

Test Review

1) amp = 2
 period = $\frac{2\pi}{3}$
 ps = $\frac{2\pi}{9}$
 dom = $[\frac{2\pi}{9}, \frac{8\pi}{9}]$
 range = $[-2, 2]$

2) amp = 3
 period = $\frac{2\pi}{5}$
 ps = $-\frac{\pi}{20}$
 dom = $[-\frac{\pi}{20}, \frac{7\pi}{20}]$
 range = $[-3, 3]$

3) amp = 3
 period = 120°
 ps = 0°
 dom $[0^\circ, 120^\circ]$
 range $[-2, 4]$

4) same as #3!
 vs = 1
 $b = \frac{360^\circ}{120^\circ} = 3$

$$y = 3 \cos 3\theta + 1$$

5) vs = $\frac{17 + (-5)}{2} = 6$

6) $b = \frac{360^\circ}{90^\circ} = 4$

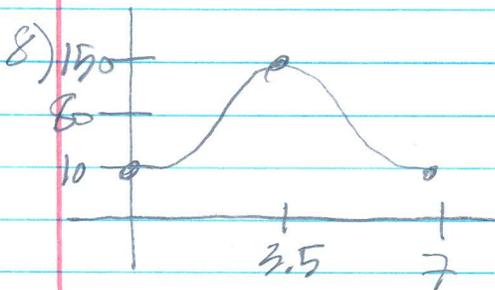
amp = 11
 period = $\frac{4\pi}{3}$
 ps = 0π
 $b = \frac{2\pi}{\frac{4\pi}{3}} = \frac{2\pi \cdot 3}{4\pi} = \frac{3}{2}$

$$y = -3 \cos 4(\theta - 60^\circ)$$

$$y = -11 \sin \frac{3}{2}x + 6$$

7) $b = \frac{360^\circ}{60^\circ} = 6$

$$y = \frac{1}{3} \sin 6(\theta + 30^\circ) - 2$$

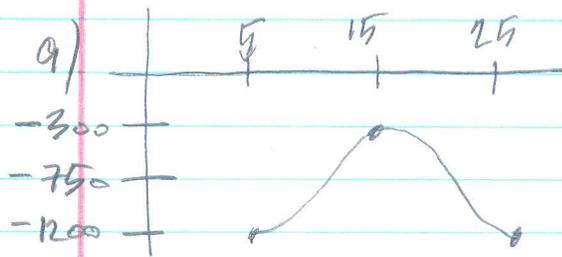


a) $y = -70 \cos \frac{2\pi}{7}(x) + 80$

b) 95.6 feet

c) 0.86 minutes

amp = 70 $b = \frac{2\pi}{7}$
 vs = 80

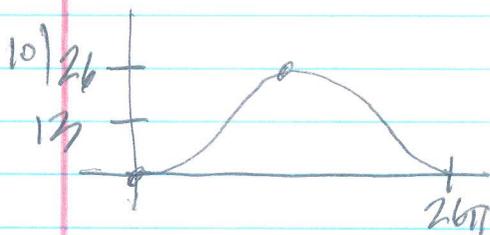


$\text{amp} = 450$
 $V_s = -750$
 $p_s = 15$
 $p_d = 20$
 $b = \frac{2\pi}{20} = \frac{\pi}{10}$

a) $y = -450 \cos \frac{\pi}{10} (t-5) - 750$

b) when $t=0$,
 $y = -750 \text{ m}$ NO

c) between
 12.8 min and 17.2 min

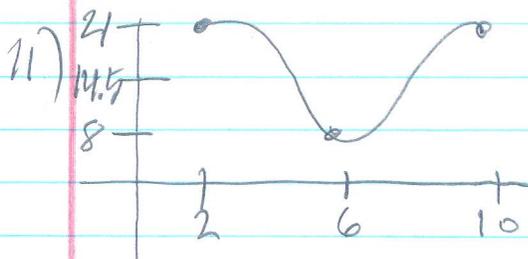


$\text{amp} = 13$
 $w = 13$
 $p_d = 26\pi$
 $b = \frac{2\pi}{26\pi} = \frac{1}{13}$

a) $y = -13 \cos \frac{1}{13} (x) + 13$

b) 6.8 m

c) between 17.4 m and
 64.3 m



$\text{amp} = 6.5$
 $w = 14.5$
 $p_d = 8$
 $p_s = 2$
 $b = \frac{2\pi}{8} = \frac{\pi}{4}$

a) $y = 6.5 \cos \frac{\pi}{4} (x-2) + 14.5$

b) 8.18 m

c) $t = 3.28 \text{ hours}$