

14.5 pg. 944 #1-15: odd, #2, 23, 25, 26

1.) The graph of a sine or cosine function.

3.) $y = 3 \sin 2x$

$a = \frac{3 - (-3)}{2} = 3$

Period: $\frac{2\pi}{b} = \pi$

So $b = 2$

9.) $y = 6 \sin \frac{1}{2}x$

$a = \frac{6 - (-6)}{2} = 6$

Period: $4\pi = \frac{2\pi}{b}$

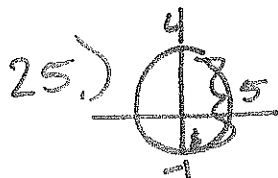
So $b = \frac{1}{2}$

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

$a = \frac{0 + 4}{2} = 2$ period: $\frac{2\pi}{b} = 8\pi$

$k = \frac{0 - 4}{2} = -2$

$b = \frac{1}{4}$



$a = \frac{4 - (-1)}{2} = 2.5$

Period: $\frac{2\pi}{b} = 2$

So $b = \pi$

$y = -2.5 \cos \pi t + 6.5$

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

$k = \frac{6 + 2}{2} = 4$, $a = \frac{6 - 2}{2} = 2$

Period: $\frac{2\pi}{b} = 4 \Rightarrow b = \frac{\pi}{2}$

$h = 0$

11.) $y = -\cos 3x + 4$

$a = \frac{5 - 3}{2} = 1$

$k = \frac{5 + 3}{2} = 4$

Period: $\frac{2\pi}{b} = \frac{2\pi}{3}$

$b = 3$

12.) $y = -7 \cos 6x + 1$

$a = \frac{8 + 6}{2} = 7$

$k = \frac{8 - 6}{2} = 1$

Period: $\frac{2\pi}{b} = \frac{\pi}{3}$

$b = 6$

7.) $a = \frac{10 - (-6)}{2} = 8$

13.) $y = 2 \cos \left(\frac{4}{5}\right)\left(x - \frac{3\pi}{4}\right) + 7$

$a = \frac{9 - 5}{2} = 2$, $k = \frac{9 + 5}{2} = 7$

Period: $\frac{10\pi}{4} = \frac{2\pi}{b} \Rightarrow b = \frac{4}{5}$

23.) $y = 10 \sin 4\pi t$

Period: $\frac{2\pi}{b} = \frac{1}{2} \Rightarrow b = 4\pi$

26.) $R = 8.94 \sin(0.52t + 2.54) + 83.3$