

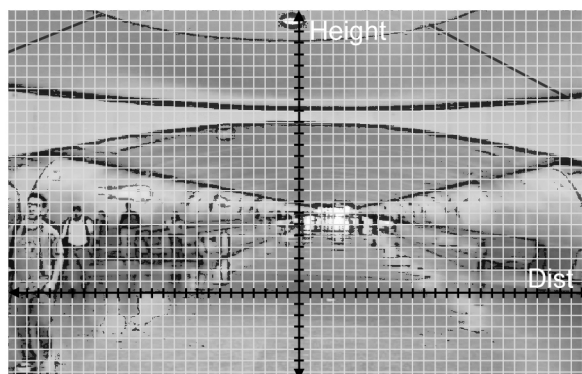
Name: _____

Date: _____

BLM 4-5

Model the Roof of the Detroit International Airport

The diagram shows a walkway in the Detroit International Airport that connects Terminal A to C. The roof could be modelled by a quadratic equation.



Examine the same diagram with a grid superimposed, where each square represents 1 ft, and investigate the height of the roof for various points.

If the vertical axis is the height, h , and the horizontal axis is the distance from the vertical axis, d , the roof can be modelled by the equation:

$$h = ad^2 + bd + c, \text{ where } a, b, \text{ and } c \text{ are constants.}$$

In the diagram on the right, there are points on the roof that you can plot. Try different values of a , b , and c to develop an equation that models the shape of the roof. Comment on how closely your equation models the points.

a	b	c	Equation	How close?