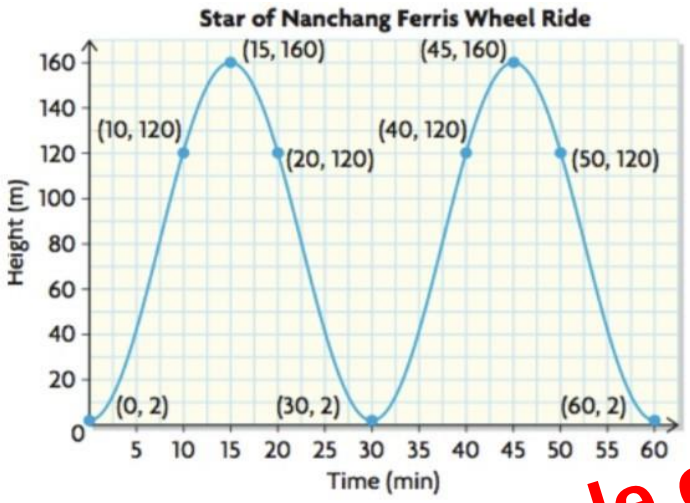
PLANE AND SPHERICAL TRIGONOMETRY | MATH 113 | NOTRE DAME UNIVERSITY

FERRIS WHEEL – APPLICATION OF SINE FUNCTION-TRIGONOMETRIC FUNCTIONS

Problem # 1 : Determine the sinusoidal regression equation of the graph, to the nearest hundredth.



Solutions:

This Sinusoidal Graph is a Sine Function and has an equation of the form

$y = A \sin [B(x - C)] + D$ where the variables has a representation of the following:

From the graph,

A = amplitude = (y max - y min) / 2

y max = 160 , y min = 2

A = amplitude = (160 - 2) / 2 = 79

C = phase shift / horizontal displacement = 7.5

D = vertical displacement = y + A

y = 2 , A = 79

D = vertical displacement = 2 + 79 = 81