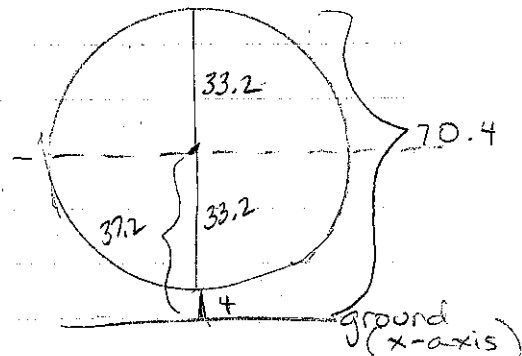
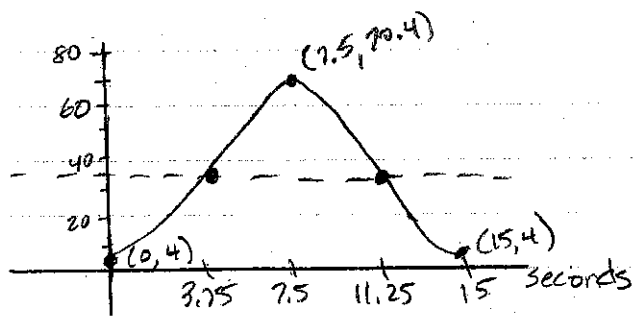


2.



- a) amp = 33.2
 period = 15 seconds
 VS = 37.2
 PS = none

$$b = \frac{2\pi}{15}$$

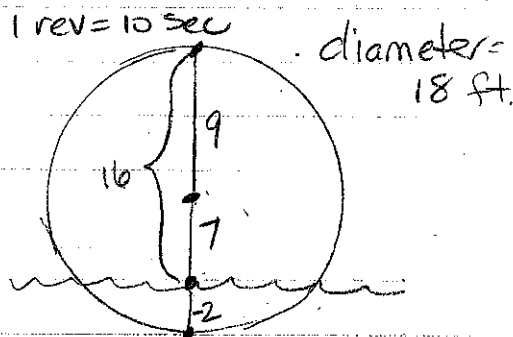
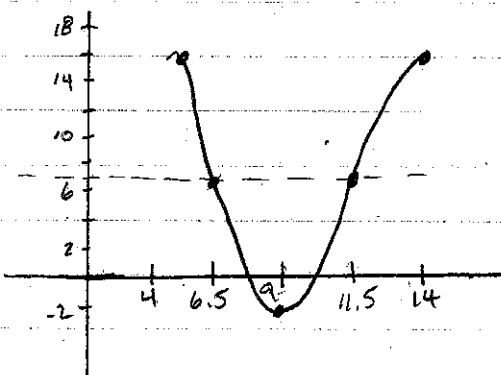
* At time (0), height is 4 ft.

$$h(t) = -33.2 \cos\left(\frac{2\pi}{15}(t)\right) + 37.2$$

- b) 69.7 ft

- c) graph equation $y = 27$ 3 seconds

3.



- a) period = 10 sec $b = \frac{2\pi}{10} = \frac{\pi}{5}$
 amp = 9
 VS = 7
 PS = 4

$$d(t) = 9 \cos\left(\frac{\pi}{5}(t - 4)\right) + 7$$

- b) -2, the lowest part of the wheel is under water.
 c) 4.2 ft.
 d) .08 seconds, the wheel is coming out of the water.