

Note: These are only sample solutions. There are numerous solutions to all questions!

1.  $y = 2\sin x + 1$

2.  $y = 2\sin\left(\frac{1}{2}x\right)$

3.  $y = 3\sin(2x) + 1$

4.  $y = \sin(2(x + \pi))$  or  $y = -\sin(2x)$

5.  $y = \sin\left(x - \frac{\pi}{2}\right) - 2$

6.  $y = -2\cos\left(\frac{3}{2}x\right)$  or  $y = 2\sin\left(\frac{3}{2}\left(x - \frac{\pi}{3}\right)\right)$

7.  $y = 2\sin\left(2\left(x - \frac{\pi}{4}\right)\right)$

8.  $y = \frac{7}{2}\sin\left(\frac{1}{2}\left(x - \frac{\pi}{2}\right)\right)$

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

10.  $y = 3\sin\left(2\left(x + \frac{\pi}{6}\right)\right) - 1$

11.  $y = \sin(2\pi x)$

12.  $y = \sin\left(\frac{1}{2}\pi\left(x - \frac{1}{2}\right)\right)$