 m to a high tide of 13 m. The variation can be approximated by a sinusoidal curve.

a) Write an equation that gives the approximate variation y, if x is the number of hours after midnight if high tide occurs at 9:00 am.

b) Determine the height of the tide at 11 am.

c) Determine the time of day that the height of the tide is 12 m.

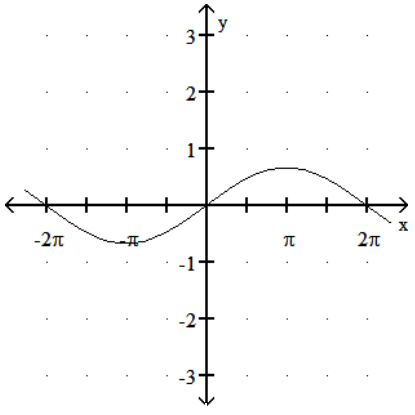
12) A weight attached to a spring is pulled down 5 inches below the equilibrium position. Assuming that the period of the system is $\frac{1}{8}$ second, determine a trigonometric model that gives the position of the weight at time t seconds.

13) The average high temperatures for Grand Junction, CO are given below.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Temperature (°F)	37	45	56	64	75	87	92	90	80	67	50	39

Model this data using your calculator and then using that model, predict the temperature during the 6th month. How close is this prediction to the actual temperature during that month?

14) Write 2 equations for the graph below. One equation as sine and one equation as cosine.



15) Write 2 equations for the graph below. One equation as sine and one equation as cosine.