Day 4

Algebra Review
Unit 4 Worksheet 8
Interpreting slope and y-intercept – Part 2   Name _____

$y = mx + b$ $m = $ slope
$b = $ y-intercept

1. The function below shows the cost of a hamburger with different numbers of toppings (t).

$f(t) = 1.90 + 1.40t$

$t = $ # of toppings

$M = 1.40$ y-intercept
$b = : 1.90$ initial value

a. What is the y-intercept, and what does it mean?

$1.90   The cost of burger with base fee original amt on toppings

b. What is the slope, and what does it mean?

$1.40   For every topping you $1.40

c. If Jodi paid $3.30 for a hamburger, how many toppings were on Jodi's hamburger?

y-value

$3.30 = 1.90 + 1.40t$
$-1.90 \quad -1.90$
$1.40 = 1.40t$

$t = 1$

2. The function below shows the cost of an ice cream sundae with different numbers of toppings (t).

$f(t) = 2.25 + 0.75t$

a. What is the y-intercept, and what does it mean?

2.25 The amt of Sundae with zero toppings

b. What is the slope, and what does it mean?

0.75 ~~Price~~ cost of each topping

c. If Kaye paid $6.00 for a sundae, how many toppings were on Kaye's sundae?

$6.00 = 2.25 + 0.75t$
$-2.25 \quad -2.25$
$3.75 = .75t$
$.75 \qquad .75$

$t = 5$

6

3: The function below shows the cost to attend the fair if you ride r rides.

$$f(r) = 5 + 1.75r$$

a. What is the y-intercept, and what does it mean?

5   the cost to attend the fair (no rides)

b. What is the slope, and what does it mean?

1.75   Cost of each ride

c. If Al spent $19.00 at the fair, how many rides did Al ride?

$$19.00 = 5 + 1.75r$$
$$-5 \qquad -5$$
$$\frac{14}{1.75} = \frac{1.75r}{1.75}$$
$$\boxed{r = 8}$$

4. The function below shows the cost for Mrs. Franklin to go to a buffet with c of her grandchildren.

$$f(c) = 6.85 + 2.95c$$

a. What is the y-intercept, and what does it mean?

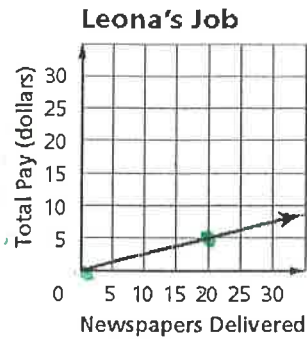6.85   the cost of Mrs. Franklin buffet (no kids)

b. What is the slope, and what does it mean?

2.95   the cost of each child's meal

c. If Mrs. Franklin paid 18.65 for the buffet, how many of her grandchildren did she take to the buffet?

$$18.65 = 6.85 + 2.95c$$
$$-6.85 \quad -6.85$$
$$11.80 = 2.95c$$
$$c = 4$$

⑦

5. The graph below shows the number of newspapers delivered and total pay for Leona' newspaper delivery job. What does the slope of this graph represent?

Leona's Job

Total Pay (dollars) vs Newspapers Delivered

$m = \dfrac{5}{20}$ $\dfrac{\$ \text{Total paid}}{\# \text{Newspapers}}$

$\dfrac{1}{4}$ for every $1, we get 4 Newspapers

6. Dionne pays a fixed fee plus an hourly rate to rent a boat. The table below shows how much Dionne paid for the boat. What was Dionne's hourly rate to rent the boat?
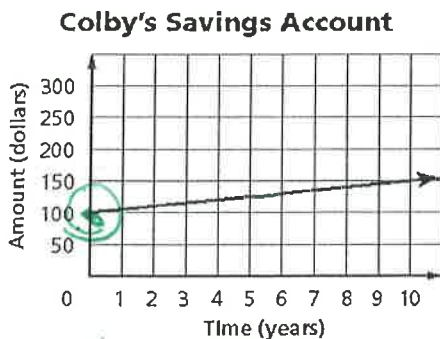
x
y

Dionne's Boat Rental					
Hours Rented	1	2	3	4	5
Amount Paid	$27	$39	$51	$63	$75

$12/hour

$M = \dfrac{y_2 - y_1}{x_2 - x_1}$

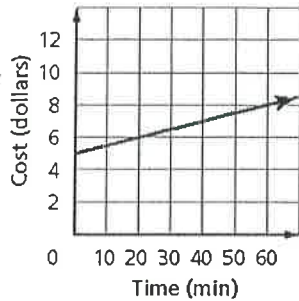$\dfrac{39 - 27}{2 - 1} = \dfrac{12}{1}$ $\dfrac{\text{Amt paid}}{\text{hours}}$

7. Colby put $100 in a savings account. The graph below shows how the amount in the account would increase over the next ten years. What does the y-intercept represent?

Colby's Savings Account

Amount (dollars) vs Time (years)

The amt of money Colby had initially

8. Tara pays a base rate for her long distance phone service plus a per-minute charge. The graph below shows what she would pay for her long distance phone service for the first 60 minutes. What does the y-intercept of this graph represent?

Long Distance Service

Cost with no long distance calls.

9. Rich is a number of a gym. He pays a monthly fee plus a per-visit fee. The equation below represents the monthly amount Rich pays for his membership to the gym per month for x visits.

$$y = 3x + 10$$

What does the y-intercept of the graph of this equation represent?

10 monthly fee

10. Nan works as a commissioned sale rep. She makes a weekly base salary plus a commission for each sale she makes. The table below shows how much Nan can make. What is Nan's weekly base salary?

Nan's Weekly Salary					
Sales Made	1	2	3	4	5
Salary	$250	$300	$350	$400	$450

$$\frac{300 - 250}{2 - 1} = \frac{50}{1}$$

$50/week

11. Charlie rented a moving truck. He paid a daily fee plus a per-mile fee to rent the truck. The equation below represents the daily amount Charlie paid for the truck if he drives it x miles.

$$y = 0.5x + 10$$

What does the slope of the graph of this equation represent?

$$m = amt/mile$$

Write a linear equation in slope-intercept form to model each situation.

12. You rent a bicycle for $20 plus $2 per hour.

$$y = 2x + 20$$

13. An auto repair shop charges $50 plus $25 per hour.

$$y = 25x + 50$$

14. A candle is 6 inches tall and burns at a rate of $\frac{1}{2}$ inch per hour.

$$y = -\frac{1}{2}x + 6$$

15. The temperature is 15° and is expected to fall 2° each hour during the night.

$$y = -2x + 15$$