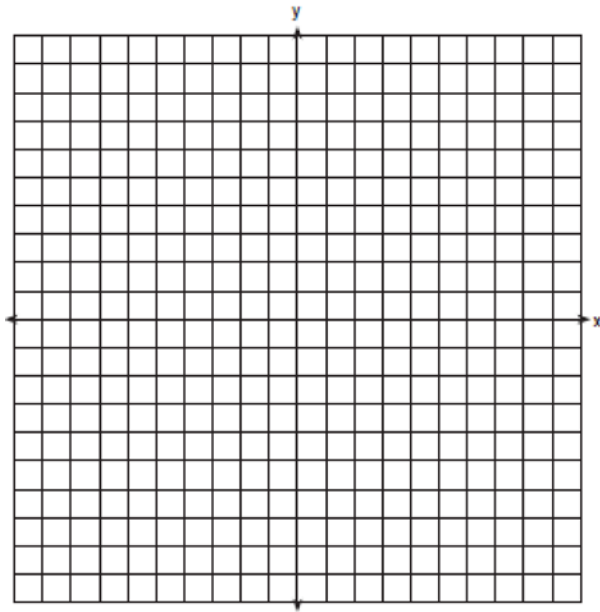
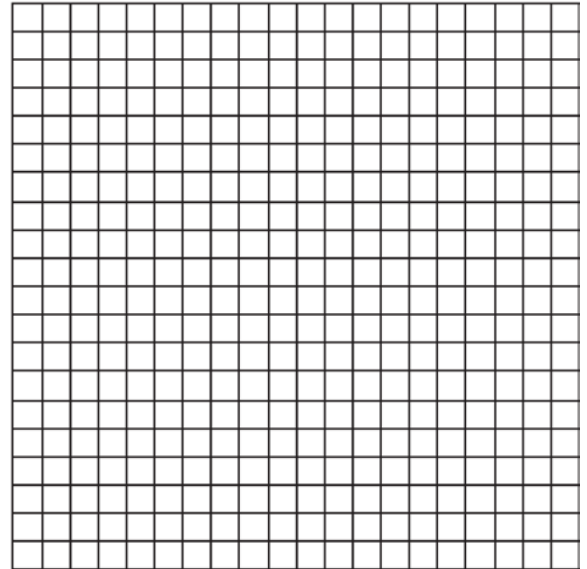


A2.A.70: Trigonometric Graphs 1: Sketch and recognize one cycle of a function of the form $y = A\sin Bx$ or $y = A\cos Bx$

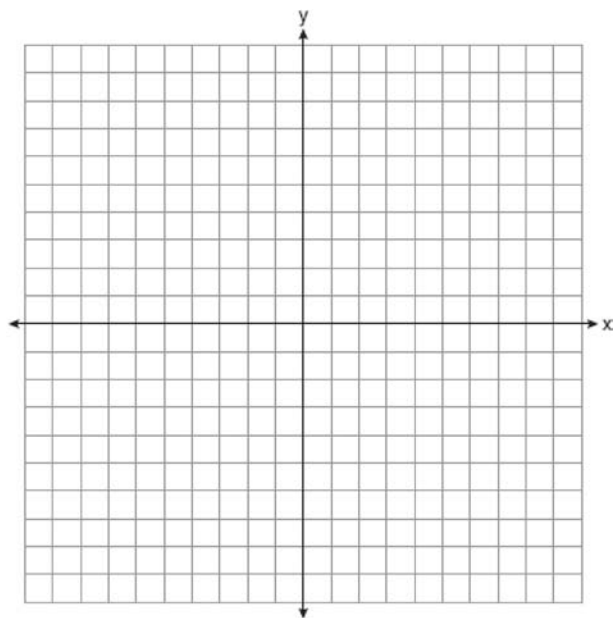
- 1 On the accompanying set of axes, graph the equations $y = 4\cos x$ and $y = 2$ in the domain $-\pi \leq x \leq \pi$. Express, in terms of π , the interval for which $4\cos x \geq 2$.



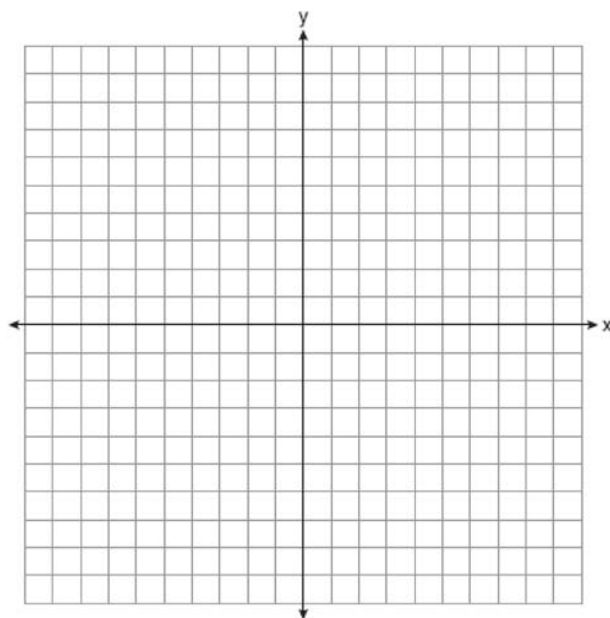
- 2 A radio wave has an amplitude of 3 and a wavelength (period) of π meters. On the accompanying grid, using the interval 0 to 2π , draw a possible sine curve for this wave that passes through the origin.



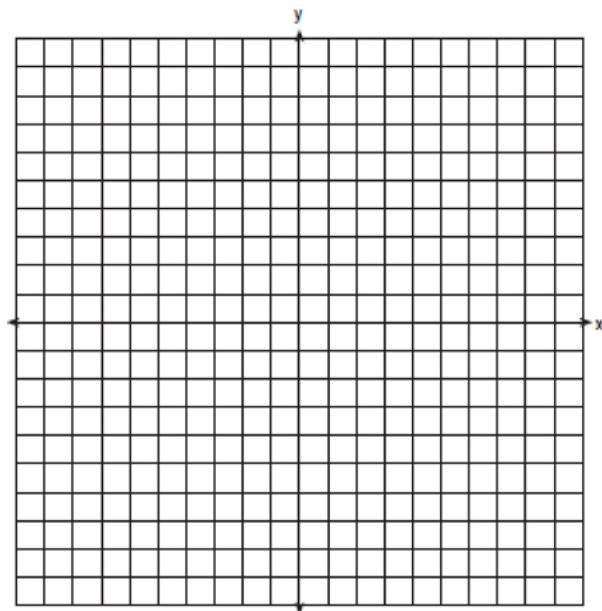
- 3 Sketch the graph of $y = 3 \sin 2x$ in the interval $-\pi \leq x \leq \pi$.



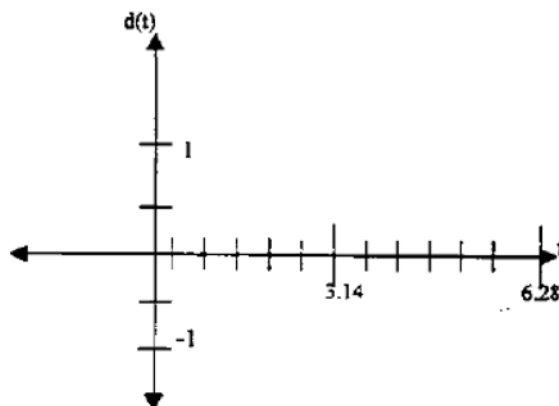
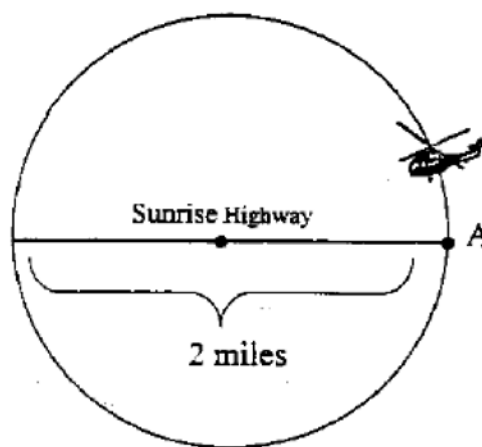
- 4 Sketch and label the function $y = 2 \sin \frac{1}{2}x$ in the interval $-2\pi \leq x \leq 2\pi$.



- 5 *a* On the accompanying set of axes, sketch the graph of the equations $y = 2\cos x$ in the interval $-\pi \leq x \leq \pi$.
b On the same set of axes, reflect the graph drawn in part *a* in the x -axis and label it *b*.
c Write an equation of the graph drawn in part *b*.
d Using the equation from part *c*, find the value of y when $x = \frac{\pi}{6}$.

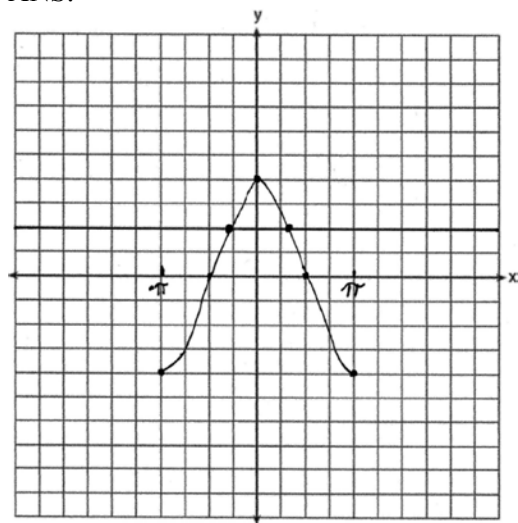


- 6 A helicopter, starting at point *A* on Sunrise Highway, circles a 2-mile section of the highway in a counterclockwise direction. If the helicopter is traveling at a constant speed and it takes approximately 6.28 minutes to make one complete revolution to return to point *A*, sketch a possible graph of distance (dependent variable) from the helicopter to the highway, versus time (independent variable). If the helicopter is north of the highway, distance (d) is positive; if the helicopter is south of the highway, distance (d) is negative. (Disregard the height of the helicopter.) State the equation of this graph.



A2.A.70: Trigonometric Graphs 1: Sketch and recognize one cycle of a function of the form $y = A\sin Bx$ or $y = A\cos Bx$
Answer Section

1 ANS:

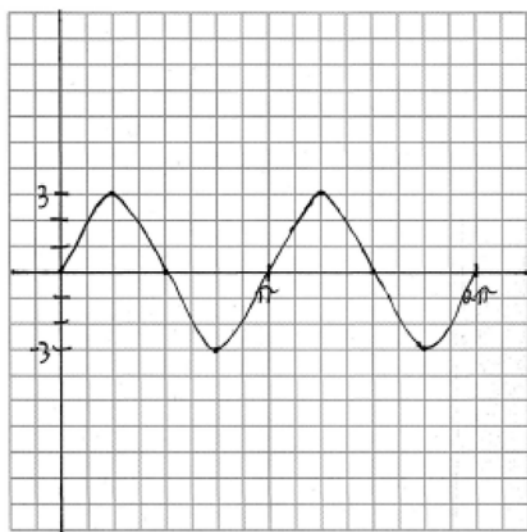


$$-\frac{\pi}{3} \leq x \leq \frac{\pi}{3}$$

PTS: 4

REF: 080532b

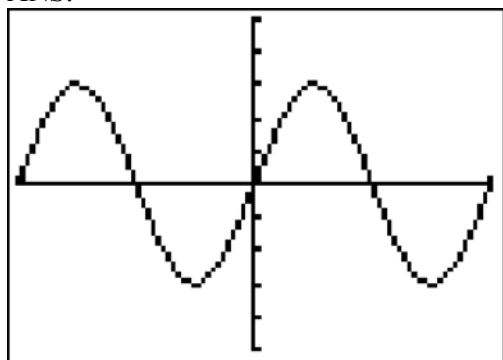
2 ANS:



PTS: 4

REF: 060832b

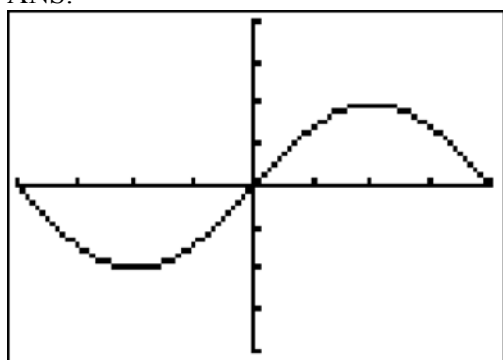
3 ANS:



PTS: 5

REF: 069040siii

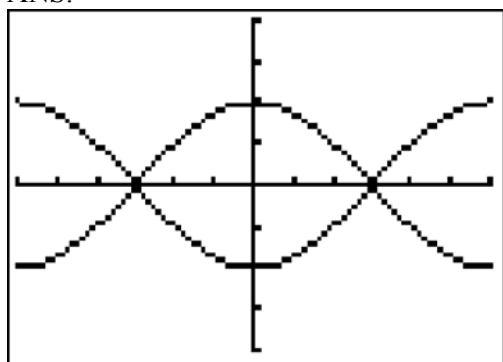
4 ANS:



PTS: 4

REF: 019536siii

5 ANS:

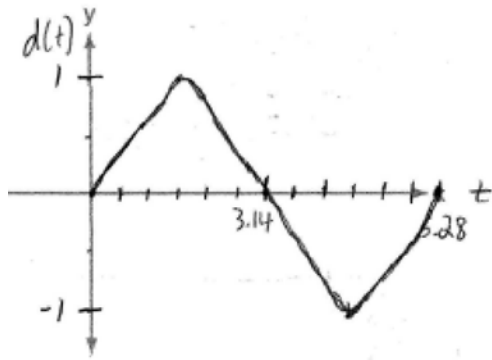


$$y = -2\cos x, -\sqrt{3}$$

PTS: 10

REF: 069637siii

6 ANS:



$$d(t) = \sin(t)$$

PTS: 4

REF: fall9931b