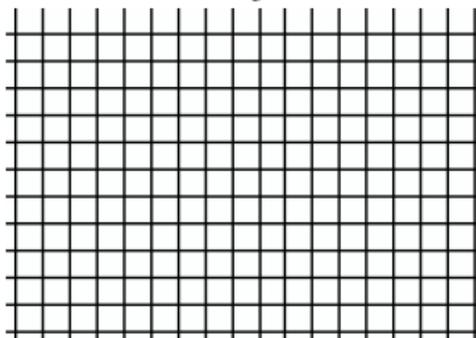
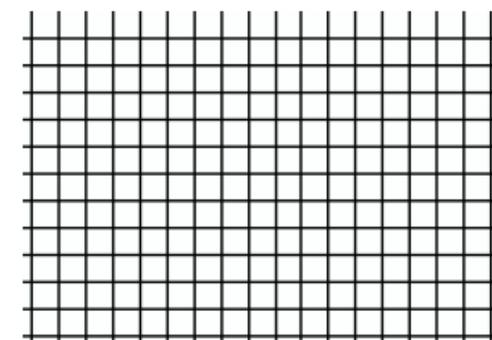


Graph one period. Label both axes.

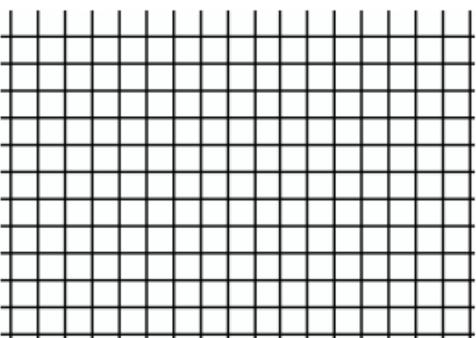
1.  $y = -2 \tan \frac{1}{3} x$



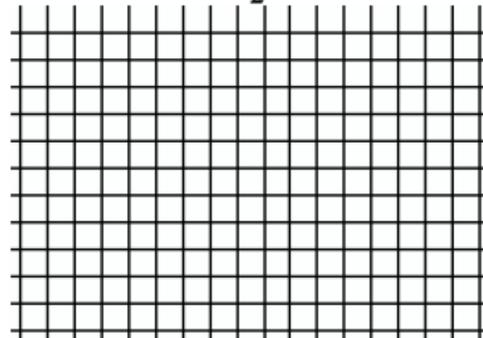
2.  $y = \sin \pi x - 3$



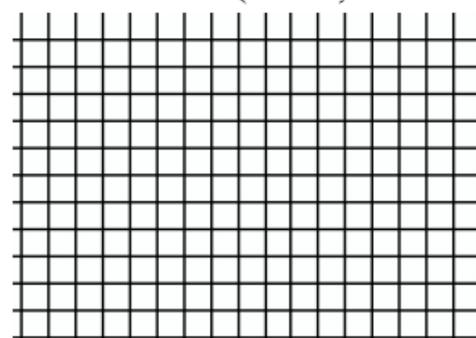
3.  $y = 2 \sin \frac{\pi}{2} (x+1)$



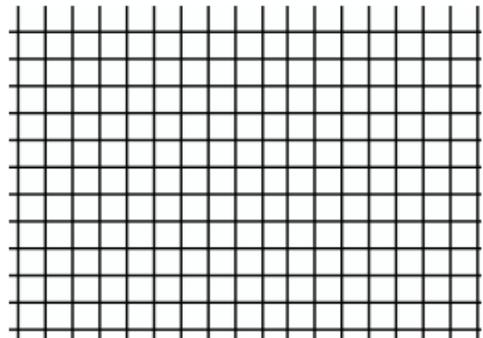
4.  $y = -3 \cos \frac{1}{2} (x - \pi) + 4$



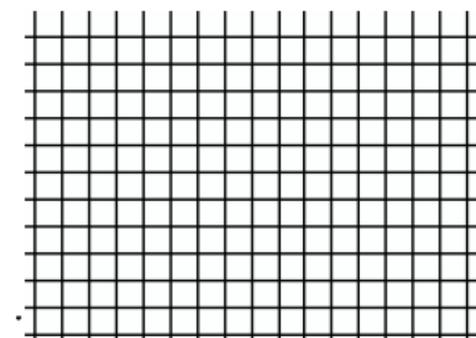
5.  $y = \tan \frac{1}{4} \left( x + \frac{\pi}{2} \right) + 2$



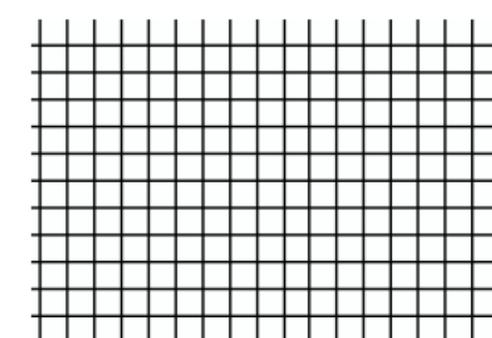
6.  $y = \csc 2x$



7.  $y = 3 \sec x$



8.  $y = 2 \cot \frac{1}{4} x$



**Write an equation of the graph described.**

9. The graph of  $y = 3 \tan 2x$  is translated up 8 units and then reflected in the line  $y = 8$ .

10. The graph of  $y = \frac{1}{2} \cos 6x$  is translated down 5 units and right  $\frac{\pi}{6}$  units.

11. The graph of  $y = 6 \sin \frac{1}{2}x$  is translated left  $\pi$  units and then reflected in the  $x$  - axis.

12. The graph of  $y = \cos x$  has a maximum of 4 , a minimum of - 2, and a period of  $\frac{2\pi}{3}$