Ratios and Proportions 2

Student Booklet

Name _____

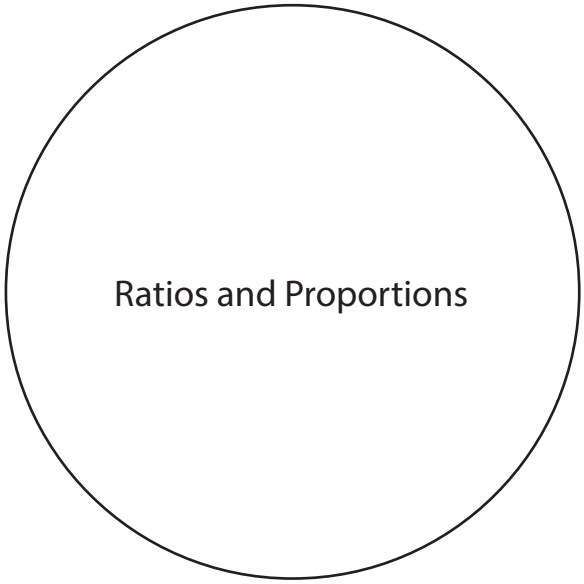
Teacher _____

Period _____

The Meadows Center for Preventing Educational Risk—Mathematics Institute
The University of Texas at Austin

Name: _____

Warming Up:



Name: _____

Learning to Solve:

1. Mona made a table to show equivalent ratios. Complete the table, using the same relationship.

Number of Triangles	Number of Angles
1	3
2	6
3	
4	
7	
	30

2. How would you describe the relationship between the number of triangles and the number of angles?

3. What ratio could you write to show the relationship you described? _____

Name: _____

Practicing Together:

Jesse made a table to show equivalent ratios of the cups of orange juice to the cups of cranberry juice in his fruit punch.

1. Complete the table, using the same relationship.

Cups of orange juice	Cups of cranberry juice
2	4
3	6
5	
	14
8	
	22
100	
$\frac{1}{2}$	
$\frac{3}{2}$	

Name: _____

2. How would you describe the relationship between the cups of orange juice and the cups of cranberry juice?

Name: _____

Trying It on Your Own

Use the table to answer the questions.

Melissa made a snack mix with almonds and yogurt-covered raisins. She made a table to show the amounts she would need if she wanted to make different quantities.

Pounds of almonds	Pounds of yogurt-covered raisins
1	0.5
2	1
3	1.5
4	2
10	5

1. What is the ratio that shows the pounds of almonds for every pound of yogurt-covered raisins?

a. 0.5:1
b. 1:1
c. 2:1
d. 1:2

Name: _____

2. How could you describe the relationship between the pounds of almonds and the pounds of yogurt-covered raisins?

a. As the pounds of yogurt-covered raisins increase by 2, the pounds of almonds increase by 1.

b. For every 2 pounds of yogurt-covered raisins, there is 1 pound of almonds.

c. For every half-pound of almonds, there is a pound of yogurt-covered raisins.

d. As the pounds of almonds increase by 1, the pounds of yogurt-covered raisins increase by a half-pound.

3. How many pounds of almonds will be needed if there are 3 pounds of yogurt-covered raisins?

a. 1.5 pounds

b. 3 pounds

c. 4.5 pounds

d. 6 pounds

Name: _____

4. How many pounds of yogurt-covered raisins are needed if there are 15 pounds of almonds?

a. 5 pounds

b. 7.5 pounds

c. 22.5 pounds

d. 30 pounds

Name: _____

Warming Up:

1. Carrots are priced at $4.25 for 5 pounds. How much does 1 pound cost?

2. Jellybeans are priced at $3.45 for 3 pounds. How much does 1 pound cost?

Name: _____

Learning to Solve:

1. Complete the table to show equivalent ratios for the relationship of 3 cups of granola for every 2 cups of banana chips.

Cups of granola	Cups of banana chips

2. Write the ratio that shows the cups of granola for 1 cup of banana chips.

_____

Name: _____

Practicing Together:

1. Complete the table to show equivalent ratios for the relationship of 3 tablespoons of chocolate syrup for every cup of milk.

Tablespoons of chocolate syrup	Cups of milk

2. Write the unit rate that shows the tablespoons of chocolate syrup for every cup of milk.

_____

Name: _____

3. What if Courtney used $\frac{1}{3}$ cup of milk? How many tablespoons of chocolate syrup would she need? _____

Name: _____

Trying It on Your Own

1. Samantha and Gary made a fruit salad. For every apple they used in the salad, they used 3 oranges. Which table shows the correct relationship for the fruit salad?

a.

Oranges	Apples
1	3
2	6
3	9
4	12

b.

Oranges	Apples
6	2
3	1
2	2
1	3

c.

Oranges	Apples
9	3
8	$2\frac{2}{3}$
6	2
5	$1\frac{2}{3}$

d.

Oranges	Apples
1	3
2	4
3	5
4	6

Name: _____

2. What is the unit rate that shows the number of oranges for every apple?

a. 1:3

b. 3:1

c. $\frac{1}{3}$: 1

d. 1: $\frac{1}{3}$

3. Gary used 12 apples and 30 oranges. Samantha said, "That's not the correct ratio of apples to oranges." Do you agree or disagree with Samantha?

a. Disagree because 12:30 is equivalent to the ratio of 3:1.

b. Disagree because 12 is a multiple of 3.

c. Agree because 30:12 is equivalent to 2.5:1 not 1:3.

d. Agree because 12:30 cannot be written as 30:12.

Name: _____

4. Gary used 10 apples. How many oranges did he use?

a. $3\frac{1}{3}$ oranges

b. 12 oranges

c. 24 oranges

d. 30 oranges

Name: _____

Warming Up:

Find the missing values.

1. For every 8 tablespoons of drink mix, 14 cups of water are needed. How many cups of water are needed for 24 tablespoons of drink mix?

2. For every 5 cups of almonds, there are 2 cups of raisins in a trail mix. How many cups of almonds are needed for 10 cups of raisins?

3. For every 3 cups of grapes, 2 cups of strawberries are used in a salad. If 1 cup of strawberries is used, how many cups of grapes are needed?

Name: _____

Learning to Solve:

Brent and Tim each made a table to show the ratio of the cups of carob chips to the cups of banana chips used to make a trail mix.

Brent's Table	
Cups of carob chips	**Cups of banana chips**
5	2
7.5	3
15	6
25	10

Tim's Table	
Cups of carob chips	**Cups of banana chips**
5	2
10	4
20	8
27.5	11

Name: _____

1. What is the unit rate of the cups of carob chips for every cup of banana chips in Brent's table?

2. Do Brent's table and Tim's table represent the same ratio? Yes No

3. If Tim used 30 cups of banana chips, how many cups of carob chips would he need?

4. If Brent used 30 cups of carob chips, how many cups of banana chips would he need?

Name: _____

Trying It on Your Own

Fred and Ted each made a table to show the ratio of the cups of milk to the tablespoons of strawberry syrup to make strawberry milk. Use their tables to answer the questions.

Fred's Table	
Tablespoons of strawberry syrup	**Cups of milk**
3	2
4.5	3
7.5	5
15	10

Ted's Table	
Tablespoons of strawberry syrup	**Cups of milk**
1.5	1
6	4
9	6
18	12

Name: _____

1. What is the unit rate of tablespoons of strawberry syrup for every cup of milk in Fred's table?

a. 3:2

b. 2:3

c. 1:1.5

d. 1.5:1

2. Do Fred's table and Ted's tables represent the same ratio?

a. Yes, because they have the same unit rate.

b. Yes, because they both show the relationship of tablespoons of strawberry syrup to cups of milk.

c. No, because entries in the tables do not have the same values.

d. No, because Ted's table does not have 15 tablespoons of strawberry syrup to 10 cups of milk.

Name: _____

3. If Ted used 20 cups of milk, how many tablespoons of strawberry syrup would he need?

a. $6\frac{2}{3}$ tablespoons

b. 23 tablespoons

c. $26\frac{2}{3}$ tablespoons

d. 30 tablespoons

4. If Fred used 24 tablespoons of strawberry syrup, how many cups of milk would he need?

a. 10 cups

b. 16 cups

c. 30 cups

d. 36 cups

Name: _____

Wrapping It Up

What ideas about fractions have you used in this module on ratios and proportions?

Name: _____

Warming Up:

Write the unit rate.

1. For every 6 cups of granola, Evie used 3 cups of coconut. _____

2. For every 6 cups of granola, Evie used 4 cups of coconut. _____

3. For every 10 cups of granola, Evie used 2 cups of coconut. _____

Name: _____

Learning to Solve:

1. As the number of dogs increases by 1, the number of legs increases by 4.

Ratio of dogs to legs _____

The number of _____ depends on the number of _____.

Independent variable: _____

Dependent variable: _____

2. As the number of triangles increases by 1, the number of angles increases by 3.

The number of _____ depends on the number of _____.

Independent variable: _____

Dependent variable: _____

3. The independent variable is the number of pentagons. The dependent variable is the number of sides.

Write a statement that describes this relationship:

As the number of _____ increases by 1, the number of

_____ increases by _____.

Name: _____

Practicing Together:

Identify the dependent and independent variables.

1. As the number of lemons increases by 1, the number of cups of sugar increases by 3.

Independent variable: _____

Dependent variable: _____

2. The number of heads increases by 1 as the number of pigs increases by 1.

Independent variable: _____

Dependent variable: _____

3. The distance traveled increases by 30 miles as the time increases by 1 hour.

Independent variable: _____

Dependent variable: _____

Name: _____

Trying It on Your Own

1. The number of tails increases by 1 as the number of cows increases by 1. Which of the following correctly identifies the independent and dependent variables?

a. The independent variable is the cows. The dependent variable is the tails.

b. The independent variable is the number of cows. The dependent variable is the number of tails.

c. The independent variable is the tails. The dependent variable is the cows.

d. The independent variable is the number of tails. The dependent variable is the number of cows.

2. For every rectangle, the number of sides increases by 4. Which of the following correctly identifies the independent and dependent variables?

a. The dependent variable is the number of sides. The independent variable is the number of rectangles.

b. The independent variable is the number of sides. The dependent variable is the number of rectangles.

c. The dependent variable is 4 sides. The independent variable is 1 rectangle.

d. The independent variable is 4 sides. The dependent variable is 1 rectangle.

Name: _____

3. The faster I drive, the more gallons of gas I use. Which of the following correctly identifies the independent and dependent variables?

a. The independent variable is the kind of car I drive. The dependent variable is the number of gallons of gas.

b. The independent variable is the number of gallons of gas. The dependent variable is the cost of a gallon of gas.

c. The independent variable is the miles per hour, or my speed. The dependent variable is the number of gallons of gas.

d. The independent variable is the kind of car I drive. The dependent variable is the miles per hour, or my speed.

4. Oranges cost $4.95 per pound. Which of the following correctly identifies the independent and dependent variables?

a. The independent variable is number of pounds of oranges I buy. The dependent variable is the amount of money I pay for the oranges.

b. The independent variable is the cost of the oranges per pound. The dependent variable is the size of the oranges.

c. The independent variable is the size of the bag of oranges. The dependent variable is cost of the oranges per pound.

d. The independent variable is the amount of money I pay for the oranges. The dependent variable is the cost of the oranges per pound.

Name: _____

Wrapping It Up

Describe a situation that shows a relationship between dependent and independent variables.

Name: _____

Warming Up:

Find the unit rates.

1. 3 pounds of bananas cost $2.01. Write the unit rate. _____

2. 5 t-shirts cost $22.75. Write the unit rate. _____

3. Carmen travels 130 miles in 2 hours. Write the unit rate. _____

Name: _____

Learning to Solve:

1. In my own words, an independent variable is:

2. In my own words, a dependent variable is:

3. Give an example of a situation that shows a dependent and an independent variable. Identify each variable.

4. The sixth-grade class sponsored a movie to make money for a class trip. They charged $3.25 per person to watch the movie.

Describe the relationship.

Independent variable: _____

Dependent variable: _____

Name: _____

Practicing Together:

Name the dependent and independent variables in each scenario.

1. Jackson was reading a book. He read 3 pages every 6 minutes.

Describe the relationship:

Independent variable: _____

Dependent variable: _____

2. Cameron works at a bicycle shop. He makes $6.50 per hour.

Describe the relationship:

Independent variable: _____

Dependent variable: _____

Name: _____

3. Kara buys juices to take to a party. Each juice costs $1.75.

Describe the relationship:

Independent variable: _____

Dependent variable: _____

Name: _____

Trying It on Your Own

1. Jeremy realized that the more he watered a plant, the more it grew. Which of the following gives the correct independent and dependent variables?

a. The independent variable is the height of the plant. The dependent variable is the amount of water.

b. The independent variable is the amount of water. The dependent variable is the height of the plant.

c. The independent variable is the amount of water. The dependent variable is the type of plant.

d. The independent variable is the meter stick used to measure the height. The dependent variable is the amount of water.

2. Blake was writing a report for his history class. For every 5 minutes that he wrote, he wrote 1 page of the report. Which of the following gives the correct independent and dependent variables?

a. The independent variable is the topic of the history report. The dependent variable is the number of pages he wrote.

b. The independent variable is how fast he types. The dependent variable is the number of pages of the report.

c. The independent variable is the number of minutes he wrote. The dependent variable is the number of pages he wrote.

d. The independent variable is the number of pages he wrote. The dependent variable is the topic of the history report.

Name: _____

3. Cassie was making friendship bracelets. Each bracelet uses 1 yard of yarn. Which of the following gives the correct independent and dependent variables?

a. The independent variable is the number of bracelets she made. The dependent variable is the number of yards of yarn.

b. The independent variable is the number of yards of yarn she has. The dependent variable is the number of bracelets she made.

c. The independent variable is the length of the bracelet. The dependent variable is the number of bracelets she made.

d. The independent variable is the number of bracelets she made. The dependent variable is the length of the bracelet.

4. Marla can swim a lap in the pool in 4 minutes. Which of the following gives the correct independent and dependent variables?

a. The independent variable is the length of a lap. The dependent variable is the number of laps she swam.

b. The independent variable is the number of minutes she swam. The dependent variable is the number of laps she swam.

c. The independent variable is the number of laps she swam. The dependent variable is the number of minutes she swam.

d. The independent variable is the speed that she swims. The dependent variable is the number of minutes she swam.

Name: _____

Wrapping It Up

I feel comfortable identifying independent and dependent variables.

Agree Somewhat Agree Disagree

Name: _____

Warming Up:

Identify the independent and dependent variables.

1. Zach put $25 in his savings account every week. He is saving money to buy a new computer.

Independent variable: _____

Dependent variable: _____

2. A study reported that for every hour of sunlight, a certain plant grows 1 centimeter.

Independent variable: _____

Dependent variable: _____

Name: _____

Learning to Solve:

Example: Sam makes $5 per hour when he helps his dad mow the lawn.

Number of hours worked	Amount of money earned
1	
2	
2.5	
3	$15
6	
	$22.50
	$35
	$32.50

Independent variable: _____

Dependent variable: _____

Relationship of the number of hours worked and the amount of money earned:

_____

Name: _____

Practicing Together:

Work with a partner to complete the tables.

1.

Number of hours worked	Amount of money earned
1	$7.50
2	$15
3	$22.50
4	$30
5	
6	
	$75
	$150
Number of hours worked	
x	

Name: _____

2.

Number of hours driven	Number of miles driven
1	
2	110
3	
4	
5	
	550
20	
	55 times the number of hours driven
x	

Name: _____

Trying It on Your Own

Use the table to answer questions 1 and 2.

Number of socks knitted (*x*)	Number of yards of yarn used
1	1
2	2
3	3
4	4
	30
x	

1. How can the relationship in the table be described?

a. *x* represents the number of socks knitted, the dependent variable. 1*x* represents the number of yards of yarn used, the independent variable.

b. *x* represents the number of socks knitted, the independent variable. 1*x* represents the number of yards of yarn used, the dependent variable.

c. *x* represents the number of socks knitted, the dependent variable. 2*x* represents the number of yards of yarn used, the independent variable.

d. *x* represents the number of socks knitted, the dependent variable. 3*x* represents the number of yards of yarn used, the independent variable.

2. If 30 yards of yarn were used, how many socks were knitted?

a. 15 socks

b. 20 socks

c. 30 socks

d. 60 socks

Name: _____

Use the table to answer questions 3 and 4.

Number of cups of milk	Number of tablespoons of chocolate syrup
2	6
3	9
4	12
8	24
15	45

3. How can the relationship in the table be described?

a. 3*x* represents the number of cups of milk, the dependent variable. *x* represents the number of tablespoons of chocolate syrup, the independent variable.

b. 3*x* represents the number of cups of milk, the independent variable. *x* represents the number of tablespoons of chocolate syrup, the dependent variable.

c. *x* represents the number of cups of milk, the dependent variable. 3*x* represents the number of tablespoons of chocolate syrup, the independent variable.

d. *x* represents the number of cups of milk, the independent variable. 3*x* represents the number of tablespoons of chocolate syrup, the dependent variable.

4. If 42 tablespoons of chocolate syrup were used, how many cups of milk were needed?

a. 126 cups of milk

b. 45 cups of milk

c. 14 cups of milk

d. 3 cups of milk

Name: _____

Wrapping It Up

Write a generalization, using a variable, that shows the following:

For every cup of rice, it takes 3 cups of water to cook it.

Name: _____

Warming Up:

Find the unit rate.

1. Steak is priced at $44.94 for 6 pounds. _____

2. Eggs are priced at $3.75 for $1\frac{1}{2}$ dozen. _____

Name: _____

Learning to Solve:

1.

Number of cups of milk	Number of tablespoons of chocolate syrup
1	3
2	6
3	9
4	12
5	15
8	24
15	45
Number of cups of milk	3 times the number of cups of milk
x	$3x$

_____ _____

variable variable

Name: _____

2.

Number of math problems	Number of minutes to complete
1	2
2	4
3	6
4	8
5	10
10	20
20	40
Number of math problems	2 times the number of math problems
x	$2x$

Draw a line from the items in the left column to "independent variable" or "dependent variable" in the right column.

Number of math problems

Independent variable

2 times the number of math problems

$2x$

Dependent variable

x

Name: _____

Practicing Together:

Josie made $4.50 per hour babysitting. Fill out the table.

Number of hours babysitting	Amount of money earned
1	
2	
3	
4	
5	
10	$45.00
20	
Number of hours babysitting	
x	

x = Number of hours babysitting

_____ = Amount of money earned

The independent variable is _____ , the number of hours babysitting.

The dependent variable is _____, the amount of money earned.

Name: _____

Trying It on Your Own

Use the following statement to answer questions 1–4:

Tobi made banners that required 1.5 quarts of paint for each banner.

1. Which table shows the relationship?

a.

Number of banners	Number of quarts of paint
1	1.5
2	3
3	4.5
4	6
5	7.5
10	15
20	30

b.

Number of banners	Number of quarts of paint
1.5	1
3	2
4.5	3
6	4
7.5	5
15	10
30	20

c.

Number of banners	Number of quarts of paint
2	3.5
3	4.5
4	5.5
5	6.5
10	11.5
20	21.5
30	31.5

d.

Number of banners	Number of quarts of paint
3.5	2
4.5	3
5.5	4
6.5	5
11.5	10
21.5	20
31.5	30

Name: _____

Tobi made banners that required 1.5 quarts of paint for each banner.

2. Which of the following gives the correct independent and dependent variables?

a. The independent variable is the number of quarts of paint. The dependent variable is the number of quarts of paint Tobi bought.

b. The dependent variable is the number of quarts of paint Tobi used. The independent variable is the number of hours it took Tobi to make the banners.

c. The independent variable is the number of banners Tobi made. The dependent variable is the number of quarts of paint she used.

d. The dependent variable is the number of banners Tobi made. The independent variable is the number of quarts of paint she used.

3. Which of the following represents the relationship?

a. If x = the number of banners, then $\frac{x}{1.5}$ represents the number of quarts of paint.

b. If x = the number of banners, then $1.5x$ represents the number of quarts of paint.

c. If x = the number of quarts of paint, then $1.5x$ represents the number of banners.

d. If x = the number of banners, then $1.5 + x$ represents the number of quarts of paint.

Name: _____

Tobi made banners that required 1.5 quarts of paint for each banner.

4. If Tobi uses 24 quarts of paint, how many banners does she make?

a. 72 banners
b. 25.5 banners
c. 22.5 banners
d. 16 banners

Name: _____

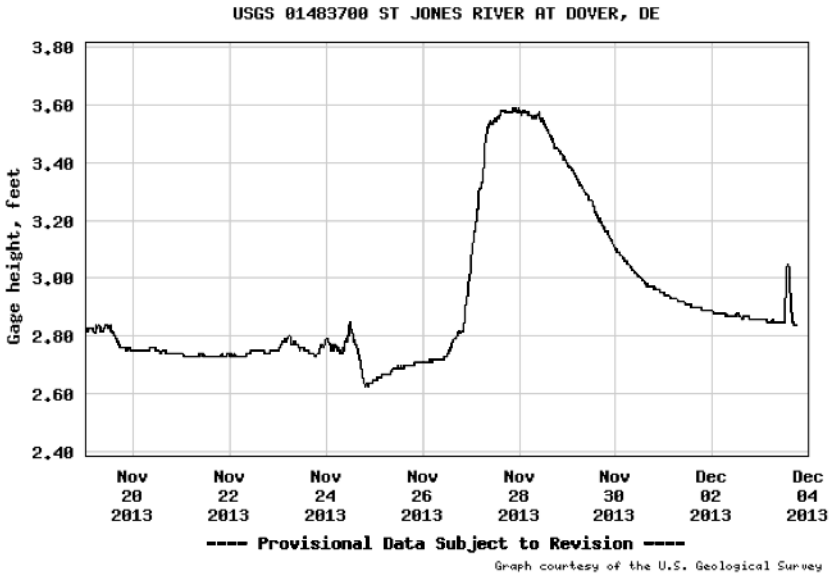
Wrapping It Up

I can use a variable to write a generalization about a table.

All the time Most of the time Sometimes Never

Name: _____

Warming Up:



Using the graph, answer the following questions.

1. About what was the height of the river on November 24, 2013?

2. On what date was the river's height about 3.10 feet?

3. What could cause the spike in the graph between November 26 and November 28?

Name: _____

Learning to Solve:

1. Corey is making her famous punch for the school carnival. Her recipe calls for 6 cups of ginger ale for every 3 cups of orange sherbet. She made a table to show how many cups of orange sherbet she needs for different amounts of ginger ale.

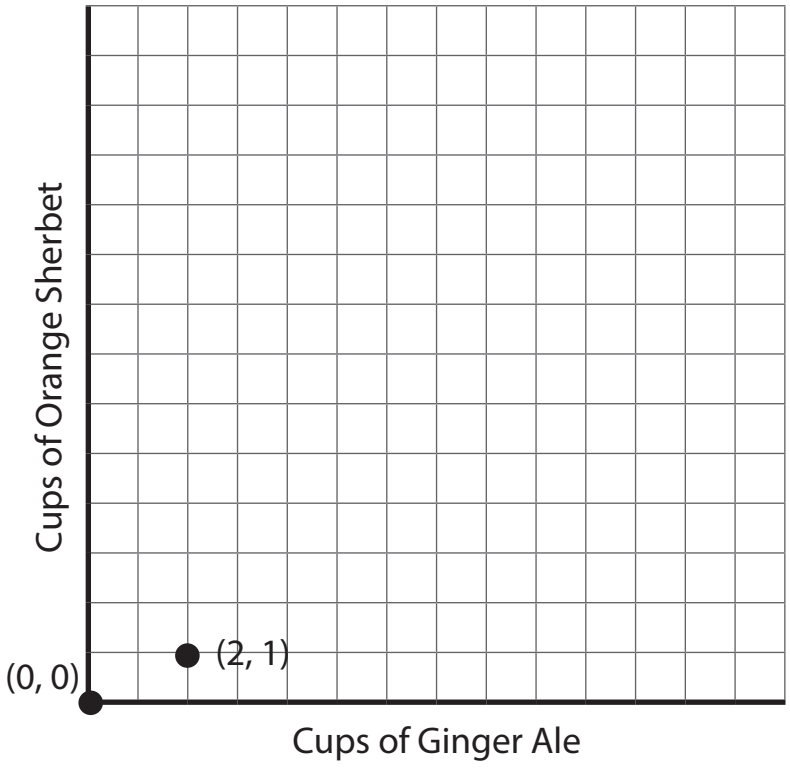
Complete the table.

Cups of Ginger Ale	0	2	4	6	8	10	12
Cups of Orange Sherbet	0			3			

What equation or rule could you write to show how to find the number of cups of orange sherbet for every cup of ginger ale?

Name: _____

2. Using the data in the table in problem 1, graph the remaining points on the scatter plot.



Name: _____

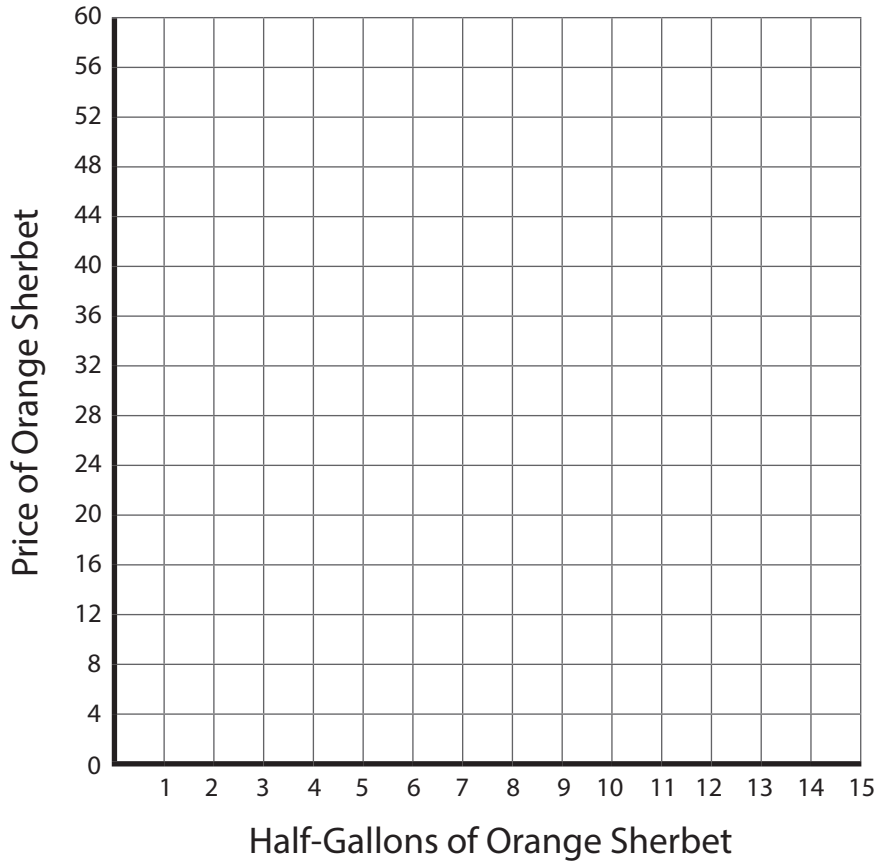
Practicing Together:

Corey found orange sherbet on sale for $4 per half-gallon.

1. Complete the table. Write the ratio of the price of the orange sherbet to the number of half-gallons in simplest form.

Half-gallons of orange sherbet	0	1	2	3	4	5	6
Price of orange sherbert	0	$4					
$\frac{\textbf{Price of orange sherbert}}{\textbf{Half-gallons of orange sherbet}}$		$\frac{4}{1}$					

2. Graph the points from your table on the graph.



Name: _____

3. If you connected all of the points on your graph, would they all be on the same line? Why?

4. How could you use your graph to find the cost for 8 half-gallons?

5. How could you use your graph to find the cost for 10 half-gallons?

Name: _____

Trying It on Your Own

Use this problem to answer the questions: Damon needed strawberries for his salad. The strawberries are on sale at the store for $10.50 for 3 pints.

1. Which of the following gives the unit rate for the strawberries?

a. $3.33:1

b. $3.50:1

c. $10.50:1

d. $31.50:1

2. What is the cost of 5 pints of strawberries at this price?

a. $17.50

b. $15.50

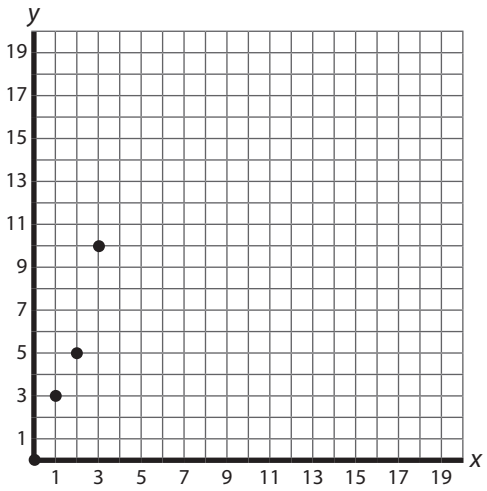
c. $13.50

d. $3.50

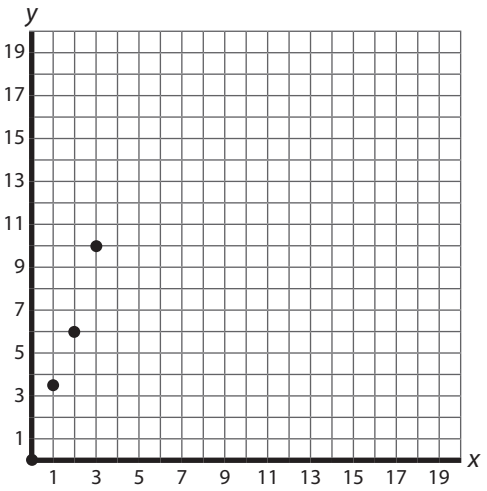
Name: _____

3. Which of the following is a graph of this relationship?

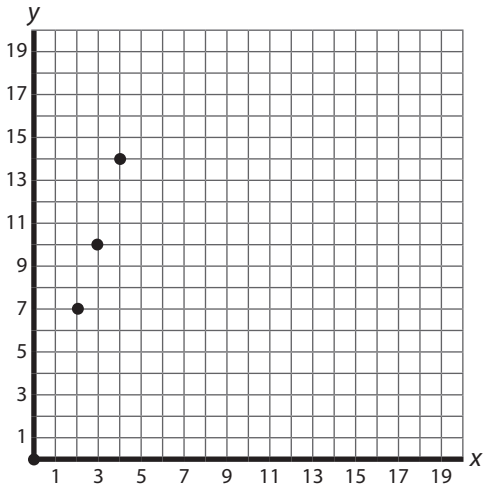
a.



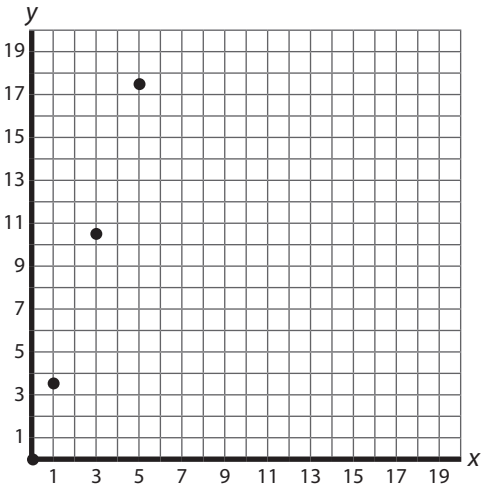
b.



c.



d.



Name: _____

4. What can you say about the points on the correct scatter plot?

a. The points all show the ratio of $10.50:1. They are in a line.

b. The points all show the ratio of $3.50:1. They are in a line.

c. Only 1 point shows the ratio of $3.50:1. The points are not in a line.

d. Only 1 point shows the ratio of $10.50:1. The points are not in a line.

Name: _____

Wrapping It Up

I know how to graph an ordered pair.

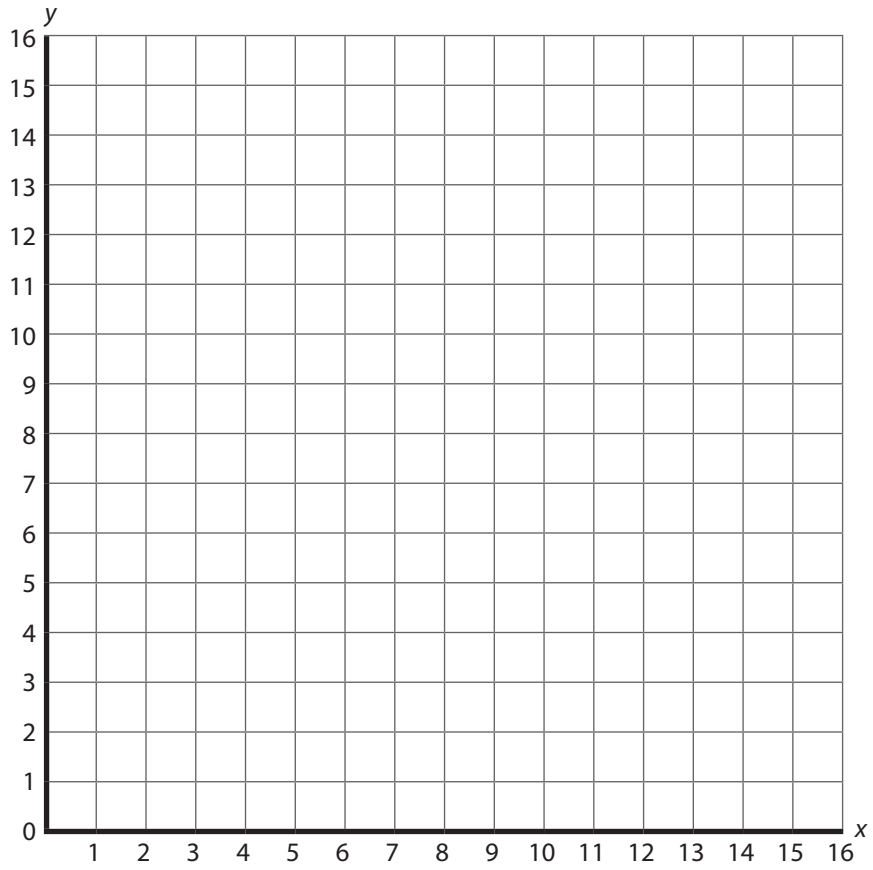
Always Sometimes Never

Name: _____

Warming Up:

Graph the points in the table on the graph. Label each point.

Point label	*x*-coordinate	*y*-coordinate
A	4	8
B	0	0
C	3	6
D	5	10
E	1	2



Name: _____

Learning to Solve:

Half-gallons of orange sherbet	0	1	2	3	4	5	6
Price of orange sherbert	0	$4	$8	$12	$16	$20	$24
$\frac{\textbf{Price of orange sherbert}}{\textbf{Half-gallons of orange sherbet}}$		$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$	$\frac{4}{1}$

What do you notice about the ratios?

If a table shows equivalent ratios, will the points make a line?

Name: _____

Corey wanted to make her famous punch for the school carnival. She found that the orange sherbet she needed for her recipe was on sale at another store in town.

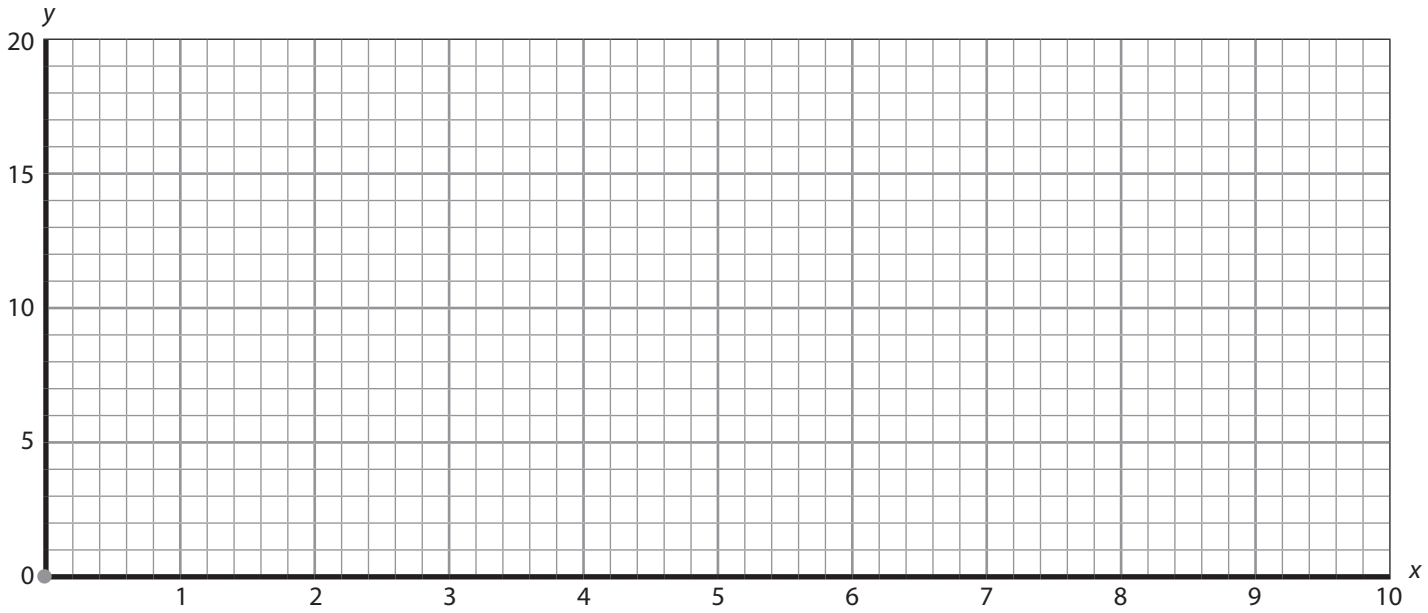
Complete the table. Write the ratios in simplest form.

Half-gallons of orange sherbet	0	1	2	3	4	5	6
Price of orange sherbert	0	$3					
$\frac{\textbf{Price of orange sherbert}}{\textbf{Half-gallons of orange sherbet}}$							

If you graphed the data in your table, do you think the points would form a line?

Why?

Graph your data to check your prediction. The number of half-gallons of orange sherbet is represented by the *x*-axis. The cost is represented by the *y*-axis.



Name: _____

What equation or rule could you write to show how to find the cost of the half-gallons of orange sherbet?

Name: _____

Practicing Together:

In a week, Jeremy's dad drove the following distances in the times given in the table.

1. Write the ratios in simplest form.

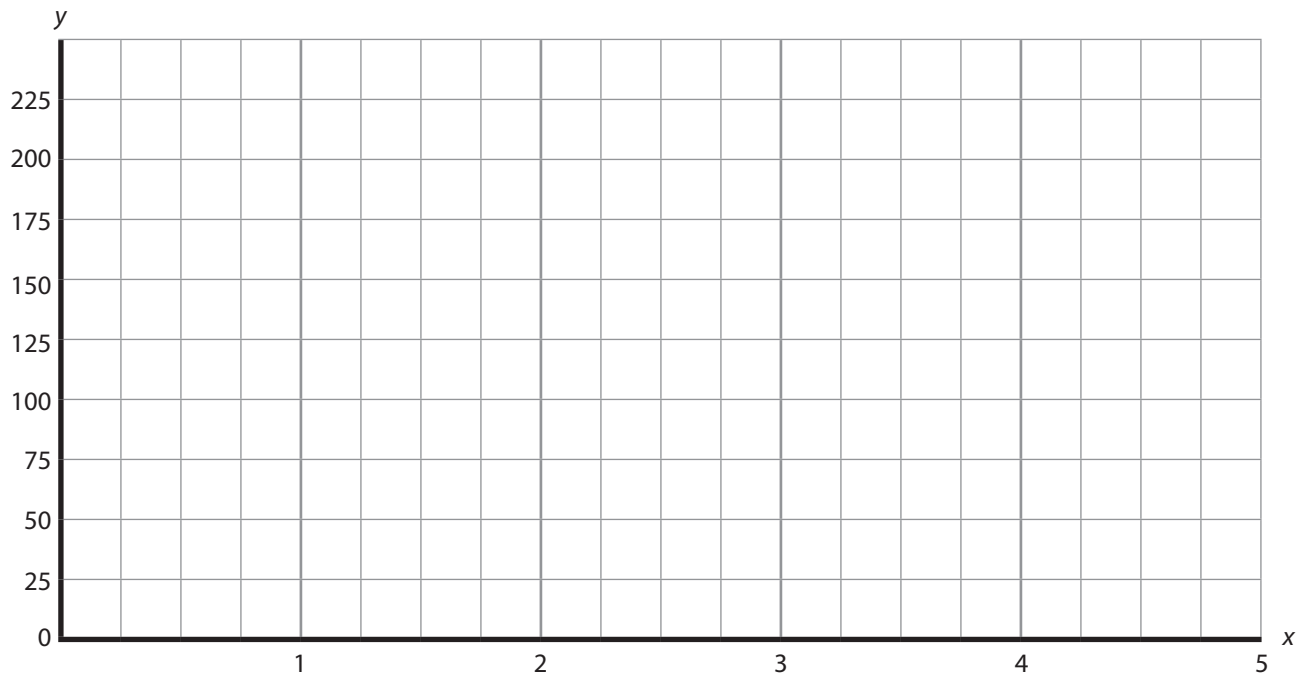
Number of Hours	3	1.5	2	2.5	4
Number of Miles Driven	150	75	110	125	200
Ratio of Miles to Hours					

2. Is there a point on the graph that you would not expect to lie on the same line as the others when you graphed them?

3. Why?

Name: _____

4. Graph the points. The *x*-axis represents the number of hours driven. The *y*-axis represents the number of miles driven.



5. Check your prediction. Why do you think that point was not on the line?

Name: _____

Trying It on Your Own

1. Dave bought 4 pounds of apples for $3. What is the unit rate?

a. $3:4

b. $0.75:1

c. $1:0.75

d. 4:3

2. Joe bought 10 pounds of apples for $10. In a graph, would this point be on the same line as the point in problem 1 above?

a. Yes, because the ratio is 1:1.

b. No, because the ratio would not be the same as the other points on the graph.

c. No, because there is no point (10, 10) on the graph.

d. You cannot tell because you do not know if they were the same type of apples.

Name: _____

3. Which table is the correct table for Dave from problem 1?

a.

Pounds of apples	0	1	2	3	4	5
Price of apples	0	\$0.75	\$1.50	\$2.25	\$3	\$3.75
$\frac{\textbf{Price of apples}}{\textbf{Pounds of apples}}$		$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$

b.

Pounds of apples	0	1	2	3	4	5
Price of apples	0	\$2.40	\$2.60	\$2.80	\$3	\$3.20
$\frac{\textbf{Price of apples}}{\textbf{Pounds of apples}}$		$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$

c.

Pounds of apples	0	1	2	3	4	5
Price of apples	0	\$3	\$6	\$9	\$12	\$15
$\frac{\textbf{Price of apples}}{\textbf{Pounds of apples}}$		$\frac{3}{1}$	$\frac{3}{1}$	$\frac{3}{1}$	$\frac{3}{1}$	$\frac{3}{1}$

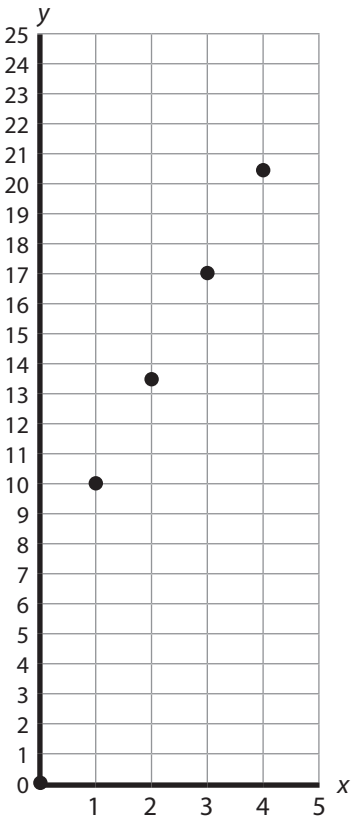
d.

Pounds of apples	0	1	2	3	4	5
Price of apples	0	\$10	\$13.50	\$17	\$20.50	\$24
$\frac{\textbf{Price of apples}}{\textbf{Pounds of apples}}$		$\frac{10}{1}$	$\frac{10}{1}$	$\frac{10}{1}$	$\frac{10}{1}$	$\frac{10}{1}$

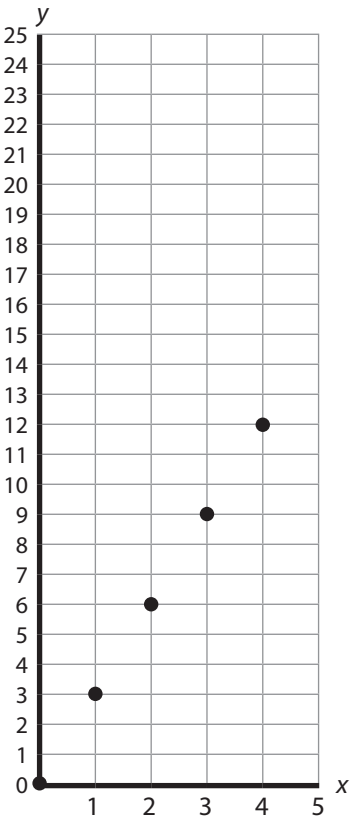
Name: _____

4. Which of the following represents a graph of the data?

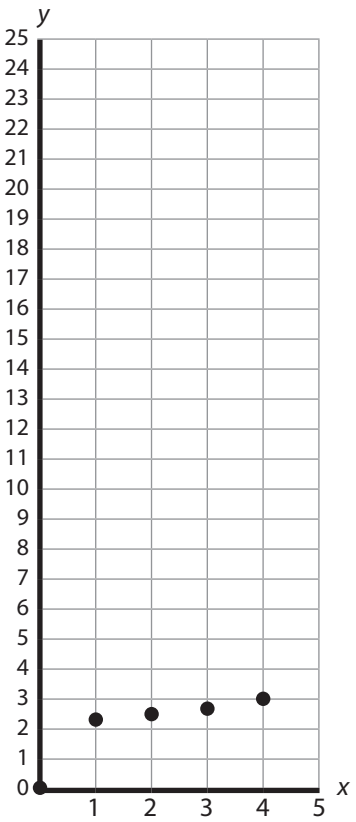
a.



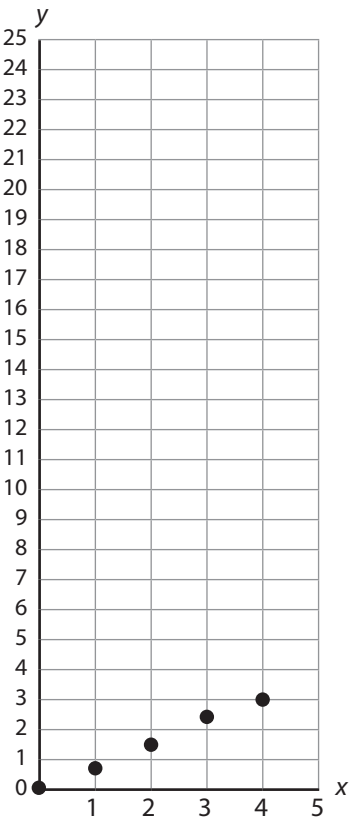
b.



c.



d.



Name: _____

Wrapping It Up

Complete this sentence:

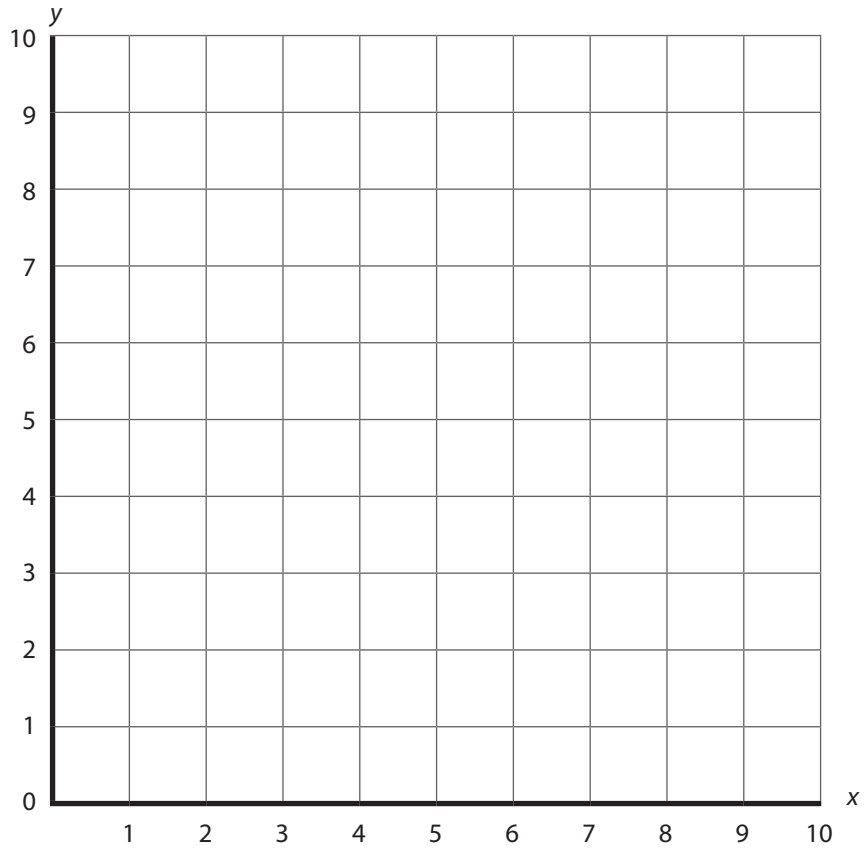
The points on a graph will be on the same line if …

Name: _____

Warming Up:

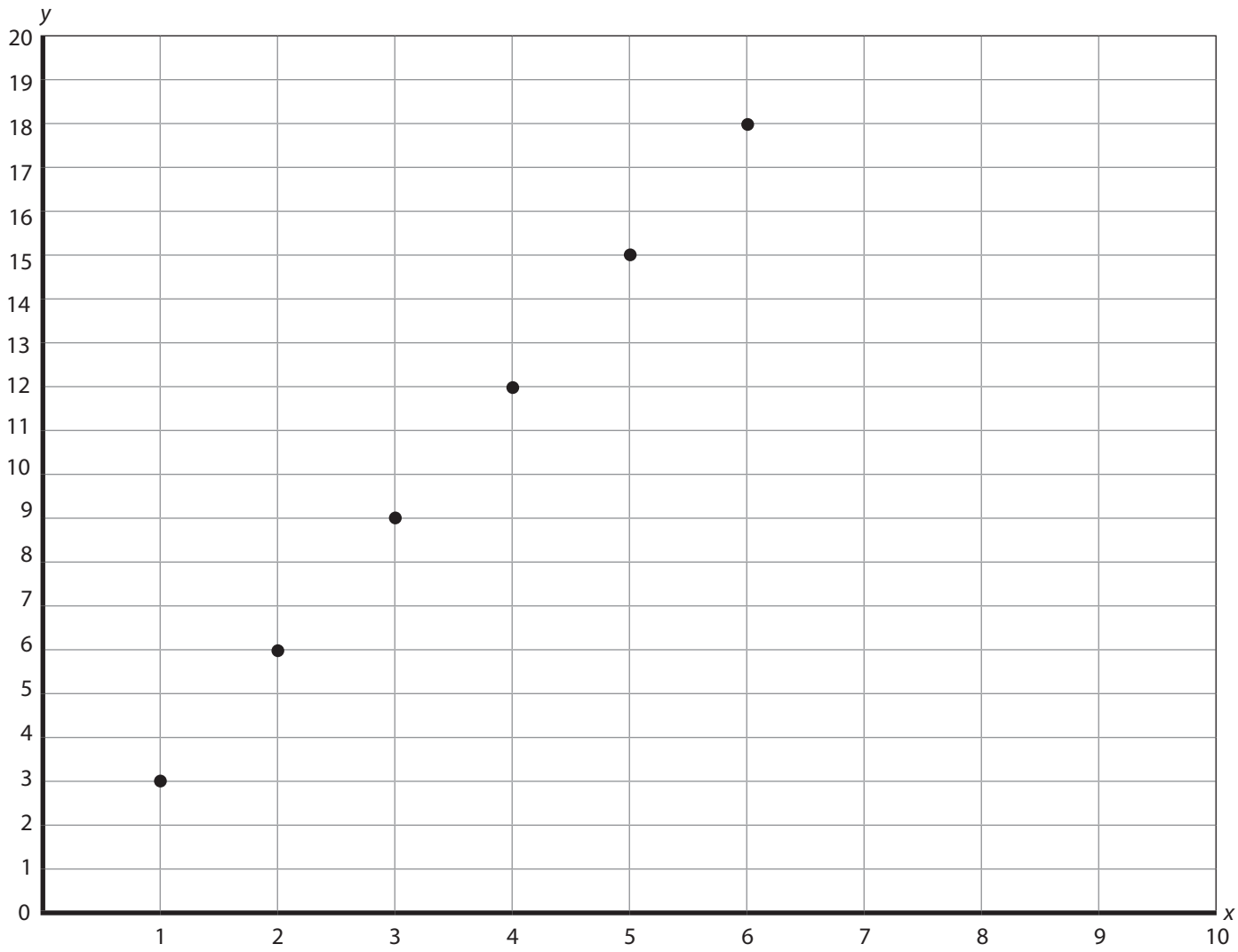
Graph the points in the table on the graph. Label each point.

Point label	*x*-coordinate	*y*-coordinate
A	2	5
B	1	4
C	0	3
D	5	8
E	3	6



Name: _____

Learning to Solve:



The *x*-axis represents: _____

The *y*-axis represents: _____

Name: _____

Complete the table. Write the ratio in simplest form.

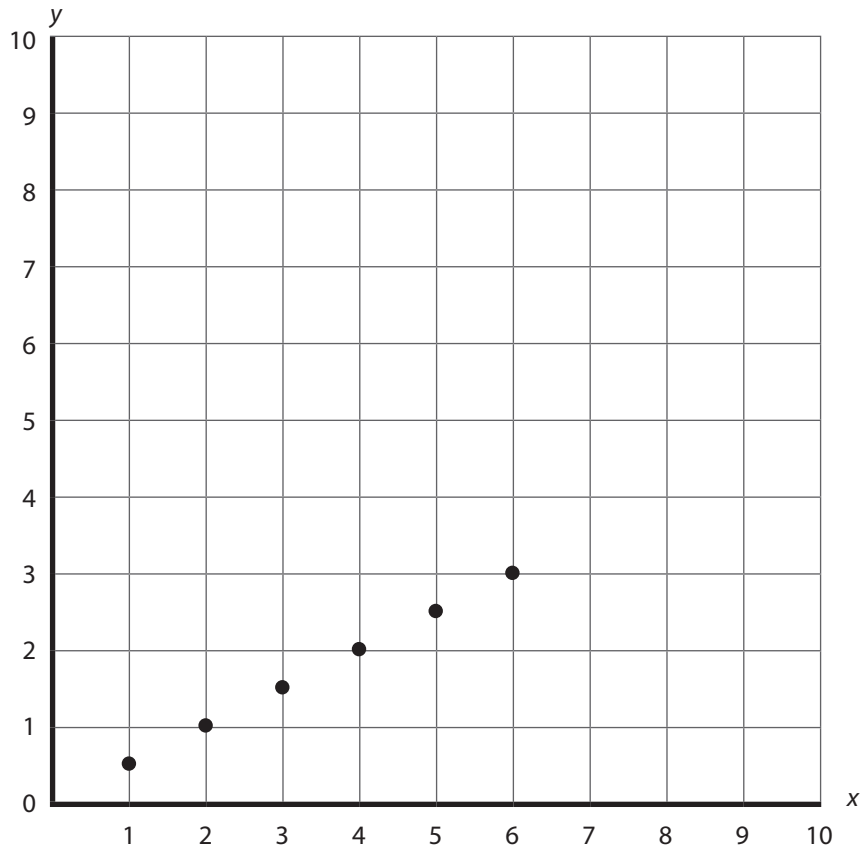
Number of Pepper Plants	0						
Number of Tomato Plants	0						
$\frac{\textbf{Tomato Plants}}{\textbf{Pepper Plants}}$							

Write an equation or a rule that shows the relationship found in the graph.

Name: _____

Practicing Together:

Sarah graphed a relationship. Use her graph to answer the questions.



1. Complete the table. Write the ratio in simplest form.

***x*-coordinate**	0						
***y*-coordinate**	0						
$\frac{\textbf{\textit{y}-coordinate}}{\textbf{\textit{x}-coordinate}}$							

Name: _____

2. Write an equation or a rule that shows the relationship found in the graph and the table.

3. Is this a proportional relationship? Support your answer.

4. Karen said, "The point (10, 20) will be on the same line as Sarah's points." Do you agree with Karen? Why or why not?

Name: _____

Wrapping It Up

Jacob, a fifth-grader, was not sure how to graph the point (3, 5) on the coordinate grid. Describe how you could help him.

Name: _____

Warming Up:

Write your description of a proportional relationship.

Decide whether each table represents a proportional relationship.

1.

x	1	2	3	4
y	4	8	12	16

Proportional relationship: Yes _____ No _____

Equation or rule: _____

2.

x	1	2	5	6
y	3	6	15	18

Proportional relationship: Yes _____ No _____

Equation or rule: _____

Name: _____

3.

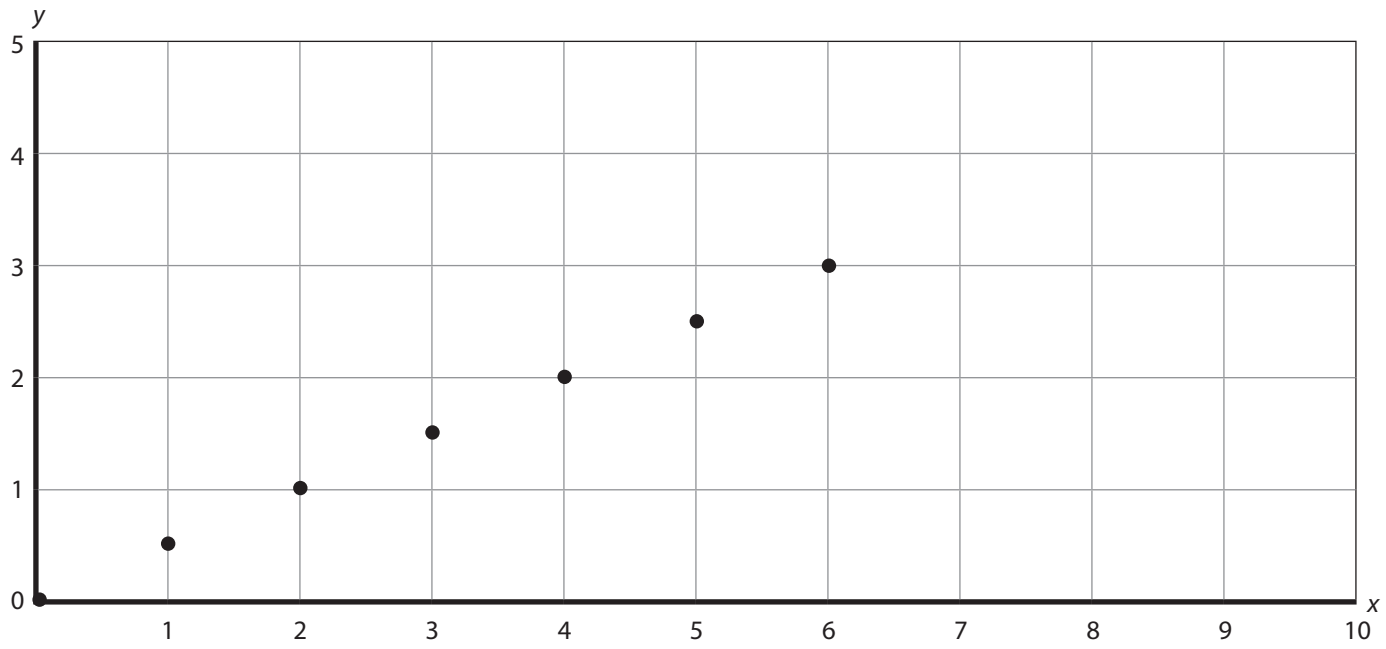
x	1	3	5	7
y	5	15	20	25

Proportional relationship: Yes _____ No _____

Equation or rule: _____

Name: _____

Learning to Solve:



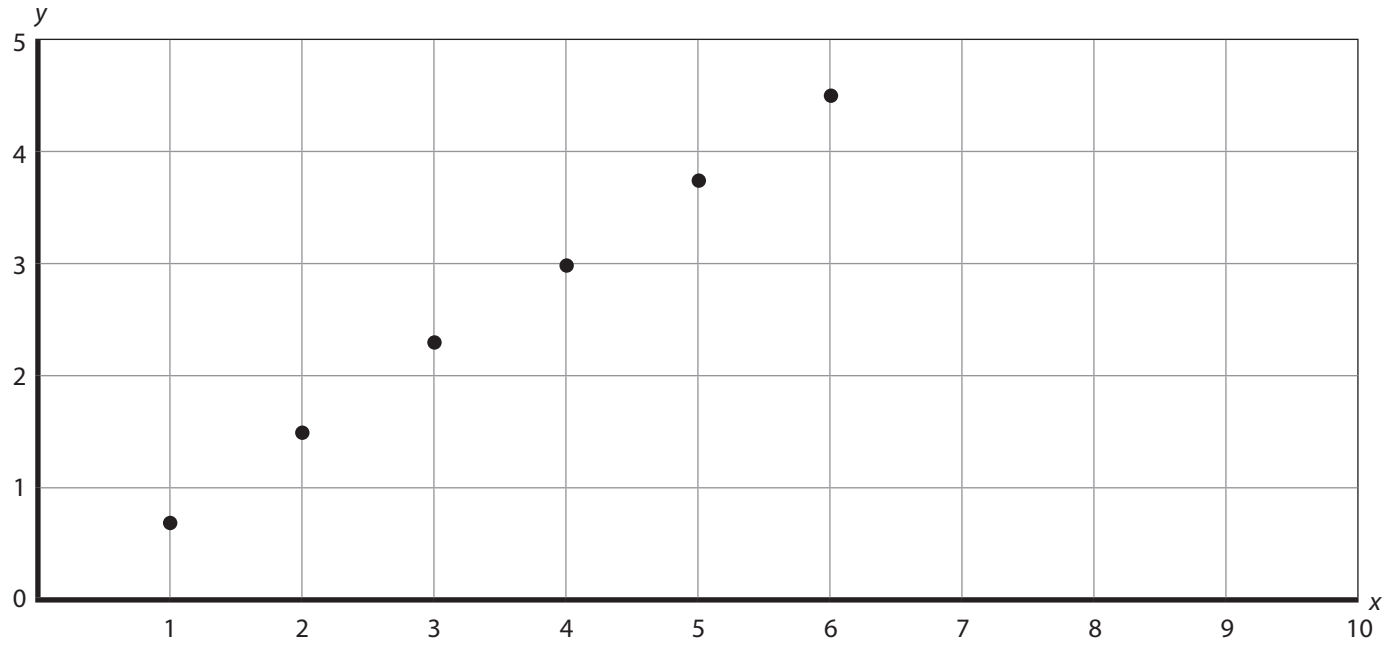
1. By looking at the graph, how can you tell this is a proportional relationship?

If a graph forms a line, is it always a proportional relationship?

My prediction about this is . . .

Name: _____

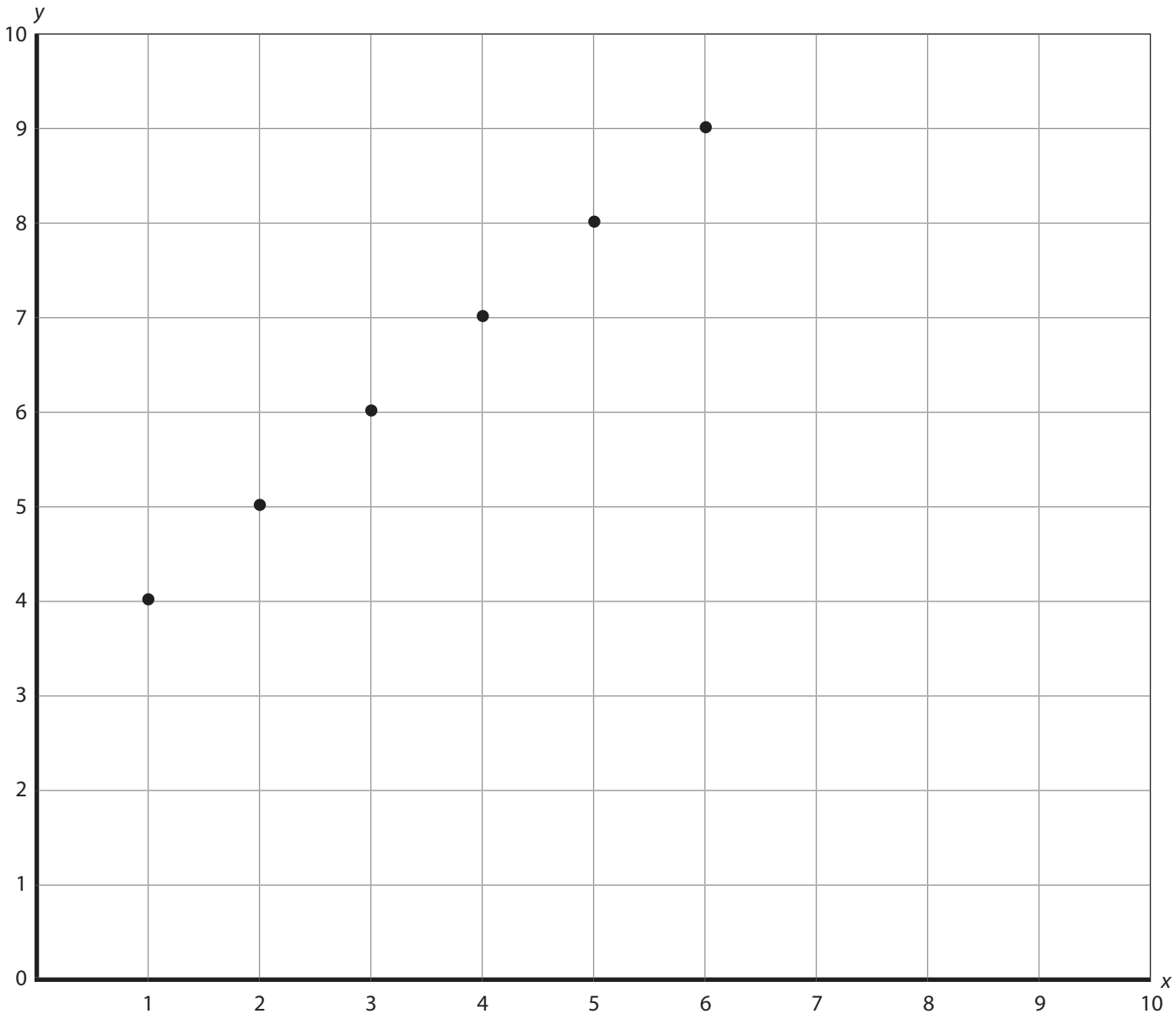
2. Use this graph to complete the table.



x						
y						

Name: _____

3. Use this graph to complete the table.

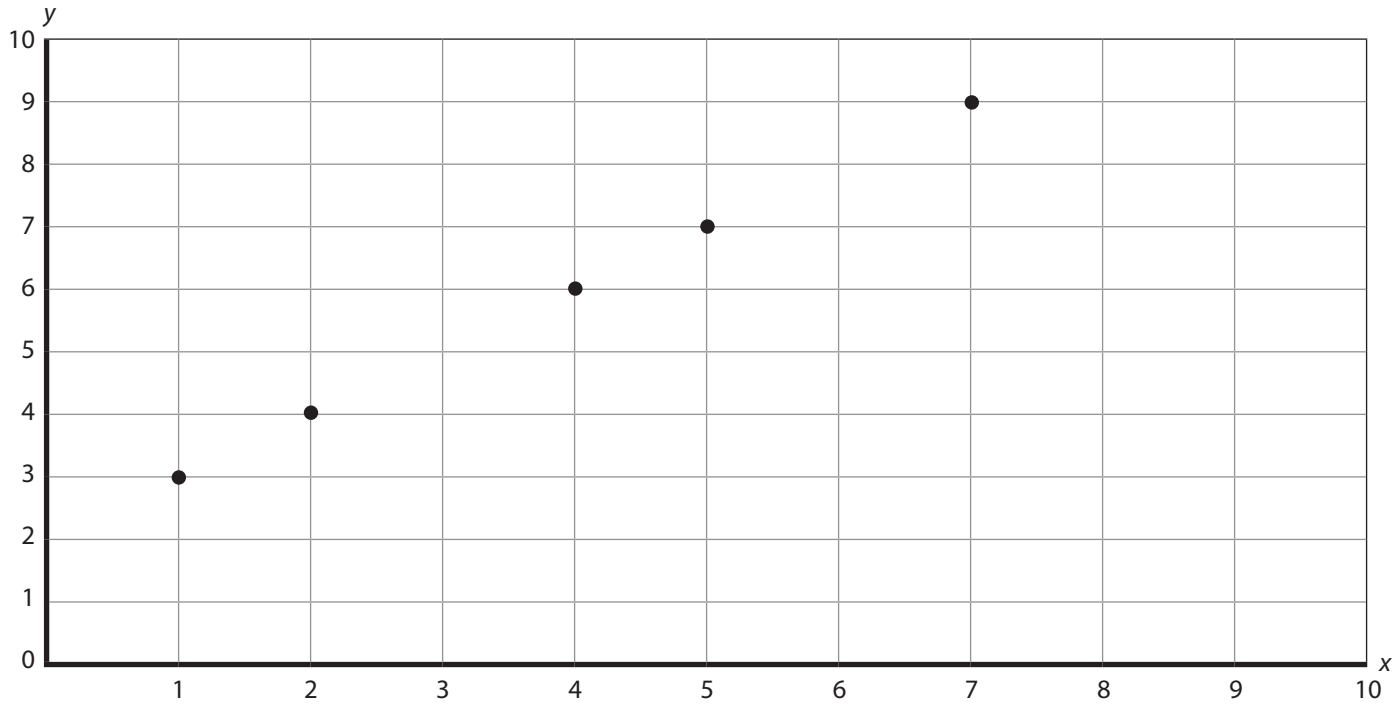


x						
y						

Name: _____

Trying It on Your Own

Use the graph to answer problems 1–3.



1. Which of the following is the correct table?

a.

x	3	4	6	7	9
y	1	2	4	5	7

b.

x	1	4	6	5	7
y	3	2	4	7	9

c.

x	1	2	4	5	7
y	3	4	6	7	9

d.

x	3.5	3.5	5.5	7.5	8.5
y	1	2	4	5	7

Name: _____

2. Which equation describes the relationship on the graph?

a. $y = 3x$

b. $y = 2x$

c. $y = x - 2$

d. $y = x + 2$

3. Does this graph represent a proportional relationship?

a. Yes, because all of the points form a straight line.

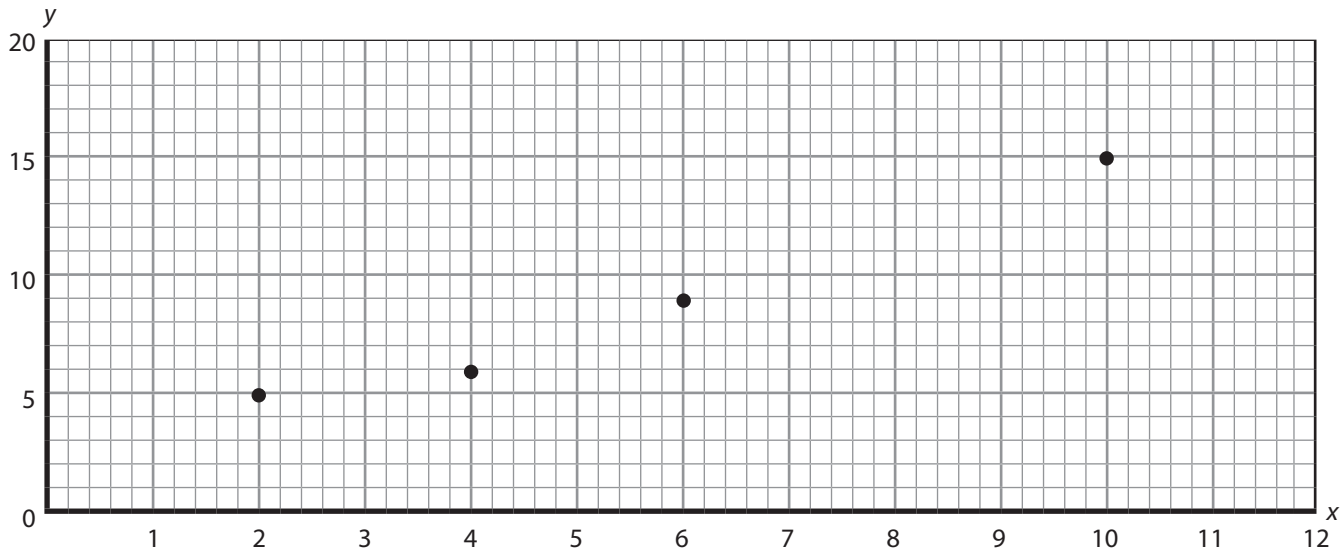
b. Yes, because the relationship can be written as $y = x + 2$.

c. No, because the ratio of y to x is not the same for all the points.

d. No, because the point (3, 5) is not on the graph.

Name: _____

Use the graph to answer problem 4.



4. Does this graph represent a proportional relationship?

a. Yes, because the points are in a straight line.

b. Yes, because the ratio for each point is 3:2 and the graph would include (0,0).

c. No, because (0, 0) is not graphed.

d. No, because there are not enough points graphed.

Name: _____

Wrapping It Up

Read the answers you wrote on the Learning to Solve sheet about proportional relationship. Are your answers and prediction accurate? Why or why not?

Name: _____

Warming Up:

Circle Yes if the relationship is a proportional relationship.

Circle No if the relationship is not a proportional relationship.

1. $y = 3s$ Yes No

How do you know?

2.

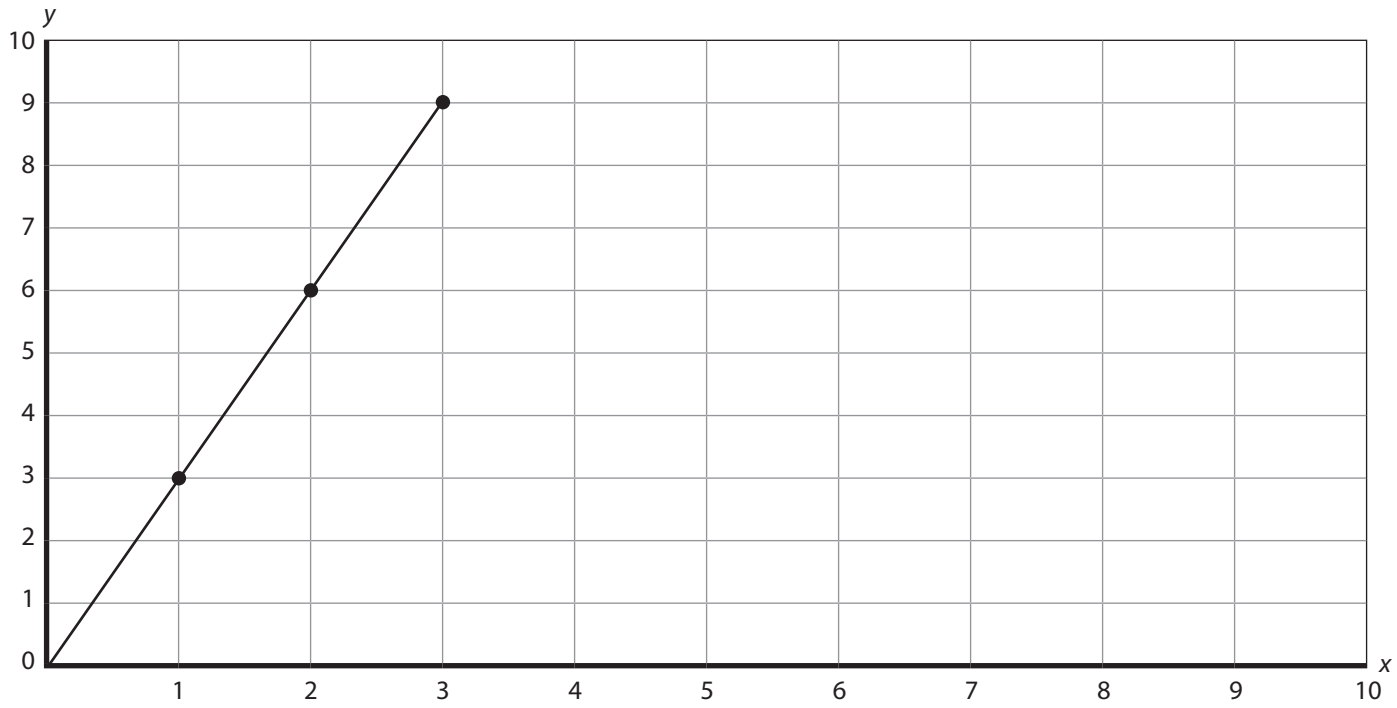
x	0	1	3	4
y	2	3	5	6

Yes No

How do you know?

Name: _____

3.



Yes No

How do you know?

Name: _____

Learning to Solve:

Look at the equation.

$y = 1.5x$

Is this a proportional relationship? Yes No

How did you decide?

x				
y				

Steps to graph an equation:

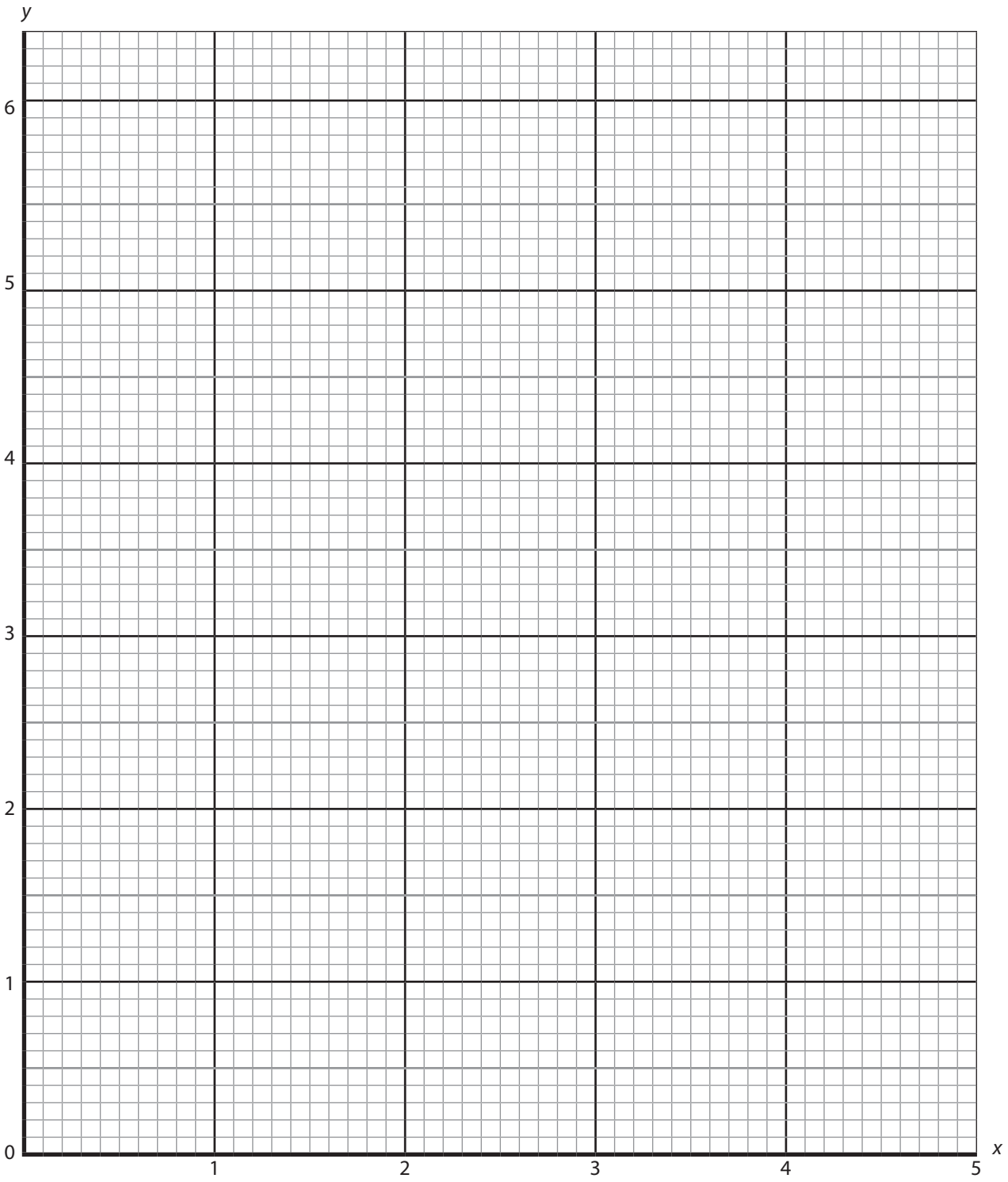
Step 1: _____

Step 2: _____

Step 3: _____

Step 4: _____

Name: _____



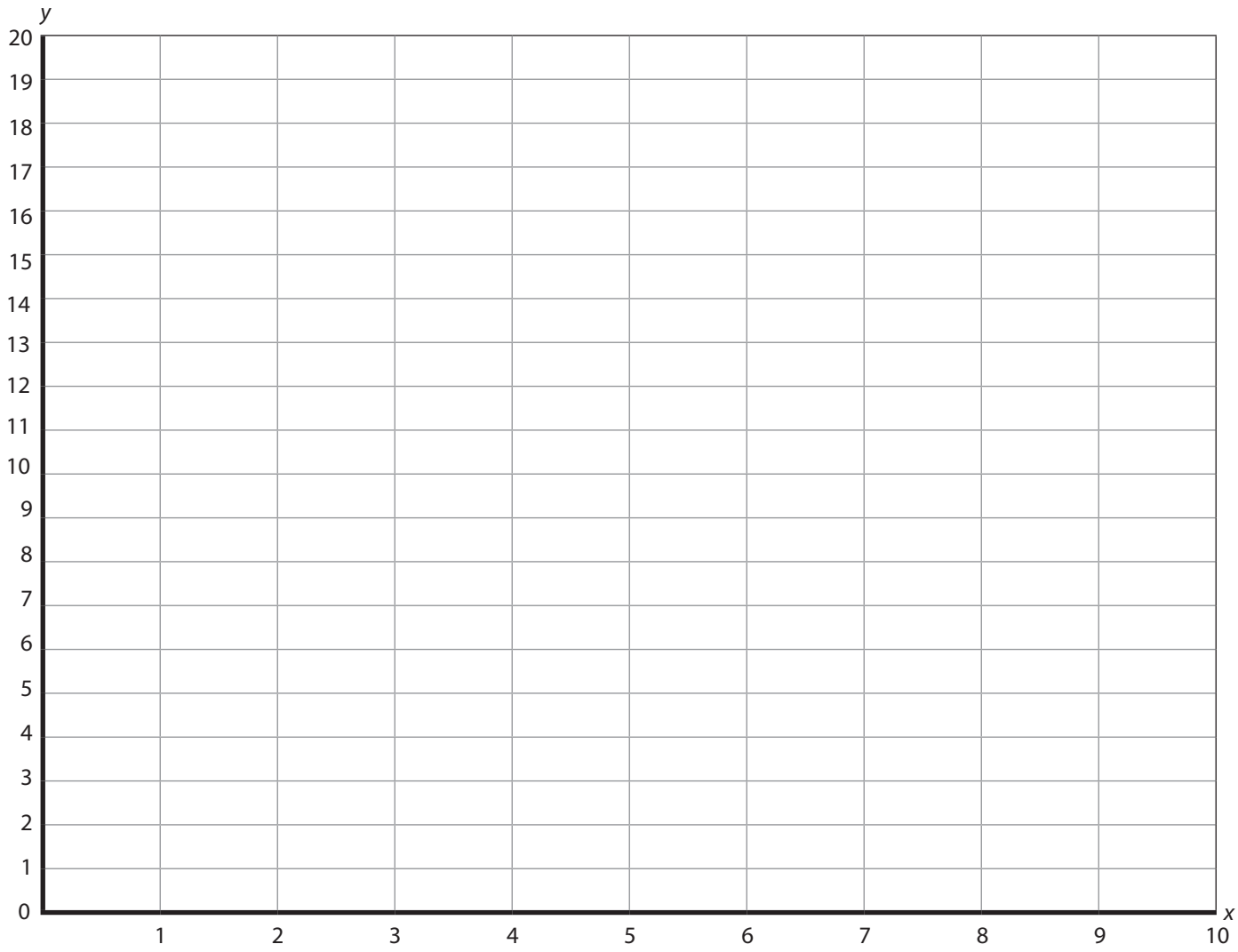
x				
y				

Name: _____

Practicing Together:

Complete each problem, using the 4 steps we identified during Learning to Solve.

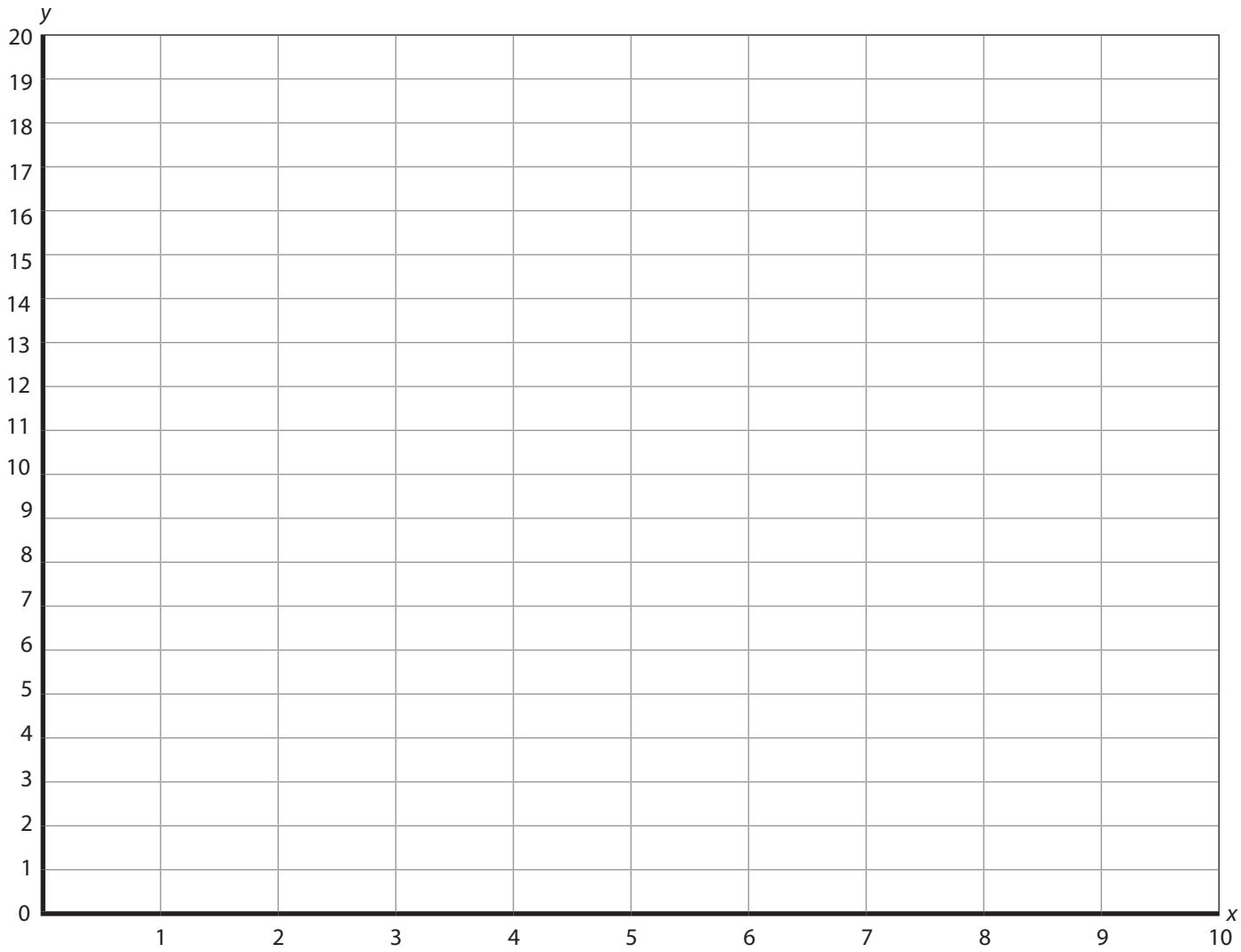
1. Graph the equation $y = 2x$.



x						
y						

Name: _____

2. Graph the equation $y = 0.5x$.



x						
y						

Name: _____

Trying It on Your Own

Use the equation $y = 2x$ to solve problems 1 to 4.

1. Does the equation $y = 2x$ represent a proportional relationship?

a. Yes, because the points on its graph will be in the ratio of 2:1 and include (0, 0).

b. Yes, because the points on its graph will be in a line.

c. No, because the points on its graph will not have the same ratio.

d. No, because the graph of the equation will not include (0, 0).

2. Which table represents the equation $y = 2x$?

a.

x	0	1	2	3	4
y	0	3	4	5	6

b.

x	0	2	4	6	8
y	0	1	2	3	4

c.

x	0	1	4.5	16	25
y	0	2	9	32	50

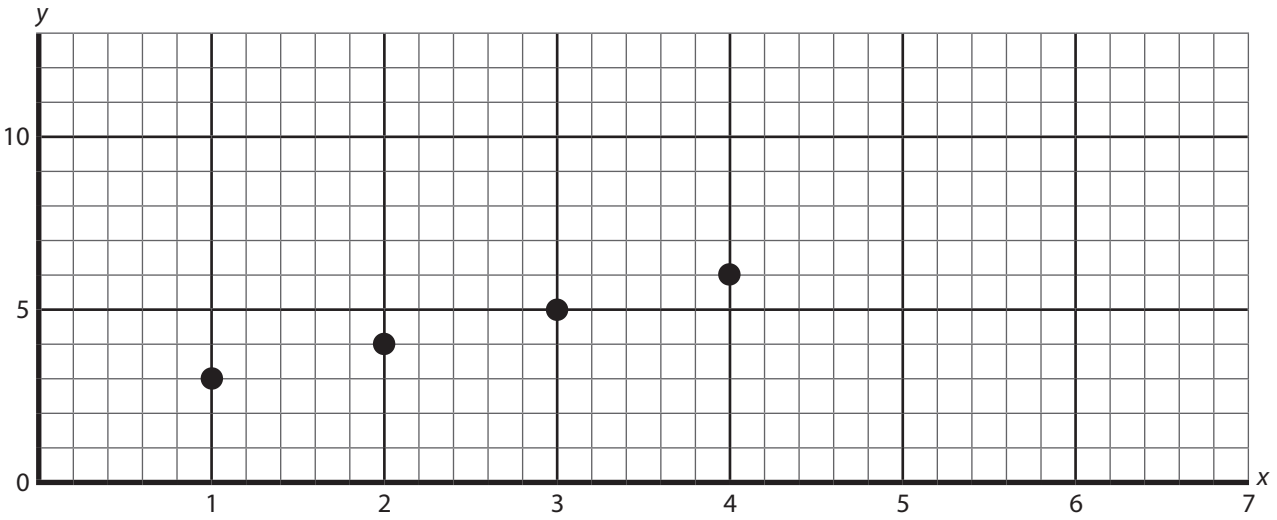
d.

x	0	0.5	5	14	100
y	0	0.25	2.5	7	50

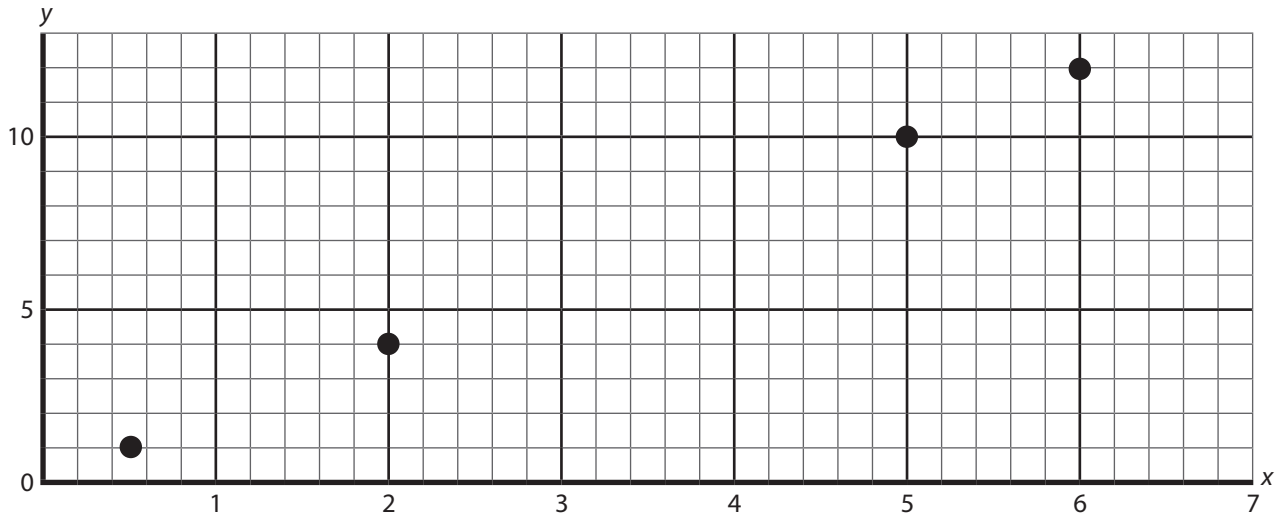
Name: _____

3. Which of the following represents the graph of $y = 2x$?

a.

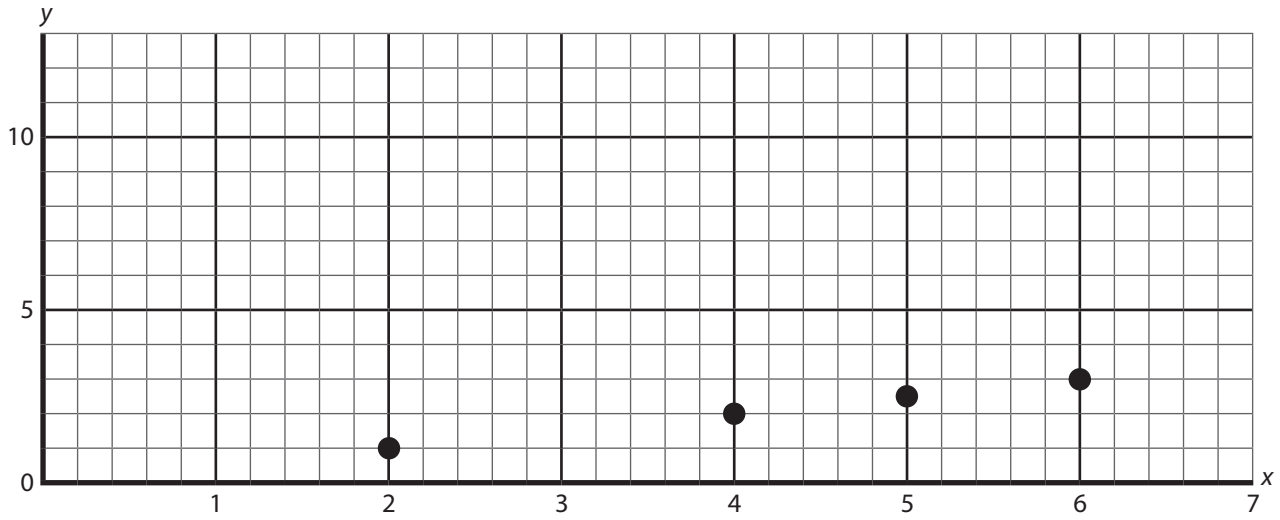


b.

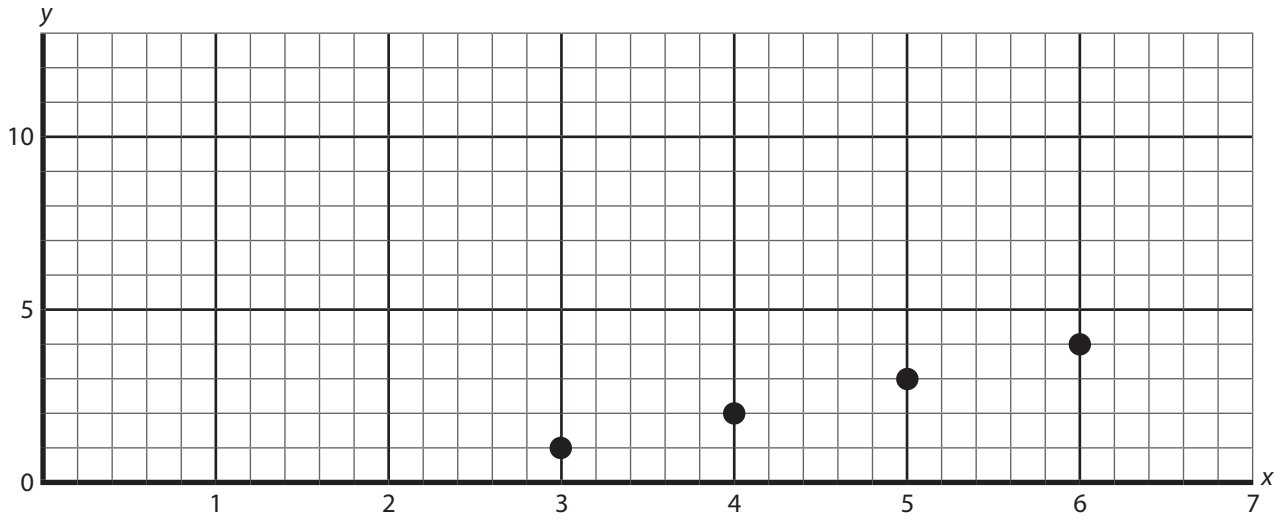


Name: _____

c.



d.



Name: _____

4. What is the ratio of y to x in the equation $y = 2x$?

a. 2:1

b. 1:2

c. 1:0.5

d. 0.5:1

Name: _____

Wrapping It Up

Write your response.

Hannah said, "My teacher asked me to graph an equation. What should I do?"

What will you tell Hannah?

Name: _____

Warming Up:

First determine the rule and then complete each table.

1.

x	***y***
8	32
9	36
10	40
25	
	240
	2
1.5	

Name: _____

2.

x	***y***
5	35
6	42
7	49
25	
	280
	3
1.5	

Name: _____

Learning to Solve:

Make a prediction: Will the graphs of all equations go through the origin?

1. How are these equations alike? How are they different? Record your observations.

$y = .5x$

$y = 2x + 1$

The equations are alike because	These equations are different because

Name: _____

Make a table. Then, graph the first equation on the coordinate grid. Use a different colored pencil to graph the second equation

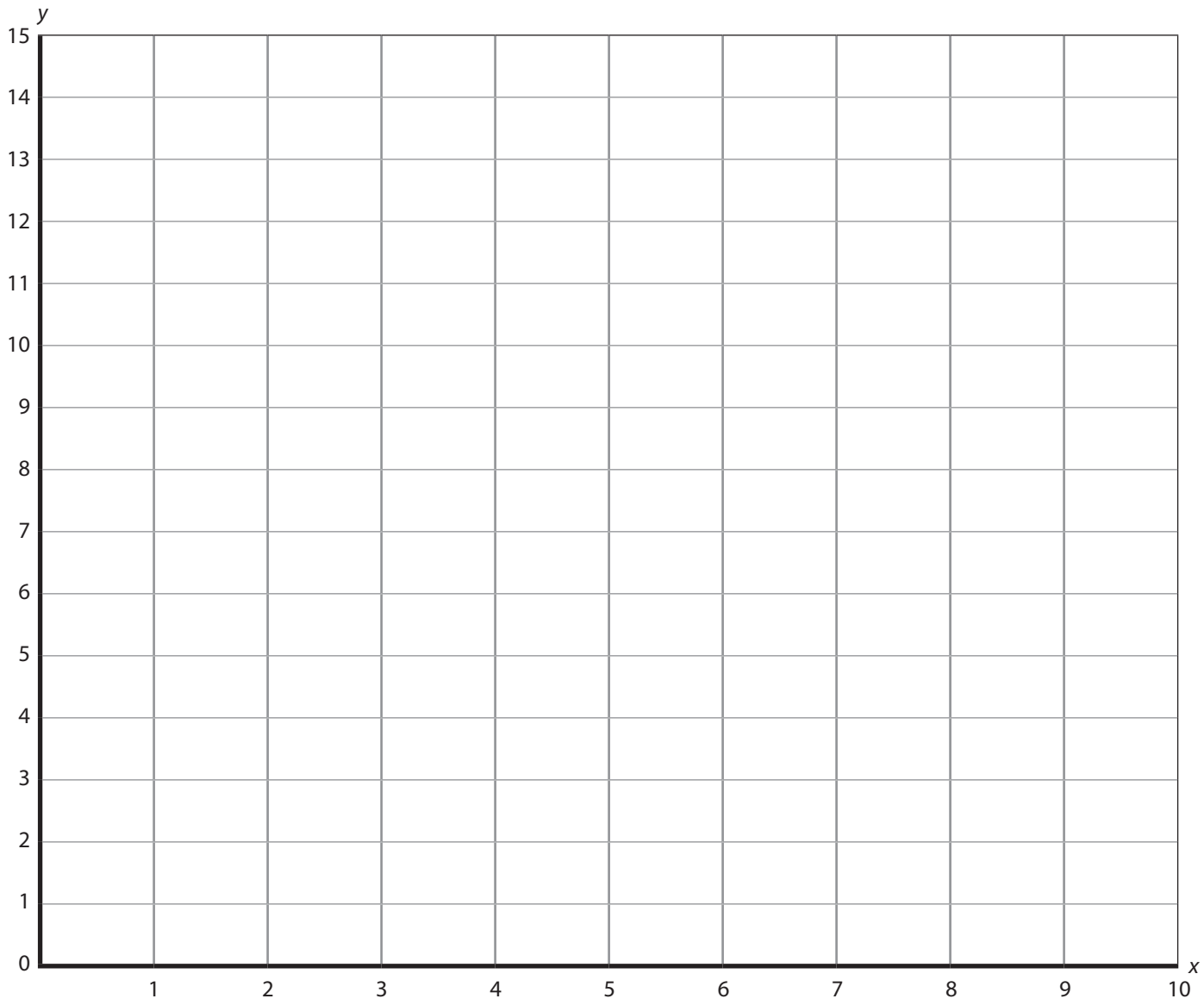
$y = .5x$

x	*y*

$y = 2x + 1$

x	*y*

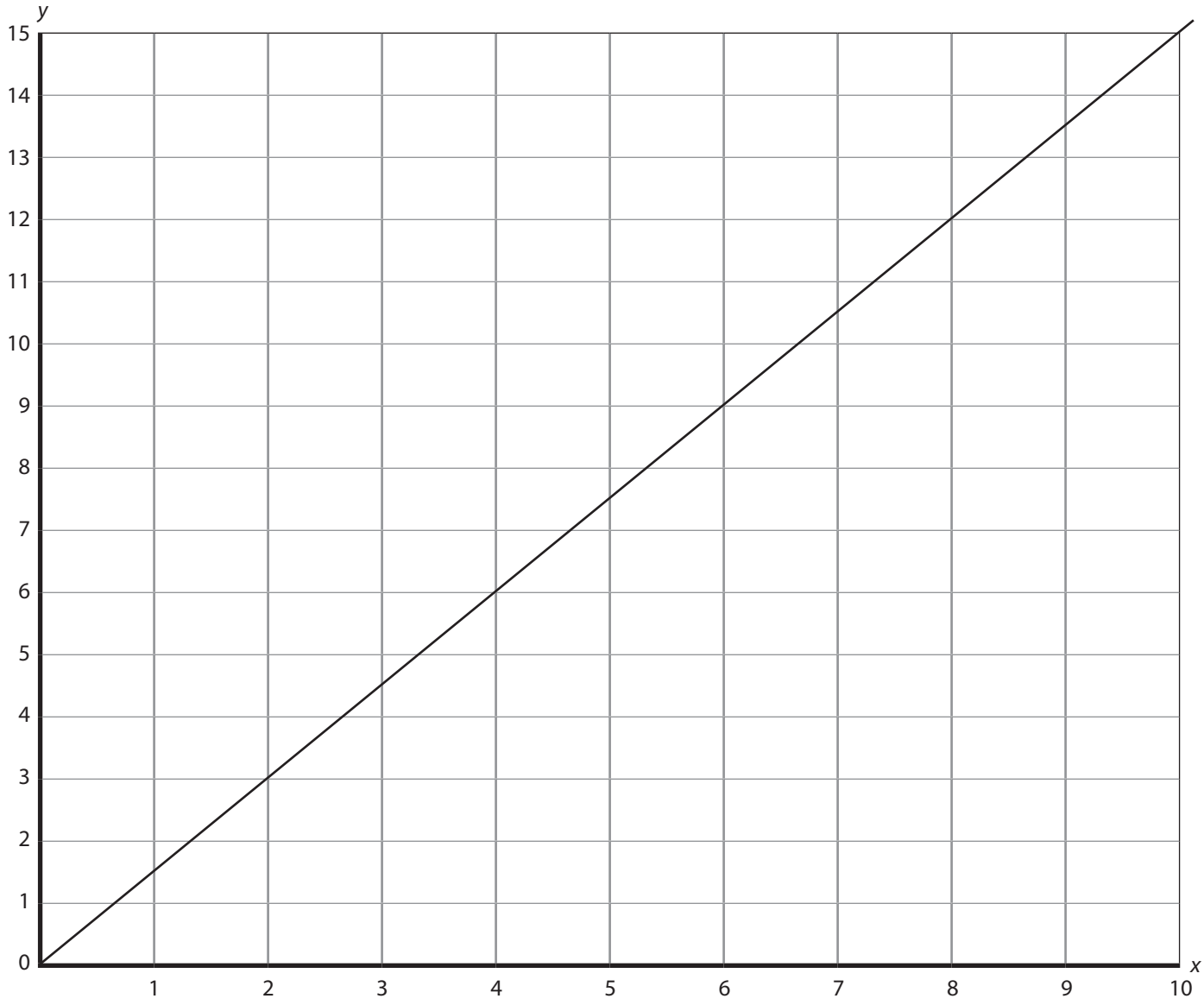
Name: _____



What do you notice about the graph?

Name: _____

2. Use this graph to answer the questions on the next page.



Name: _____

Complete the table to show the coordinates for the points.

x	***y***
0	0
1	
2	
3	4.5
4	
5	
6	
7	
8	12
9	

The rule for the graph is: _____

Name: _____

Trying It on Your Own

1. Which equation gives the relationship for this graph?

a. $y = 3.5x$
b. $y = 2x$
c. $y = .25x$
d. $y = 2.5x$

Name: _____

2. Which equation gives the relationship for this graph?

a. $y = 3.5x$

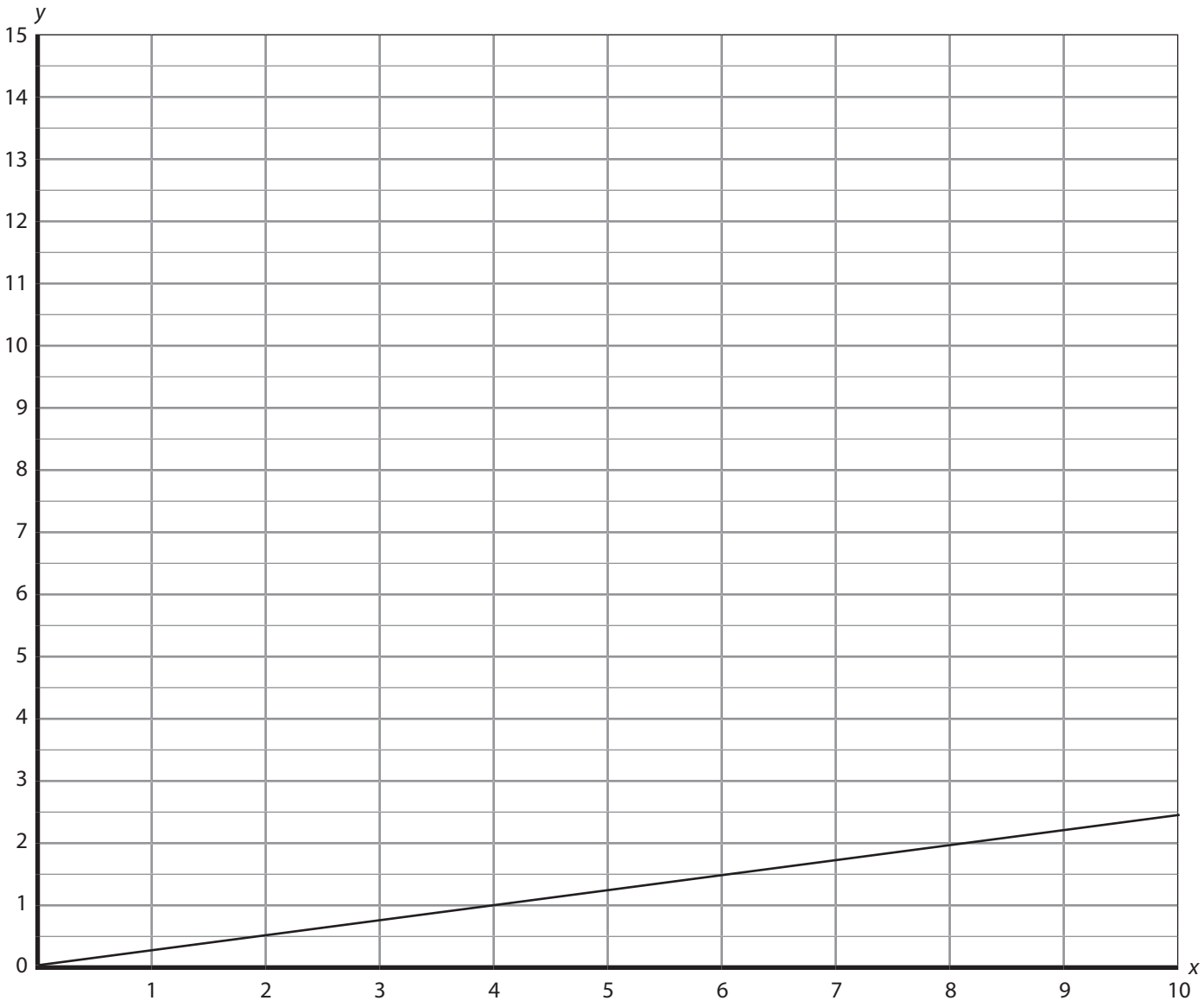
b. $y = 2x$

c. $y = .25x$

d. $y = 2.5x$

Name: _____

3. Which equation gives the relationship for this graph?



a. $y = 3.5x$

b. $y = 2x$

c. $y = .25x$

d. $y = 2.5x$

Name: _____

4. Which equation gives the relationship for this graph?

a. $y = 3.5x$

b. $y = 2x$

c. $y = .25x$

d. $y = 2.5x$

Name: _____

Wrapping It Up

Complete this sentence:

The points on a graph will be on the same line if …

Name: _____

Warming Up:

Shelley bought 3 T-shirts. Each T-shirt cost the same amount. Before tax, the total for the 3 T-shirts was $26.37. What was the price of each T-shirt?

Name: _____

Learning to Solve:

1. Jay adds 3 tablespoons of chocolate syrup for every 1 cup of milk to make chocolate milk. He wants to use 3 cups of milk. How many tablespoons of syrup should he add?

My strategy to solve the problem

Other strategies to solve the problem

2. Ellie uses 5 carrots to feed her 2 rabbits every day. How many carrots would she need to feed 12 rabbits?

My strategy to solve the problem

Other strategies to solve the problem

Name: _____

Practicing Together:

Lynn has a job mowing lawns. For every $3 that she earns, her dad gives her $2 to add to her earnings.

1. Complete the table.

Amount Lynn gets from mowing	$3	$6	$9	$12	$15	$24
Amount her dad adds to her earnings	$2					$16

2. What is the rule that represents the table?

Micah is making pancakes. For every 2 cups of flour he uses, he adds $\frac{3}{4}$ cups of milk.

3. How much milk will Micah use for 4 cups of flour?

4. How much milk will Micah use for 6 cups of flour?

5. How much milk will Micah use for 1 cup of flour?

Name: _____

Wrapping It Up

How are a ratio and a proportion alike? How are they different?

Name: _____

Warming Up:

Josie needed 2 pounds of apples for a pie. The apples were priced as 5 pounds for $4.45. How much will Josie pay for the apples?

Name: _____

Learning to Solve:

1. Describe the process you use to find a unit rate.

2. A 12-ounce box of oat cereal costs $4.44. A 20-ounce box of a different brand of oat cereal costs $7. Which is the better buy? Why? Defend your answer.

Name: _____

Practicing Together:

Work with a partner to solve the problems. Show your work or explain how you decided.

1. Cora's mom paid $34.32 for 12 gallons of gas in her new car. What is the price per gallon?

2. Dell was making a recipe for brownies. His recipe said to use $\frac{1}{4}$ cup of butter for every 1 tablespoon of cocoa. If he uses 3 tablespoons of cocoa, how much butter will he use?

Name: _____

Trying It on Your Own

1. Bryce decided to make spaghetti to surprise his mom. The sauce recipe said to use 3 tomatoes for every 2 green peppers. If Bryce uses 3 green peppers, how tomatoes should he use?

a. 4 tomatoes

b. 4.5 tomatoes

c. 5 tomatoes

d. 5.5 tomatoes

2. Mona was trying to decide which was the better buy:

Buy 1 sweater for $14.98 and get a second sweater free

OR

Buy 3 sweaters for $21.75

What would you tell her?

a. Buy 1 sweater for $14.98 and get a second sweater free because you are paying for 1 only sweater.

b. Buy 1 sweater for $14.98 and get a second sweater free because you get 2 sweaters for the price of 1.

c. Buy 3 sweaters for $21.75 because each sweater costs $7.25, which is $.24 cheaper than $7.49.

d. Buy 3 sweaters for $21.75 because you get 3 sweaters.

Name: _____

3. Jason solved the following ratio problem in his math class.

Which snack mix is the better buy?

Mix 1: 8 ounces of snack mix for $2.40

Mix 2: 16 ounces of snack mix for $3.40

Jason said, "I pick Mix 2 because you get twice as much for only a dollar more."

Should Jason get the problem correct? Why?

a. Jason is correct because it is always cheaper when you pay only a dollar more for double the amount.

b. Jason is correct because if you were to buy 2 of Mix 1, it would cost more than 1 of Mix 2.

c. Jason is incorrect because the 16 ounces is a whole pound.

d. Jason is incorrect because you cannot compare the 2 mixes. They represent different amounts.

4. A special calculator is priced at $1,000 for 20 calculators. Your school has $1,200 to spend on calculators. How many calculators can the school buy at this rate?

a. 100 calculators

b. 50 calculators

c. 40 calculators

d. 24 calculators

Appendices

Ratios and Proportions 2

Name: _____

Warming Up:

1. Carrots are priced at $4.25 for 5 pounds. What is the cost per pound? _____

2. Jellybeans are priced at $3.45 for 3 pounds. What is the cost per pound?

_____

3. Pens are priced at $12.36 per dozen. What is the cost of 1 pen? _____

Name: _____

Learning to Solve:

1. Kara made a table to show a relationship. Complete the table.

Number of bicycles	Number of wheels
1	
2	4
3	
4	
7	
	30

Name: _____

2. Beau made a table to show the relationship between the number of hexagons and the number of sides.

Number of hexagons	Number of sides
1	6
2	
3	
4	
9	
	72

What relationship do you notice between the number of hexagons and the number of sides? Complete the statement.

For every _____ , there are _____ sides.

3. What ratio could you write to show the relationship you described? _____

Name: _____

Practicing Together:

Complete the table, describe the relationship, and write a ratio.

Gigi made a table to show the relationship of the number of cups of orange juice and the number of cups of water used in her juice mixture.

1. Complete the table.

Number of cups of orange juice	Number of cups of water
1	3
2	
5	
	21
8	
	33
100	
$\frac{1}{3}$	
$\frac{4}{3}$	

2. What is the relationship between the number of cups of orange juice and the number of cups of water? _____

_____

Name: _____

3. What ratio could you write for Gigi's juice mixture? _____

Name: _____

Trying It on Your Own

Use the table to answer the questions.

Nina made a snack mix with coconut and almonds. She made a table to show the amounts she would need if she wanted to make different quantities.

Number of cups of coconut	Number of cups of almonds
1	0.5
2	1
4	2
10	5
	7
	9
22	

1. If Nina uses 7 cups of almonds, how many cups of coconut would she need?

a. She would need 3 cups of coconut.

b. She would need $3\frac{1}{2}$ cups of coconut.

c. She would need 10 cups of coconut.

d. She would need 14 cups of coconut.

Name: _____

2. If Nina uses 22 cups of coconut, how many cups of almonds would she need?

a. She would need 44 cups of almonds.

b. She would need 24 cups of almonds.

c. She would need 11 cups of almonds.

d. She would need $\frac{1}{2}$ cups of almonds.

3. If Nina uses 9 cups of almonds, how many cups of coconut would she need?

a. She would need $4\frac{1}{2}$ cups of coconut.

b. She would need 11 cups of coconut.

c. She would need 18 cups of coconut.

d. She would need 20 cups of coconut.

Name: _____

4. How would you describe the relationship between the number of cups of coconut and the number of cups of almonds?

a. As the number of cups of coconut increase by 1, the number of cups of almonds increases by $\frac{1}{2}$.

b. As the number of cups of coconut increases by 1, the number of cups of almonds increases by 1.

c. As the number of cups of coconut increases by 2, the number of cups of almonds increases by 2.

d. As the number of cups of coconut increases by 2, the number of cups of almonds increases by 4.

Name: _____

Wrapping It Up

For every 3 apples, I pay $1.83. How much do I pay for 1 apple?

Name: _____

Warming Up:

1. Apples are priced at $3.95 for 5 pounds. What is the cost per pound? _____

2. Chocolate pieces are priced at $13.74 for 3 pounds. What is the cost per pound?

_____

3. Socks are priced at $21 per dozen. What is the cost of 1 pair of socks?

_____

Name: _____

Learning to Solve:

1. Dylan made a table to show a relationship. Complete the table.

Number of boxes	Number of books
1	8
2	16
3	
4	
7	
	96

2. Write the relationship between the number of boxes of books and the number of books.

Name: _____

3. Jess made a table to show the relationship between the number of legs on a chair and the number of chairs. Complete the table.

Number of chairs	Number of legs on the chairs
1	
2	
	12
4	
9	
	72

What relationship do you notice between the number of chairs and the number of legs on the chairs? Complete the statement.

For every _____ , there are _____ legs.

4. What ratio could you write to show the relationship you described? _____

Name: _____

Practicing Together:

Work with a partner to complete the table, describe the relationship, and write a ratio.

Emma made a table to show the relationship of the number of cups of pineapple juice and the number of cups of orange juice used in her juice mixture.

1. Complete the table.

Number of cups of pineapple juice	Number of cups of orange juice
1	
2	
5	
	28
8	32
	44
100	
$\frac{1}{4}$	

2. What is the relationship between the number of cups of pineapple juice and the number of cups of orange juice?

_____

Name: _____

3. What ratio could you write? _____

Name: _____

Trying It on Your Own

Use the table to answer the questions.

Ethan made a snack mix with grapes and bananas. He made a table to show the amounts he would need if he wanted to make different quantities.

Number of cups of grapes	Number of cups of bananas
0.5	1
1	
4	8
5	10
	14
	3
2.5	

1. If Ethan used 1 cup of grapes, how many cups of bananas would he need?

a. He would need 2 cups of bananas.

b. He would need 1 cup of bananas.

c. He would need 10 cups of bananas.

d. He would need 14 cups of bananas.

Name: _____

2. If Ethan used 14 cups of bananas, how many cups of grapes would he need?

a. He would need 28 cups of grapes.

b. He would need 24 cups of grapes.

c. She would need 7 cups of grapes.

d. She would need 2 cups of grapes.

3. If Ethan used 2.5 cups of grapes, how many cups of bananas would he need?

a. He would need $1\frac{1}{2}$ cups of bananas.

b. He would need 5 cups of bananas.

c. He would need 10 cups of bananas.

d. He would need 25 cups of bananas.

Name: _____

4. How would you describe the relationship between the number of cups of bananas and the number of cups of grapes?

a. As the number of cups of bananas increases by 1, the number of cups of grapes increases by $\frac{1}{2}$.

b. As the number of cups of bananas increases by 1, the number of cups of grapes increases by 2.

c. As the number of cups of bananas increases by 2, the number of cups of grapes increases by $1\frac{1}{2}$.

d. As the number of cups of bananas increases by 2, the number of cups of grapes increases by 2.

Name: _____

Wrapping It Up

Write the ratio that shows this relationship: For every spider, there are 8 legs.

Name: _____

Warming Up:

Marc wanted to buy 4 notebooks. They were priced at 6 notebooks for $6.30. How much will the 4 notebooks cost?

Name: _____

Learning to Solve:

1. Katie found T-shirts at a store selling for 4 for $21. Another store sold the same shirts for 5 for $24. Which is the better buy? Why? Defend your answer.

2. Cameron paid $23.20 for 16 pens. How much did each pen cost? Explain the process you used to solve the problem.

3. Marsella was making a recipe for cookies. Her recipe said to use 1 tablespoon of butter for every $\frac{1}{4}$ cup of flour. If he uses 3 tablespoons of butter, how much flour will he use?

Name: _____

Trying It on Your Own

1. Logan had a secret recipe for pudding. The recipe said to use 3 tablespoons of coconut milk for every 4 tablespoons of milk. If Logan uses 2 tablespoons of milk, how many tablespoons of coconut milk should he use?

a. 6 tablespoons of coconut milk

b. 5 tablespoons of coconut milk

c. 4.5 tablespoons of coconut milk

d. 1.5 tablespoons of coconut milk

2. Grace was trying to decide which was the better buy:

Buy 1 shirt for $17.99 and get a second shirt free

OR

Buy 3 shirts for $28.05

Which is the better deal?

a. Buy 1 shirt for $17.99 and get a second shirt free because each shirt will cost about $9, versus $9.35 per shirt in the other deal.

b. Buy 1 shirt for $17.99 and get a second shirt free because you get 2 shirts for the price of 1.

c. Buy 3 shirts for $28.05 because each shirt costs a little more than the other deal but you get 3 shirts.

d. Buy 3 shirts for $28.05 because the cost of the shirts is about $9.

Name: _____

3. Darin solved the following ratio problem in his math class.

Which snack mix is the better buy?

Mix 1: 8 ounces of snack mix for $3.60

Mix 2: 16 ounces of snack mix for $6.88

Darin said, "I pick Mix 1 because Mix 2 is almost double the cost."

Should Darin get the problem correct? Why?

a. Darin is correct because it is always cheaper when you get half the amount for half the price.

b. Darin is correct because if you were to buy 2 of Mix 1, it is less expensive than Mix 2 for the same amount.

c. Darin is incorrect because the 16 ounces is a whole pound.

d. Darin is incorrect because Mix 2 sells for 2 cents less per ounce than Mix 1.

4. A store is running a sale of $1,200 for 25 tablet computers. Your school has $1,400 to spend on tablet computers. How many tablet computers can the school buy at this price?

a. 50 tablet computers

b. 30 tablet computers

c. 29 tablet computers

d. 25 tablet computers

Notes

Ratios and Proportions 2

Name: _____

Name: _____

Name: _____

Name: _____

Name: _____

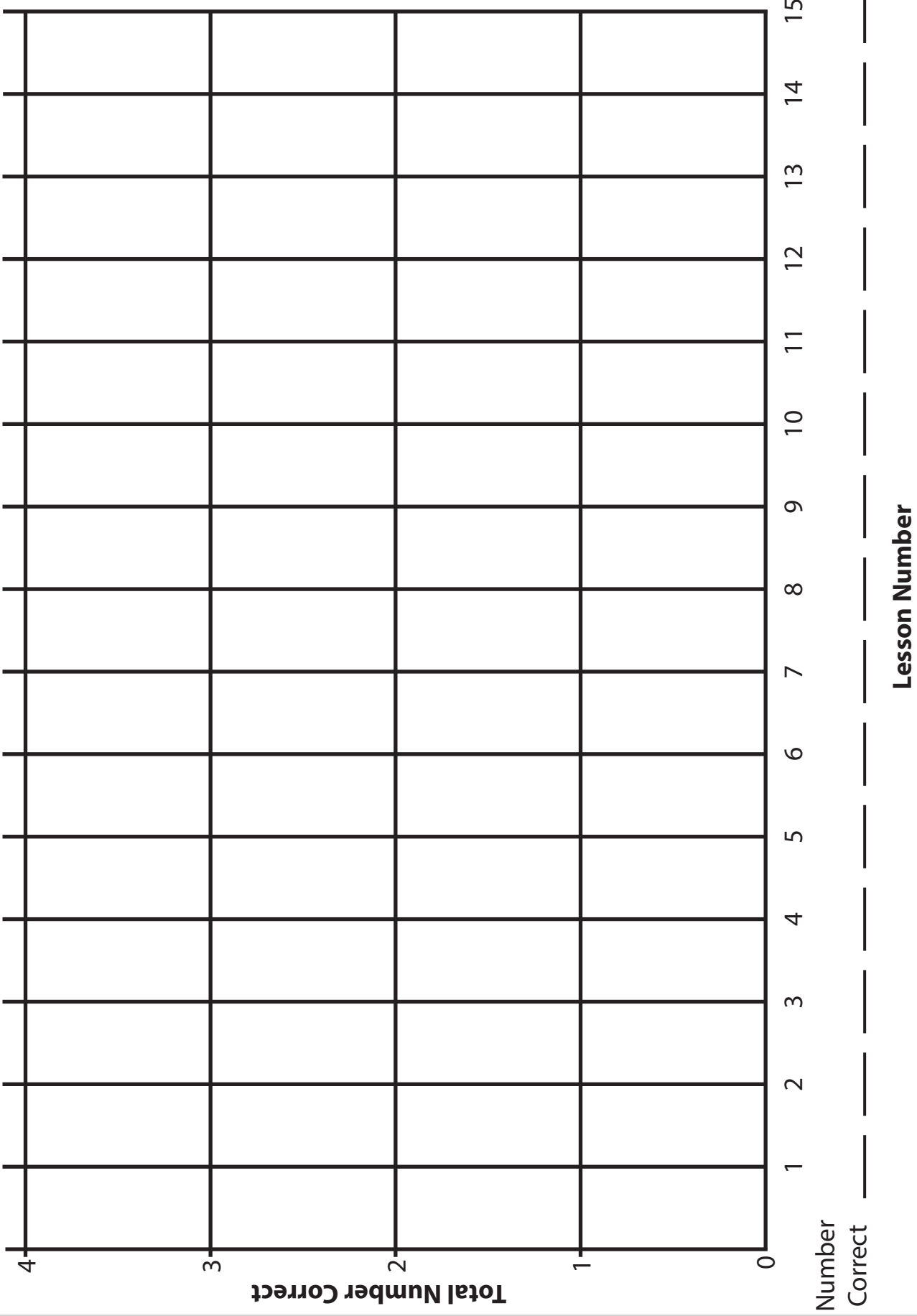
Name: _____

Name: _____

Example											
Picture											
Generalizations											

Name _____

Graph Your Progress



Ratios and Proportions 2

Extra Practice

The Meadows Center for Preventing Educational Risk—Mathematics Institute
The University of Texas at Austin

Additional Practice

Number of Cups of Raisins	Number of Cups of Almonds
1	2.5
2	5
3	7.5
4	10
5	
6	
10	

1. Complete the table using the same ratio.

2. How would you describe the ratio of the number of cups of raisins to the number of cups of almonds?

3. How many cups of raisins would be needed if there are 30 cups of almonds?

a. 75 cups of almonds

b. 32.5 cups of almonds

c. 27.5 cups of almonds

d. 12 cups of almonds

Additional Practice

1. Sean collects stamps and post cards from different countries. Each page in his collection book has 3 stamps for every 6 post cards. What is the unit rate related to the ratio of stamps to postcards?

a. 2:1

b. 1:2

c. 3:1

d. 1:6

2. Gwen made bags of vegetable sticks for her school club as a snack. Each bag had the same ratio of the number of carrot sticks to the number of celery sticks.

Number of Carrot Sticks	Number of Celery Sticks
1	3
2	6
3	9
4	12
5	
6	
8	
10	

Complete the table using the same ratio.

3. Using Gwen's table, what is the unit rate of the number of carrot sticks to the number of celery sticks?

a. 1:3

b. 3:1

c. $1:\frac{1}{2}$

d. $\frac{1}{2}:1$

4. If Gwen places 45 celery sticks in a bag, how many sticks of carrots will be in the bag? Describe the process you used to find the answer.

Additional Practice

1. Marnie set up an ice cream stand. At the stand, every half scoop of ice cream that is purchased gets 1 teaspoon of the topping of choice. Complete the table.

Scoops of Ice Cream	Teaspoons of Toppings
$\frac{1}{2}$	1
1	2
$1\frac{1}{2}$	3
2	
$2\frac{1}{2}$	
$4\frac{1}{2}$	
5	

2. A customer wanted $7\frac{1}{2}$ scoops of ice cream. How many teaspoons of toppings will he get?

a. 3 teaspoons

b. $7\frac{1}{2}$ teaspoons

c. $10\frac{1}{2}$ teaspoons

d. 15 teaspoons

3. Merri said, "I want a lot of toppings on my ice cream. I think I would like 17 teaspoons of toppings." How many scoops of ice cream will Merri need to get in order to get 17 teaspoons of toppings?

a. 34 scoops

b. 24 scoops

c. $8\frac{1}{2}$ scoops

d. $3\frac{1}{2}$ scoops

Additional Practice

Write the unit rate.

1. For every 4 cups of flour, Ray used 8 cups of water. _____

2. For every 2 books, Jane used 5 book covers. _____

Identify the dependent and independent variable.

3. The number of cups increased by 2 as the number of plates increased by 5.

Independent variable: _____

Dependent variable: _____

Additional Practice

1. The theater charges $7.50 for 1 movie ticket. Select the best statement.

a. The independent variable is the cost of 1 movie ticket. The dependent variable is the amount paid for popcorn.

b. The independent variable is the number of people going to the movie. The dependent variable is the total cost for the number of tickets purchased.

c. The independent variable is the total cost for the number of tickets purchased. The dependent variable is the cost of 1 movie ticket.

d. The independent variable is the number of people going to the movie. The dependent variable is where they purchase their tickets.

2. For every cup of almonds in a trail mix, there are 2 cups of carob chips. Select the best statement.

a. The independent variable is the total amount of trail mix needed. The dependent amount is the number of people eating the trail mix.

b. The independent variable is the number of cups of almonds. The dependent variable is the total amount of trail mix.

c. The independent variable is the number of cups of almonds. The dependent variable is the number of cups of carob chips.

d. The independent variable is the number of cups of carob chips. The dependent variable is the number of people eating the trail the mix.

3. Every bicycle has 2 wheels. Select the best statement.

a. The independent variable is the number of bicycles. The dependent variable is the total number of wheels.

b. The independent variable is 2 wheels. The dependent variable is the number of bicycles.

c. The independent variable is the number of wheels on 5 bicycles. The dependent variable is the number of wheels on 1 bicycle.

d. The independent variable is the number of bicycles. The dependent variable is the number of wheels on 1 bicycle.

4. Every decagon has 10 sides. Select the best statement.

a. The independent variable is the number of decagons. The dependent variable is 10 sides.

b. The independent variable is 10 sides. The dependent variable is 6 decagons.

c. The independent variable is the number of decagons. The dependent variable is the total number of sides.

d. The independent variable is the number of sides. The dependent variable is 10 sides.

Additional Practice

Identify the independent and dependent variables.

1. Marcos reads 5 pages every night for a week.

Independent variable: _____

Dependent variable: _____

2. To prepare for a science competition, Suzie solves 3 science problems every hour.

Independent variable: _____

Dependent variable: _____

3. James drives 160 miles in 4 hours. If he drives at a consistent rate, how many miles does he drive every hour?

4. Cris played 18 games after 6 hours. Each game took the same amount of time. How many games did Cris play every hour?

Additional Practice

Jerry painted signs for the parade. Each sign uses $\frac{1}{2}$ quart of paint.

1. Which table shows the relationship?

a.

Number of signs	Number of quarts of paint
1	$\frac{1}{2}$
2	$\frac{2}{4}$
3	$\frac{3}{6}$
4	$\frac{4}{8}$

b.

Number of signs	Number of quarts of paint
1	$\frac{1}{2}$
2	$\frac{1}{4}$
3	$\frac{1}{6}$
4	$\frac{1}{8}$

c.

Number of signs	Number of quarts of paint
1	$\frac{1}{2}$
2	1
3	$1\frac{1}{2}$
4	2

d.

Number of signs	Number of quarts of paint
1	$\frac{1}{2}$
2	2
3	$2\frac{1}{2}$
4	4

2. Which rule, stated in words, describes the number of quarts of paint needed for a certain number of signs?

a. The rule is that the number of signs equals the number of quarts of paint.

b. The rule is that the number of signs times 2 equals the number of quarts of paint.

c. The rule is that the number of signs times $\frac{1}{2}$ equals the number of quarts of paint.

d. The rule is that the number of signs times 1 equals the number of quarts of paint.

3. Which rule describes the number of quarts of paint needed for x number of signs?

a. $\frac{1}{2}x$

b. $1x$

c. $2x$

d. $2\frac{1}{2}x$

4. Which statement is true about the table?

a. The independent variable is the number of signs. The dependent variable is a $\frac{1}{2}$ of a quart of paint.

b. The independent variable is the number of quarts of paint. The dependent variable is a $\frac{1}{2}$ of a quart of paint.

c. The independent variable is the number of signs. The dependent variable is the number of quarts of paint.

d. The independent variable is the number of quarts of paint. The dependent variable is the number of signs.

Additional Practice

Answer the questions using this situation: Martin needed cookies for his party. The cookies were on sale at the store for $3.50 for 2 cookies.

1. Which of the following gives the unit rate for the cookies?

a. $3.50:2
b. $1.75:1
c. $3.50:1
d. $7.00:1

2. What is the cost of 10 cookies at this price?

a. $7.00
b. $13.50
c. $17.50
d. $35.00

3. What is the cost of 5 cookies at this price?

a. $32.50

b. $8.75

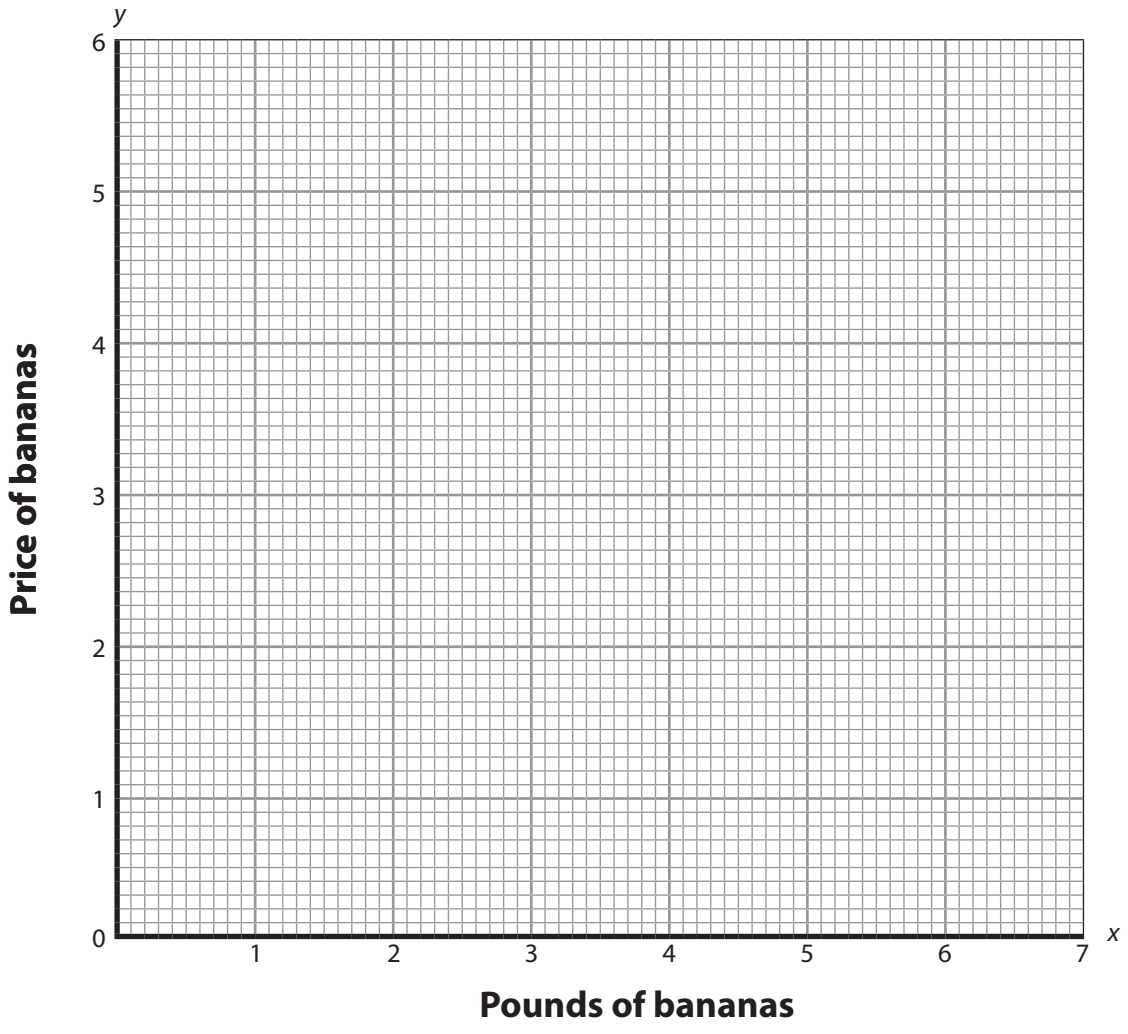
c. $7.00

d. $1.75

Additional Practice

Pounds of bananas	0	1	2	3	4	5
Price of bananas	0	\$0.80	\$1.60	\$2.40	\$3.20	\$4.00
$\frac{\textbf{Price of bananas}}{\textbf{Pounds of bananas}}$	—	$\frac{4}{5}$	$\frac{4}{5}$	$\frac{4}{5}$	$\frac{4}{5}$	$\frac{4}{5}$

1. Using the table above, graph the data on the coordinate grid.



2. Are the points on your graph in a line? Why or why not?

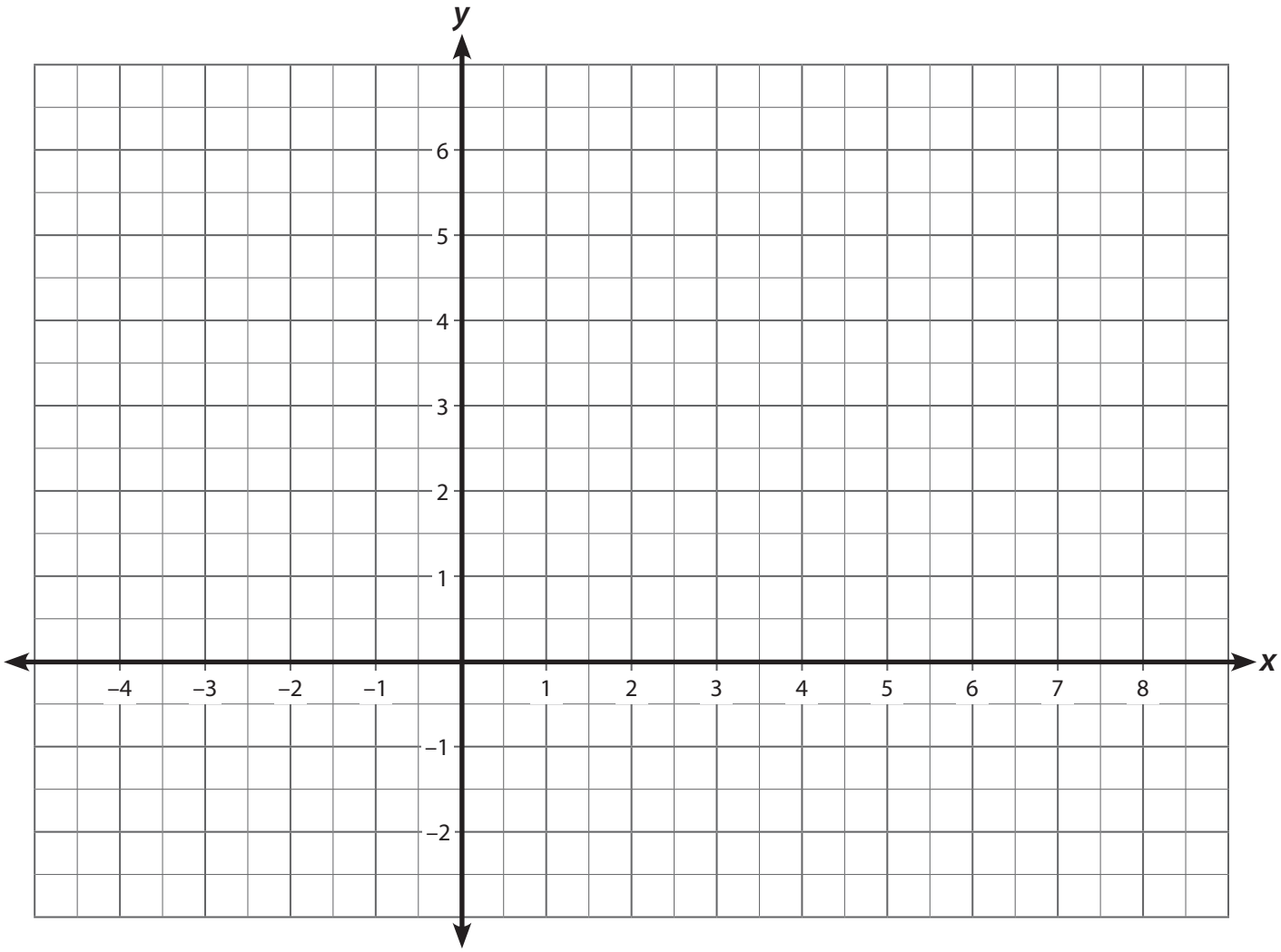
3. Will the point (8, $6.40) be on the same line as the other points you graphed? Why or why not?

4. Give another point that is different from the points in the table that will be on the same line.

Additional Practice

1. Graph the points in the table on the graph. Label each point.

Point label	*x*-coordinate	*y*-coordinate
A	2	1
B	1	0.5
C	0	0
D	5	2.5
E	6	3



2. Write an equation or a rule that shows the relationship found in the graph.

Additional Practice

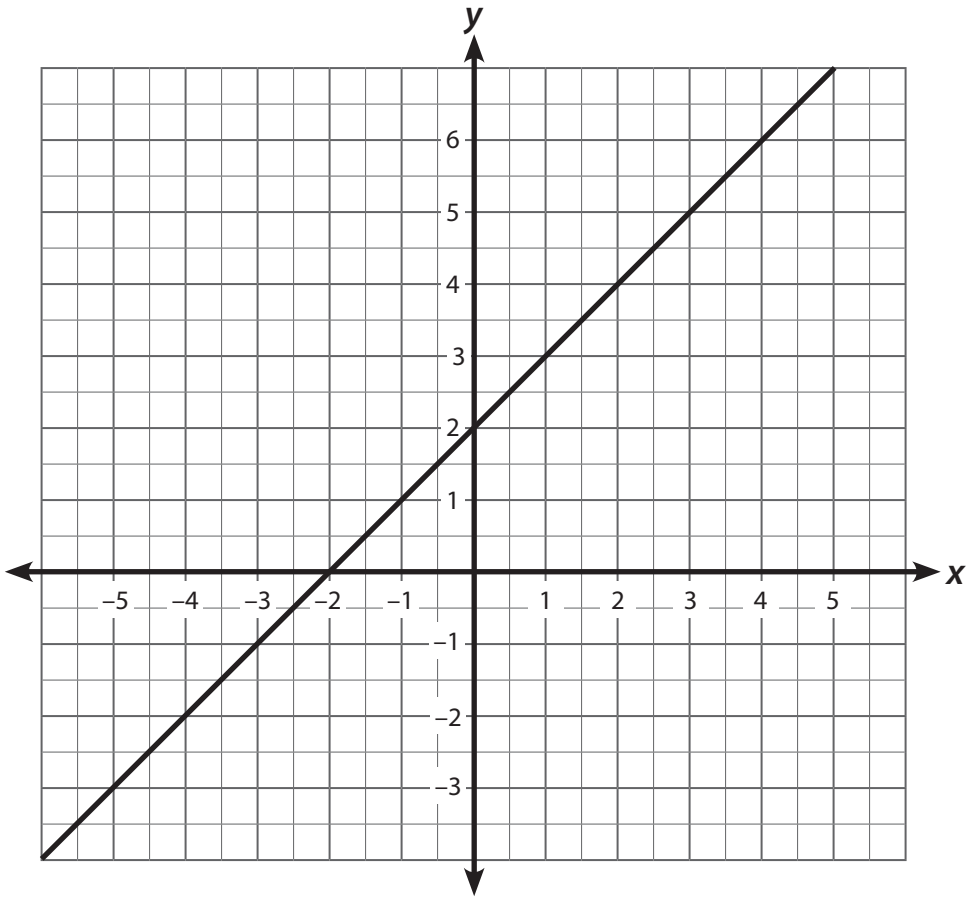
1. Does the table represent a proportional relationship?

x	1	2	3	4
y	5	10	15	20

Proportional relationship: Yes _____ No _____

Equation or rule: _____

Use the graph to answer problems 2– 4.



2. Which of the following tables represents the graph?

a.

x	0	2	2.5	4	9
y	2	4	4.5	6	7

b.

x	1	3	4	2	7
y	2	1	6	6	9

c.

x	2	4	4.5	6	7
y	0	2	2.5	4	9

d.

x	2	0	1	3	8.5
y	4	0	2	6	7

3. Which equation describes the relationship on the graph?

a. $y = 3x$

b. $y = 2x$

c. $y = x - 2$

d. $y = x + 2$

4. Does this graph represent a proportional relationship?

a. Yes, because all of the points form a straight line.

b. Yes, because the relationship can be written as $y = x + 2$.

c. No, because the ratio of y to x is not the same for all the points.

d. No, because the point (3, 5) is not on the graph.

Additional Practice

Use the equation $y = 3x$ to solve problems 1 to 3.

1. Does the equation $y = 3x$ represent a proportional relationship?

a. Yes, because the points on its graph will be in the ratio of 3:1 and include (0, 0).

b. Yes, because the points on its graph will be in a line.

c. No, because the points on its graph will not have the same ratio.

d. No, because the graph of the equation will not include (0, 0).

2. Which table represents the equation $y = 3x$?

a.

x	0	1	2	3	4
y	0	4	5	6	7

b.

x	0	2	3.5	5	6
y	0	6	10.5	15	18

c.

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

d.

x	0	3	4	5	6
y	0	1	2	2.5	3

3. What is the ratio of y to x in the equation $y = 3x$?

a. 3:1

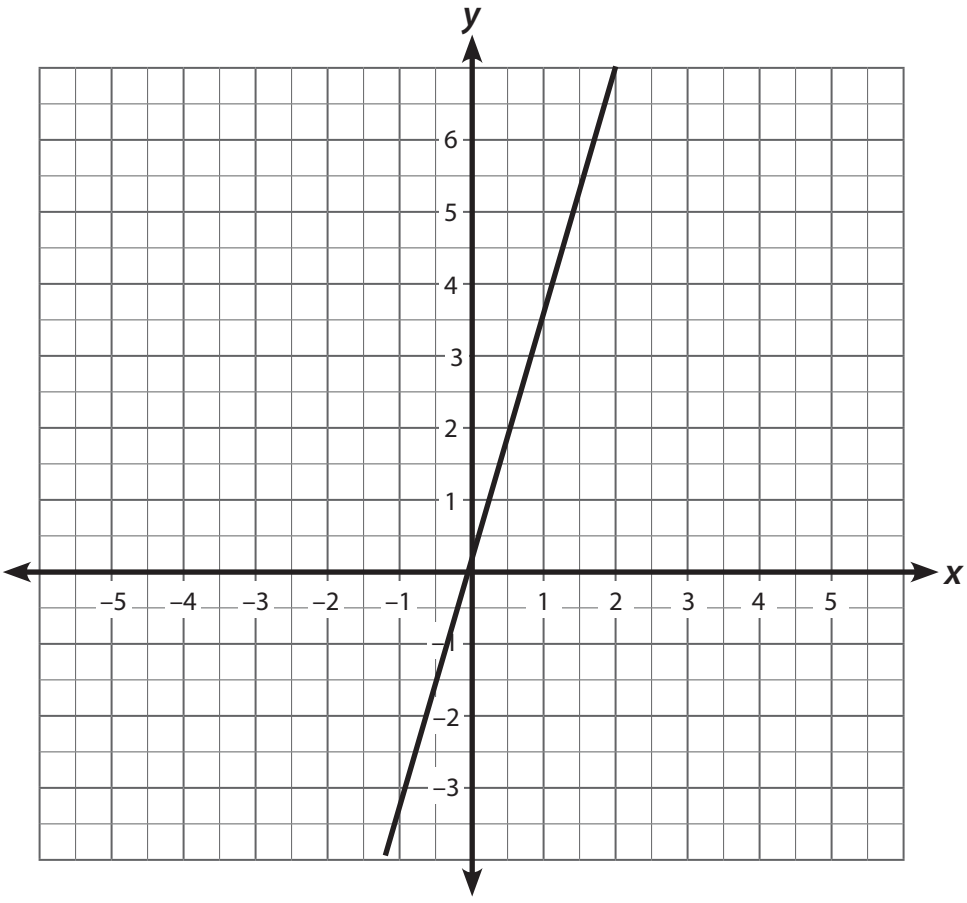
b. 1:3

c. 1:0.3

d. 0.3:1

Additional Practice

Use the graph to answer problems 1– 3.



1. Which equation describes the relationship on the graph?

a. $y = x + 3.5$

b. $y = x - 1.5$

c. $y = 2.5\ x$

d. $y = 3.5\ x$

2. Which table represents the equation $y = 3x$?

a.

x	0	1	2	3	4
y	3.5	4.5	5.5	6.5	7.5

b.

x	0	1	2	3	4
y	0	2.5	5	7.5	10

c.

x	0	1	2	3	4
y	0	3.5	7	10.5	14

d.

x	0	1	2	3	4
y	–1.5	–0.5	0.5	1.5	2.5

3. Which is the ratio of y to x as represented by the graph?

a. 2.5:1

b. 3.5:1

c. 1:3.5

d. 1:2.5

Additional Practice

1. Elliot always keeps his 4 gardens clean. He takes 20 minutes to clean a single garden. How much time will it take to clean all 4 gardens?

a. 5 minutes because the unit rate is 5:1

b. 5 minutes because the unit rate is 1:5

c. 80 minutes because the unit rate is 1:20

d. 80 minutes because $20 \div 4 = 5$, and $5 \times 16 = 80$

2. Micah likes to bake. She baked 12 cakes per day. In the whole month of January how many cakes will she bake?

a. 372 cakes

b. 155 cakes

c. 42 cakes

d. 31 cakes

Isabelle is making pancakes. For every 2 cups of flour she uses, she adds $\frac{1}{2}$ cup of milk

3. How much milk will Isabelle use for 4 cups of flour?

a. $2\frac{1}{2}$ cups

b. 1 cup

c. $4\frac{1}{2}$ cups

d. 2 cups

4. How much milk will Isabelle use for 6 cups of flour?

a. $1\frac{1}{2}$ cups

b. 1 cup

c. $6\frac{1}{2}$ cups

d. 3 cups

Additional Practice

1. A 12-ounce box of crackers costs $5.65. A 20-ounce box of a different brand of crackers costs $7. Which is the better buy? Why?

2. Brian decided to make a cake for his sister. The cake recipe said to use 2 eggs for every 4 cups of flour. If Brian uses 12 cups of flour, how many eggs should he use?

a. 14 eggs

b. 6 eggs

c. 24 eggs

d. 8 eggs

3. A store is selling 15 iPods for $1,500. Your school has $1,800 to spend on iPods. How many iPods can the school buy at this rate?

a. 150 iPods

b. 18 iPods

c. 120 iPods

d. 100 iPods

4. Jackson was trying to decide which was the better buy:

Buy 1 shirt for $15.90 and get a second shirt free
OR
Buy 4 shirts for $35.00

What would you tell him?

a. Buy 1 shirt for $15.90 and get a second shirt free because each shirt costs $7.95, which is $.80 cheaper than $8.75.

b. Buy 1 shirt for $15.90 and get a second shirt free because you get 2 shirts for the price of 1.

c. Buy 4 shirts for $35.00 because you get 3 more shirts.

d. Buy 4 shirts for $35.00 because each shirt is $8.75 which is $7.15 cheaper than $15.90.

Multiplication and Division

Timed Practice

Name _____

Teacher _____

Period _____

Name: _____

Multiplication Timed Practice Sheet 1

Number Correct: _____

1	8 × 2	**2**	1 × 7	**3**	5 × 8	**4**	6 × 3
5	7 × 4	**6**	6 × 6	**7**	2 × 12	**8**	4 × 5
9	7 × 6	**10**	3 × 9	**11**	11 × 5	**12**	3 × 3
13	8 × 9	**14**	2 × 4	**15**	6 × 9	**16**	4 × 12
17	9 × 6	**18**	10 × 8	**19**	2 × 9	**20**	8 × 3

Name: _____

Multiplication Timed Practice Sheet 2

Number Correct: _____

1	7 × 2	**2**	5 × 5	**3**	9 × 1	**4**	7 × 11
5	5 × 6	**6**	10 × 3	**7**	7 × 5	**8**	3 × 4
9	4 × 9	**10**	4 × 7	**11**	12 × 6	**12**	7 × 8
13	7 × 10	**14**	8 × 6	**15**	6 × 7	**16**	5 × 3
17	9 × 8	**18**	6 × 4	**19**	9 × 4	**20**	8 × 4

Name: _____

Multiplication Timed Practice Sheet 3

Number Correct: _____

1 1 × 12	**2** 4 × 3	**3** 5 × 2	**4** 10 × 7
5 10 × 2	**6** 4 × 8	**7** 3 × 7	**8** 12 × 7
9 11 × 6	**10** 3 × 12	**11** 4 × 6	**12** 5 × 9
13 8 × 7	**14** 7 × 3	**15** 8 × 8	**16** 5 × 10
17 5 × 4	**18** 9 × 2	**19** 3 × 11	**20** 9 × 7

Name: _____

Multiplication Timed Practice Sheet 4

Number Correct: _____

1	2 × 8	**2**	3 × 6	**3**	8 × 5	**4**	2 × 7
5	11 × 9	**6**	4 × 4	**7**	9 × 4	**8**	3 × 10
9	5 × 9	**10**	5 × 12	**11**	7 × 3	**12**	1 × 5
13	3 × 2	**14**	6 × 8	**15**	9 × 11	**16**	4 × 5
17	12 × 5	**18**	4 × 2	**19**	7 × 7	**20**	10 × 10

Name: _____

Multiplication Timed Practice Sheet 5

Number Correct: _____

1	4 × 6	**2**	9 × 3	**3**	5 × 11	**4**	10 × 5
5	5 × 7	**6**	2 × 10	**7**	3 × 1	**8**	12 × 5
9	8 × 6	**10**	6 × 12	**11**	6 × 2	**12**	7 × 7
13	4 × 7	**14**	5 × 3	**15**	3 × 8	**16**	12 × 2
17	9 × 3	**18**	11 × 4	**19**	7 × 4	**20**	9 × 10

Name: _____

Multiplication Timed Practice Sheet 6

Number Correct: _____

1	4 × 3	**2**	3 × 6	**3**	7 × 5	**4**	6 × 4
5	8 × 10	**6**	2 × 2	**7**	11 × 2	**8**	5 × 5
9	3 × 5	**10**	4 × 8	**11**	7 × 9	**12**	8 × 12
13	2 × 10	**14**	1 × 8	**15**	6 × 11	**16**	11 × 12
17	12 × 8	**18**	10 × 6	**19**	2 × 5	**20**	9 × 7

Name: _____

Multiplication Timed Practice Sheet 7

Number Correct: _____

1	5 × 8	**2**	4 × 4	**3**	5 × 7	**4**	9 × 2
5	8 × 11	**6**	3 × 7	**7**	2 × 6	**8**	3 × 5
9	3 × 4	**10**	9 × 12	**11**	6 × 10	**12**	8 × 3
13	12 × 11	**14**	8 × 8	**15**	5 × 4	**16**	1 × 11
17	6 × 7	**18**	7 × 6	**19**	10 × 9	**20**	6 × 5

Name: _____

Multiplication Timed Practice Sheet 8

Number Correct: _____

1 3 × 10	**2** 9 × 6	**3** 11 × 2	**4** 6 × 10
5 7 × 9	**6** 8 × 7	**7** 5 × 2	**8** 4 × 11
9 4 × 1	**10** 6 × 9	**11** 6 × 5	**12** 8 × 5
13 10 × 3	**14** 11 × 7	**15** 2 × 12	**16** 9 × 9
17 6 × 8	**18** 2 × 3	**19** 7 × 12	**20** 4 × 2

Name: _____

Multiplication Timed Practice Sheet 9

Number Correct: _____

1 6 × 2	**2** 9 × 5	**3** 11 × 8	**4** 2 × 6
5 5 × 6	**6** 8 × 9	**7** 9 × 8	**8** 10 × 4
9 12 × 3	**10** 11 × 11	**11** 4 × 10	**12** 7 × 8
13 3 × 9	**14** 4 × 9	**15** 8 × 2	**16** 12 × 9
17 11 × 3	**18** 10 × 7	**19** 1 × 6	**20** 2 × 8

Name: _____

Multiplication Timed Practice Sheet 10

Number Correct: _____

1	3 × 8	**2**	6 × 3	**3**	3 × 3	**4**	10 × 1
5	2 × 5	**6**	2 × 11	**7**	9 × 9	**8**	9 × 5
9	2 × 9	**10**	6 × 6	**11**	2 × 3	**12**	12 × 3
13	2 × 7	**14**	12 × 10	**15**	8 × 4	**16**	11 × 8
17	11 × 4	**18**	5 × 5	**19**	10 × 11	**20**	7 × 2

Name: _____

Division Timed Practice Sheet 1

Number Correct: _____

1	$7\overline{)21}$	**2**	$5\overline{)10}$	**3**	$2\overline{)14}$	**4**	$9\overline{)27}$
5	$6\overline{)24}$	**6**	$10\overline{)70}$	**7**	$8\overline{)32}$	**8**	$6\overline{)36}$
9	$3\overline{)9}$	**10**	$5\overline{)35}$	**11**	$1\overline{)8}$	**12**	$12\overline{)24}$
13	$2\overline{)20}$	**14**	$8\overline{)40}$	**15**	$3\overline{)15}$	**16**	$4\overline{)32}$
17	$4\overline{)28}$	**18**	$7\overline{)42}$	**19**	$9\overline{)63}$	**20**	$6\overline{)66}$

Name: _____

Division Timed Practice Sheet 2

Number Correct: _____

1	$2\overline{)10}$	**2**	$3\overline{)27}$	**3**	$3\overline{)21}$	**4**	$7\overline{)14}$
5	$6\overline{)30}$	**6**	$1\overline{)6}$	**7**	$6\overline{)54}$	**8**	$12\overline{)60}$
9	$3\overline{)36}$	**10**	$4\overline{)24}$	**11**	$5\overline{)25}$	**12**	$10\overline{)80}$
13	$8\overline{)16}$	**14**	$11\overline{)14}$	**15**	$8\overline{)24}$	**16**	$5\overline{)30}$
17	$9\overline{)54}$	**18**	$6\overline{)60}$	**19**	$8\overline{)72}$	**20**	$7\overline{)56}$

Name: _____

Division Timed Practice Sheet 3

Number Correct: _____

1	$11\overline{)66}$	**2**	$2\overline{)18}$	**3**	$6\overline{)42}$	**4**	$7\overline{)63}$
5	$5\overline{)45}$	**6**	$3\overline{)24}$	**7**	$9\overline{)36}$	**8**	$1\overline{)12}$
9	$4\overline{)20}$	**10**	$10\overline{)30}$	**11**	$9\overline{)36}$	**12**	$9\overline{)90}$
13	$8\overline{)80}$	**14**	$3\overline{)18}$	**15**	$8\overline{)24}$	**16**	$4\overline{)16}$
17	$7\overline{)35}$	**18**	$6\overline{)18}$	**19**	$9\overline{)99}$	**20**	$12\overline{)120}$

Name: _____

Division Timed Practice Sheet 4

Number Correct: _____

1	$5\overline{)15}$	**2**	$11\overline{)55}$	**3**	$4\overline{)12}$	**4**	$9\overline{)45}$
5	$7\overline{)28}$	**6**	$4\overline{)36}$	**7**	$1\overline{)7}$	**8**	$10\overline{)60}$
9	$2\overline{)16}$	**10**	$5\overline{)40}$	**11**	$8\overline{)56}$	**12**	$2\overline{)24}$
13	$9\overline{)18}$	**14**	$11\overline{)88}$	**15**	$12\overline{)48}$	**16**	$7\overline{)49}$
17	$7\overline{)56}$	**18**	$3\overline{)6}$	**19**	$4\overline{)40}$	**20**	$6\overline{)30}$

Name: _____

Division Timed Practice Sheet 5

Number Correct: _____

1	$3\overline{)21}$	**2**	$6\overline{)12}$	**3**	$3\overline{)36}$	**4**	$3\overline{)15}$
5	$9\overline{)36}$	**6**	$8\overline{)48}$	**7**	$3\overline{)12}$	**8**	$10\overline{)90}$
9	$4\overline{)24}$	**10**	$5\overline{)60}$	**11**	$11\overline{)33}$	**12**	$8\overline{)64}$
13	$1\overline{)4}$	**14**	$4\overline{)28}$	**15**	$6\overline{)48}$	**16**	$5\overline{)55}$
17	$12\overline{)24}$	**18**	$7\overline{)70}$	**19**	$9\overline{)27}$	**20**	$12\overline{)96}$

Name: _____

Division Timed Practice Sheet 6

Number Correct: _____

1	$2\overline{)20}$	**2**	$8\overline{)16}$	**3**	$5\overline{)20}$	**4**	$1\overline{)3}$
5	$5\overline{)35}$	**6**	$4\overline{)44}$	**7**	$6\overline{)48}$	**8**	$11\overline{)110}$
9	$3\overline{)18}$	**10**	$2\overline{)4}$	**11**	$3\overline{)27}$	**12**	$6\overline{)72}$
13	$9\overline{)81}$	**14**	$3\overline{)24}$	**15**	$10\overline{)20}$	**16**	$4\overline{)48}$
17	$6\overline{)30}$	**18**	$10\overline{)110}$	**19**	$9\overline{)54}$	**20**	$7\overline{)28}$

Name: _____

Division Timed Practice Sheet 7

Number Correct: _____

1	$2\overline{)10}$	**2**	$8\overline{)40}$	**3**	$3\overline{)9}$	**4**	$11\overline{)55}$
5	$8\overline{)56}$	**6**	$8\overline{)32}$	**7**	$7\overline{)63}$	**8**	$2\overline{)22}$
9	$4\overline{)36}$	**10**	$10\overline{)80}$	**11**	$8\overline{)64}$	**12**	$12\overline{)72}$
13	$5\overline{)15}$	**14**	$9\overline{)63}$	**15**	$7\overline{)77}$	**16**	$6\overline{)18}$
17	$5\overline{)50}$	**18**	$6\overline{)36}$	**19**	$6\overline{)24}$	**20**	$1\overline{)9}$

Name: _____

Division Timed Practice Sheet 8

Number Correct: _____

1	$9\overline{)45}$	**2**	$11\overline{)66}$	**3**	$2\overline{)4}$	**4**	$2\overline{)12}$
5	$1\overline{)5}$	**6**	$12\overline{)108}$	**7**	$5\overline{)55}$	**8**	$7\overline{)49}$
9	$5\overline{)60}$	**10**	$4\overline{)8}$	**11**	$4\overline{)32}$	**12**	$10\overline{)40}$
13	$7\overline{)84}$	**14**	$7\overline{)21}$	**15**	$12\overline{)144}$	**16**	$6\overline{)54}$
17	$9\overline{)81}$	**18**	$11\overline{)99}$	**19**	$4\overline{)40}$	**20**	$5\overline{)50}$

Name: _____

Division Timed Practice Sheet 9

Number Correct: _____

1	$11\overline{)22}$	**2**	$4\overline{)12}$	**3**	$6\overline{)66}$	**4**	$5\overline{)30}$
5	$4\overline{)16}$	**6**	$2\overline{)6}$	**7**	$5\overline{)45}$	**8**	$10\overline{)120}$
9	$10\overline{)40}$	**10**	$8\overline{)88}$	**11**	$8\overline{)72}$	**12**	$12\overline{)36}$
13	$2\overline{)14}$	**14**	$11\overline{)121}$	**15**	$7\overline{)35}$	**16**	$1\overline{)10}$
17	$4\overline{)48}$	**18**	$9\overline{)72}$	**19**	$12\overline{)84}$	**20**	$3\overline{)33}$

Name: _____

Division Timed Practice Sheet 10

Number Correct: _____

1	$10\overline{)70}$	**2**	$6\overline{)12}$	**3**	$2\overline{)8}$	**4**	$3\overline{)12}$
5	$5\overline{)25}$	**6**	$6\overline{)42}$	**7**	$5\overline{)20}$	**8**	$3\overline{)30}$
9	$2\overline{)18}$	**10**	$10\overline{)100}$	**11**	$4\overline{)12}$	**12**	$8\overline{)48}$
13	$7\overline{)42}$	**14**	$12\overline{)36}$	**15**	$4\overline{)48}$	**16**	$11\overline{)77}$
17	$9\overline{)72}$	**18**	$1\overline{)11}$	**19**	$3\overline{)33}$	**20**	$5\overline{)10}$

Name: _____

Mixed Facts Timed Practice Sheet 1

Number Correct: _____

1	4×7	**2**	$2\overline{)16}$	**3**	4×5	**4**	$7\overline{)21}$
5	11×1	**6**	$7\overline{)56}$	**7**	8×8	**8**	3×4
9	$4\overline{)36}$	**10**	$3\overline{)18}$	**11**	$8\overline{)64}$	**12**	3×12
13	$9\overline{)45}$	**14**	$7\overline{)70}$	**15**	7×6	**16**	10×6
17	8×2	**18**	9×6	**19**	$5\overline{)20}$	**20**	$5\overline{)55}$

Name: _____

Mixed Facts Timed Practice Sheet 2

Number Correct: _____

1	2×9	**2**	5×10	**3**	$2\overline{)12}$	**4**	5×7
5	$6\overline{)42}$	**6**	11×4	**7**	7×8	**8**	$8\overline{)32}$
9	$6\overline{)54}$	**10**	$3\overline{)33}$	**11**	5×12	**12**	$1\overline{)12}$
13	12×2	**14**	$4\overline{)16}$	**15**	6×9	**16**	3×6
17	$12\overline{)24}$	**18**	3×8	**19**	$10\overline{)20}$	**20**	$4\overline{)8}$

Name: _____

Mixed Facts Timed Practice Sheet 3

Number Correct: _____

1	8×5	**2**	$3\overline{)12}$	**3**	4×8	**4**	$8\overline{)56}$
5	7×7	**6**	$10\overline{)60}$	**7**	$4\overline{)8}$	**8**	6×1
9	$10\overline{)100}$	**10**	9×2	**11**	$9\overline{)99}$	**12**	3×5
13	10×11	**14**	5×2	**15**	$3\overline{)27}$	**16**	12×4
17	$8\overline{)40}$	**18**	7×9	**19**	$5\overline{)35}$	**20**	$12\overline{)36}$

Name: _____

Mixed Facts Timed Practice Sheet 4

Number Correct: _____

1	4×6	**2**	$5\overline{)40}$	**3**	2×11	**4**	$3\overline{)21}$
5	$1\overline{)7}$	**6**	12×6	**7**	$4\overline{)12}$	**8**	2×10
9	6×8	**10**	$5\overline{)50}$	**11**	3×3	**12**	$9\overline{)72}$
13	8×10	**14**	7×4	**15**	$11\overline{)99}$	**16**	5×9
17	$12\overline{)60}$	**18**	$6\overline{)36}$	**19**	3×5	**20**	$7\overline{)28}$

Name: _____

Mixed Facts Timed Practice Sheet 5

Number Correct: _____

1	10×2	**2**	3×11	**3**	$3\overline{)15}$	**4**	$11\overline{)55}$
5	$12\overline{)24}$	**6**	7×5	**7**	9×1	**8**	9×7
9	8×4	**10**	11×7	**11**	$3\overline{)12}$	**12**	$4\overline{)20}$
13	$7\overline{)35}$	**14**	$9\overline{)36}$	**15**	12×10	**16**	8×9
17	9×9	**18**	$8\overline{)48}$	**19**	$6\overline{)60}$	**20**	$4\overline{)24}$

Name: _____

Mixed Facts Timed Practice Sheet 6

Number Correct: _____

1	3×9	**2**	$5\overline{)30}$	**3**	$4\overline{)28}$	**4**	10×8
5	8×7	**6**	7×3	**7**	$2\overline{)20}$	**8**	$5\overline{)25}$
9	$6\overline{)24}$	**10**	2×12	**11**	11×2	**12**	$12\overline{)48}$
13	$1\overline{)11}$	**14**	$11\overline{)44}$	**15**	9×9	**16**	5×3
17	$5\overline{)15}$	**18**	9×4	**19**	$6\overline{)48}$	**20**	3×10

Name: _____

Mixed Facts Timed Practice Sheet 7

Number Correct: _____

1	5×4	**2**	$4\overline{)32}$	**3**	8×3	**4**	$7\overline{)14}$
5	$3\overline{)30}$	**6**	$7\overline{)42}$	**7**	$6\overline{)30}$	**8**	6×7
9	6×4	**10**	$4\overline{)40}$	**11**	7×1	**12**	5×8
13	$9\overline{)81}$	**14**	10×12	**15**	$9\overline{)63}$	**16**	4×9
17	6×2	**18**	11×3	**19**	$11\overline{)22}$	**20**	$10\overline{)70}$

Name: _____

Mixed Facts Timed Practice Sheet 8

Number Correct: _____

1 10×4	**2** $3\overline{)24}$	**3** $5\overline{)45}$	**4** 9×3
5 6×11	**6** 6×5	**7** $10\overline{)40}$	**8** $1\overline{)5}$
9 $8\overline{)24}$	**10** $3\overline{)36}$	**11** 11×9	**12** $6\overline{)18}$
13 $12\overline{)72}$	**14** 9×8	**15** $9\overline{)54}$	**16** 8×6
17 $7\overline{)14}$	**18** 6×7	**19** 7×12	**20** 5×5

Name: _____

Mixed Facts Timed Practice Sheet 9

Number Correct: _____

1	4×4	**2**	$9\overline{)18}$	**3**	9×5	**4**	$3\overline{)12}$
5	$9\overline{)27}$	**6**	11×11	**7**	$5\overline{)60}$	**8**	$6\overline{)12}$
9	$6\overline{)60}$	**10**	5×6	**11**	12×8	**12**	8×1
13	$7\overline{)49}$	**14**	6×2	**15**	11×10	**16**	$7\overline{)77}$
17	7×10	**18**	$11\overline{)121}$	**19**	$8\overline{)16}$	**20**	4×12

Name: _____

Mixed Facts Timed Practice Sheet 10

Number Correct: _____

1	3×6	**2**	10×7	**3**	$2\overline{)18}$	**4**	$11\overline{)88}$
5	7×2	**6**	$4\overline{)48}$	**7**	9×10	**8**	$8\overline{)72}$
9	4×3	**10**	$7\overline{)63}$	**11**	3×7	**12**	11×6
13	$3\overline{)9}$	**14**	$12\overline{)96}$	**15**	$1\overline{)10}$	**16**	$5\overline{)15}$
17	$10\overline{)90}$	**18**	9×12	**19**	2×5	**20**	11×12

Name _____

Fact Practice Graph