

Lesson 7-6

Objective- To recognize the slope of a line as a rate of change.

Joe starts with \$3 and saves \$2 each day. Write a linear equation to describe the situation, make a table of values, and graph.

Let $x = \# \text{ days}$

Let $y = \text{money saved}$

start value = 3

change = 2

$y = 2x + 3$

# days	dollars
x	y
0	3
1	5
2	7
3	9
4	11

Rate of Change = \$2/1 day Slope (m) = $\frac{\Delta y}{\Delta x} = \frac{+2}{+1}$

This chart shows the price of sliced fruit platters.

Platter Weight	Price
1 lb.	\$2.10
2 lb.	\$3.60
3 lb.	\$5.10
4 lb.	\$6.60
5 lb.	\$8.10

1) How much would a 6 lb. platter cost?
 $\$8.10 + 1.50 = \boxed{\$9.60}$

2) Write an equation for the cost of a platter that weighs w lbs.
Let $p = \text{price of platter}$
 $p = 1.50w + 0.60$

3) How much would a 10 lb. platter cost?
 $p = 1.50w + 0.60$
 $p = 1.50(10) + 0.60$
 $p = 15.00 + 0.60 = \boxed{\$15.60}$

Change Start Value

Tell whether the rate of change is constant or variable for the table of values below.

x	y
2	3
5	5
7	8
9	7
10	9

Slope (m) = $\frac{\Delta y}{\Delta x} = \frac{+2}{+3} \neq \frac{+3}{+2} \neq \frac{-1}{+2} \neq \frac{+2}{+1}$

Slope is variable (Non-linear)

Tell whether the rate of change is constant or variable for the table of values below.

x	y
3	2
6	3
12	5
21	8

Slope (m) = $\frac{\Delta y}{\Delta x} = \frac{+1}{+3} = \frac{+2}{+6} = \frac{+3}{+9}$

Slope is constant (Linear)

Slope of a Line

Slope - The rate of change that determines the direction of a line and how steep it is.

Slope = $\frac{\text{vertical change}}{\text{horizontal change}}$

Slope = $\frac{\Delta y}{\Delta x}$

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $m = \frac{+3}{+2} = \boxed{\frac{3}{2}}$

$m = \frac{-6}{-4} = \boxed{\frac{3}{2}}$

Find the slope of the line below.

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $\frac{+1}{+4}$

$m = \boxed{\frac{1}{4}}$

$m = \frac{-2}{-8} = \boxed{\frac{1}{4}}$

Lesson 7-6 (cont.)

Find the slope of the line below.

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $\frac{+3}{+1}$

$m = 3$

Find the slope of the line below.

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $\frac{-2}{+3}$

$m = -\frac{2}{3}$

Find the slope of the line below.

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $\frac{-2}{+1}$

$m = -2$

Find the slope of the line below.

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $\frac{+3}{+4}$

$m = \frac{3}{4}$

Find the slope of the line below.

Slope = $\frac{\text{rise}}{\text{run}}$

Slope = $\frac{-1}{+2}$

$m = -\frac{1}{2}$

Find the value of a .

1) $m = \frac{\text{rise}}{\text{run}}$

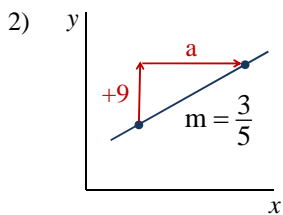
$\frac{2}{3} = \frac{a}{6}$

$\frac{12}{3} = \frac{3a}{3}$

$4 = a$

Lesson 7-6 (cont.)

Find the value of a .



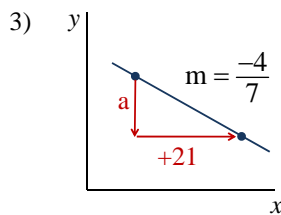
$$m = \frac{\text{rise}}{\text{run}}$$

$$\frac{3}{5} = \frac{9}{a}$$

$$\frac{3a}{3} = \frac{45}{3}$$

$$a = 15$$

Find the value of a .



$$m = \frac{\text{rise}}{\text{run}}$$

$$\frac{-4}{7} = \frac{a}{21}$$

$$\frac{-84}{7} = \frac{7a}{7}$$

$$-12 = a$$