

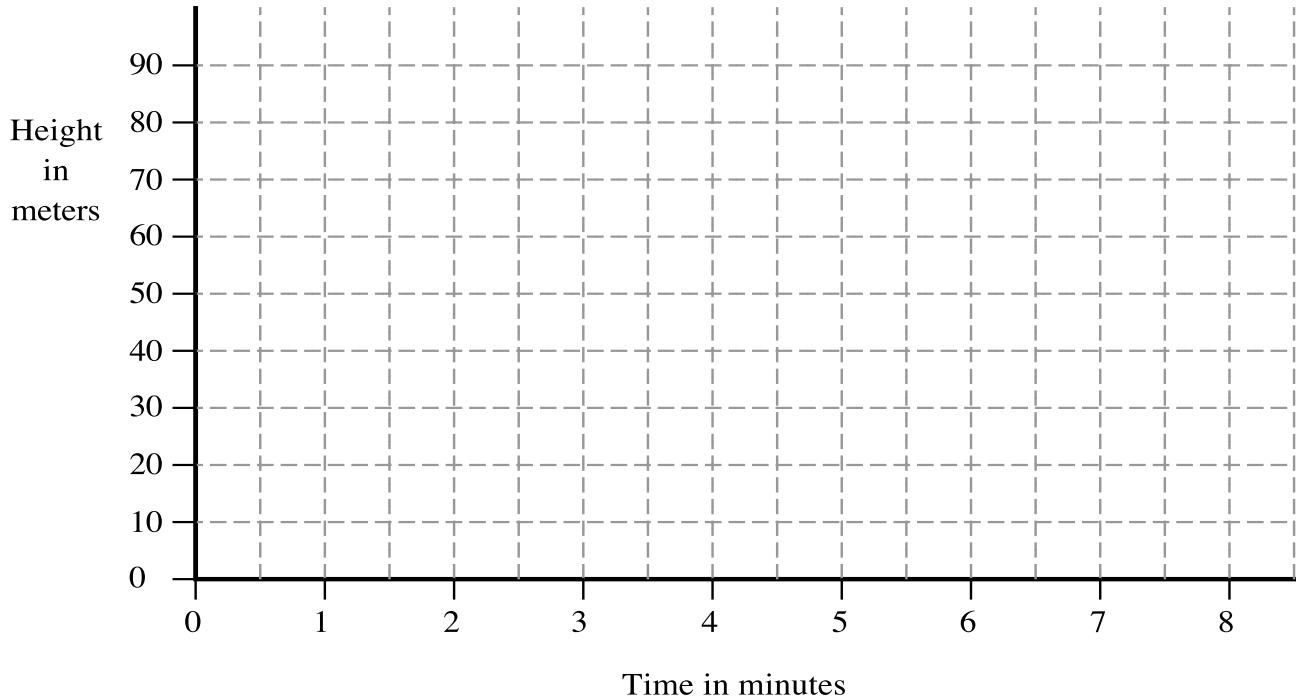
# Ferris Wheel

A Ferris Wheel is 60 meters in diameter and rotates once every four minutes.

The center axle of the Ferris Wheel is 40 meters from the ground.



- Using the axes below, sketch a graph to show how the height of a passenger will vary with time. Assume that the wheel starts rotating when the passenger is at the bottom.



- A mathematical model for this motion is given by the formula:

$$h = a + b \cos ct$$

where

$h$  = the height of the car in meters

$t$  = the time that has elapsed in minutes

$a, b, c$  are constants.

Find values for  $a, b$  and  $c$  that will model this situation.

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