

Modeling Functions--Working Backward to find Initial Value (y-intercept)

Big Idea: Initial Value can be found by following the rate of change (slope) backward.

Example:

A plane is descending 15 feet a second. After 18 seconds it is at an elevation of 4000 feet.

a. Sketch this situation.

b. What is the rate of change? -15 feet/sec

c. What elevation did the plane start at?

4270

$$\begin{array}{r} 15 \\ \times 18 \\ \hline 270 \\ + 4000 \\ \hline 4270 \end{array}$$

d. Write an equation that models this the relationship between the elevation, e , of the plane and the number of seconds, n .

$$e = -15n + 4270$$

