

Unit 7: Ratios and Proportions

Name: _____

Key

Extra Practice 7.4

Hour: _____

1. Penny takes her laundry to the laundry mat. The cost to do laundry is based on the total weight of the clothes. Use the table below to answer the questions:

x (pounds)	y (dollars)
12	\$6
16	\$8
20	\$10
24	\$12

* $\frac{1}{2}$

- a. What is constant of proportionality?

$$y = kx$$

$$6 = k(12)$$

$$\frac{1}{2} = k$$

- b. Write an equation for the relationship.

$$y = \frac{1}{2}x$$

- c. How many pounds of clothes did Penny bring if her total was \$20?

$$20 = \frac{1}{2}x$$

$$x = 40 \text{ pounds}$$

- d. How much would Penny have to pay if she brought in 36 pounds of clothing?

$$y = \frac{1}{2}(36)$$

$$y = \$18$$

2. 24 cars enter the parking garage every 3 hours. The parking garage holds 160 cars. Assume, that this continues at a constant rate and no cars leave the garage. Use this information to fill in the table.

x (hours)	y (car)
0	0
3	24
6	48
9	72
12	96

x 160

* 8

- a. What is constant of proportionality?

$$y = kx$$

$$24 = k(3)$$

$$8 = k$$

- b. Write an equation for the relationship.

$$y = 8x$$

- c. How long will it take before the garage is full?

$$160 = 8x$$

$$x = 20 \text{ hours}$$

- d. How many cars will be in the garage after 15 hours?

$$y = 8(15)$$

$$y = 120 \text{ cars}$$

7.4 I can use a table to determine if the relationship varies directly.

True or False.

3.

x	y
1	2
2	-4
3	6
4	-8
5	10

Handwritten notes: $\rightarrow \times 2$ (between 1,2 and 2,-4), $\rightarrow \times -2$ (between 2,-4 and 3,6)

NO

4.

x	y
0	0
3	1
6	2
9	3
12	4

Handwritten note: $\times \frac{1}{3}$ with arrow pointing from (0,0) to (3,1)

YES

5.

x	y
-2	-4
-1	-2
0	0
1	2
2	4

Handwritten note: $\times 2$ with arrow pointing from (-1,-2) to (-2,-4)

yes

6.

x	y
-3	9
-1	1
0	0
1	1
2	4

NO

Find the constant of proportionality. Use the constant to write an equation in the form $y = kx$.

7.

Cats (x)	3	4	5	6	7
Whiskers (y)	18	24	30	36	42

Constant:

$$k = 6$$

Equation:

$$y = 6x$$

8.

Watermelon (x)	1	3	6	9	12
Seeds (y)	32	96	192	288	384

Constant:

$$k = 32$$

Equation:

$$y = 32x$$