

## Warm-up: Applications (Sinusoidal Functions as Mathematical Models)

There is a kiddie Ferris wheel at the Cobb County Fair.

The radius of the wheel is 12 feet and it makes a complete revolution every 40 seconds.

The bottom of the ride sits 3 feet above the ground on a platform.

The height of a passenger on the ride is a function of time.

- 1) Sketch a graph that shows one period of function and write the Cosine equation of the function.



- 2) *How many seconds have you been on the ferris wheel when you first reach the top of the wheel?*
- 3) *After how many seconds will you first be at a height of 12 feet above the ground? Round to the nearest tenth.*
- 4) *How high will you be at 52 seconds? Round to the nearest tenth.*

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