

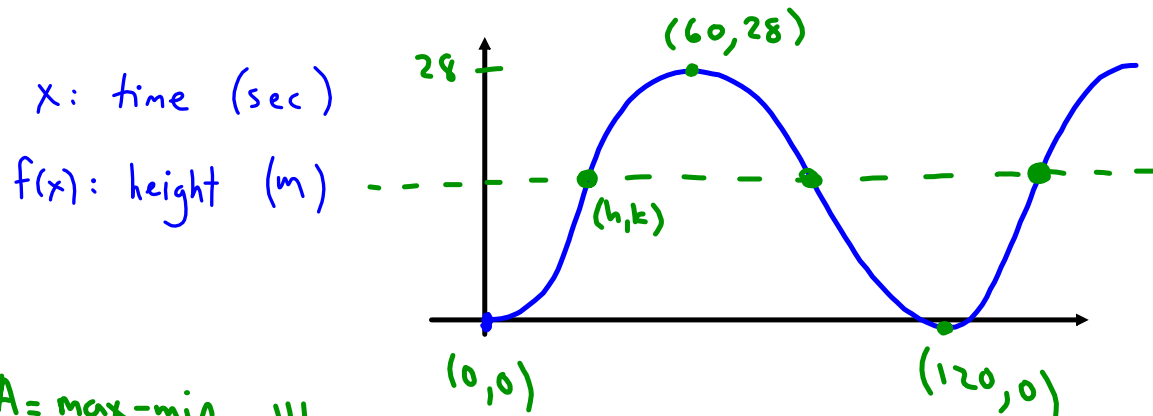
A family goes to La Ronde and are the last group to board La Grande Carousel. They have been on the ride for 3 minutes and 20 s when it stops and becomes stuck.

The crew works to fix the problem but decides it needs to evacuate each booth. They have a mechanical lift that can reach 20 m high.

Can the lift reach the family?

Total diameter of ride: 28 m

Time to complete one rotation: 120 s

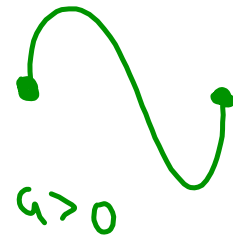


$$A = \frac{\max - \min}{2} = 14$$

$$k = \frac{\max + \min}{2} = 14$$

$$b = \frac{360}{P} = \frac{360}{120} = 3$$

$$h = \frac{0 + 60}{2} = 30$$



$$f(x) = 14 \sin 3(x - 30) + 14$$

$$\begin{aligned} f(200) &= 14 \sin 3(200 - 30) + 14 \\ &= 21 \end{aligned}$$