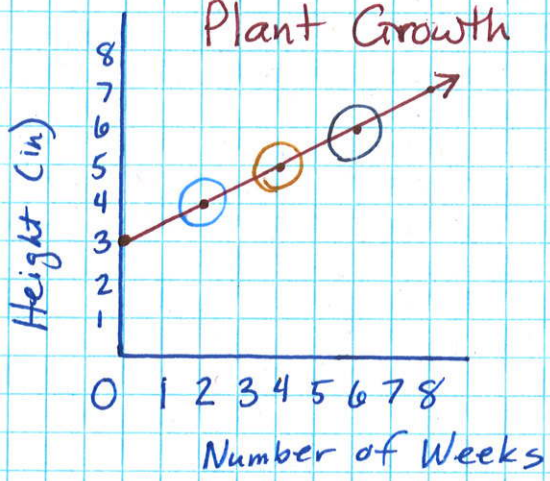
Rate of Change & Proportional Linear Relationships

Mrs. Gross



The slope is $\frac{1}{2}$...
the plant grows 1/2" /wk

But this is not a proportional relationship!

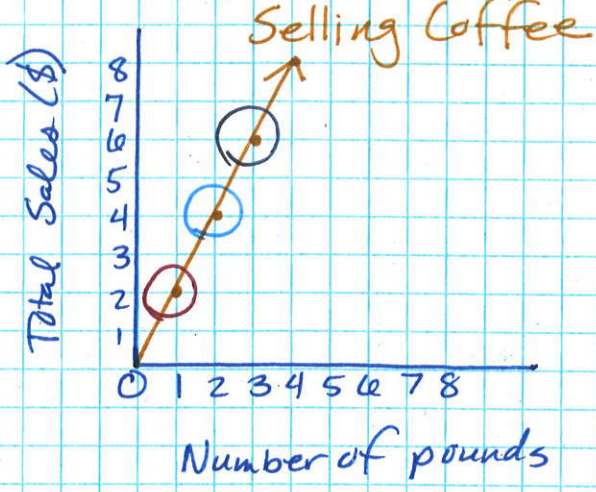
Compare height to time:

$\frac{4"}{2 \text{ wks}} = 2$

$\frac{5"}{4 \text{ wks}} = 1.25$

$\frac{6"}{6 \text{ wks}} = 1$

These are not the same!



The slope is $\frac{2}{1}$...
the cost is $2.00/lb

This is a proportional relationship!

Compare sales to pounds:

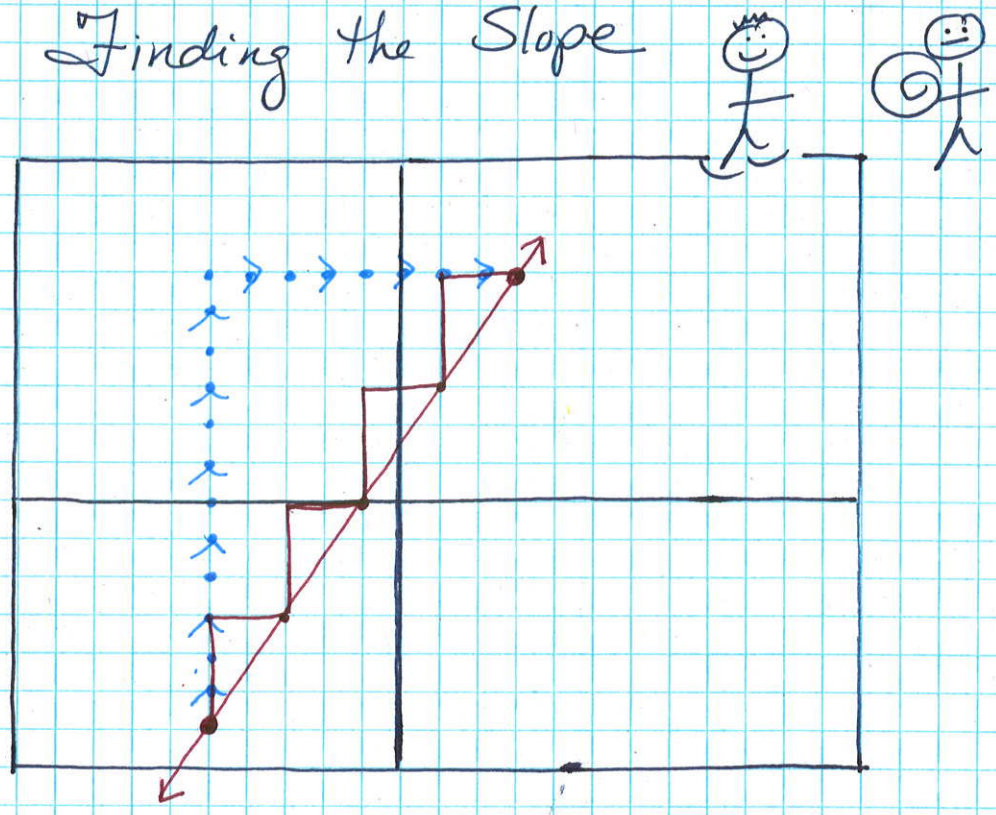
$\frac{\$2}{1 \text{ lb}} = 2$

$\frac{\$4}{2} = 2$

$\frac{\$6}{3} = 2$

These are the same!

8-6 Finding the Slope



1) Plot the points given to you: $(-5, -6)$
$(3, 6)$

2) Draw a line

A) Find where the line crosses "perfectly"

This makes a nice even staircase or dragon's neck

$$\frac{\text{Rise}}{\text{Run}} = \frac{3}{2}$$

B) Find the $\frac{\text{total rise}}{\text{total run}}$

$$\frac{12}{8}$$

Reduce

$$\frac{12}{8} = \frac{2 \cdot 2 \cdot 3}{2 \cdot 2 \cdot 2} = \frac{3}{2}$$