

Unit 7 Math Test Review

Name: _____ #: _____

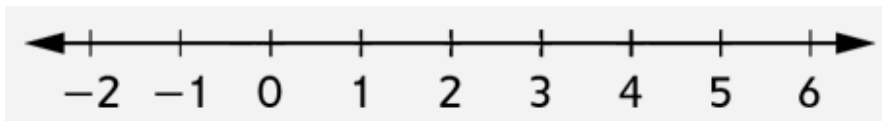
Parent Signature (test alert): _____

Test is on: _____

1. Three times a mystery number M is less than 18.

a. Write an inequality to represent this situation. _____

b. If M is greater than 0, graph the solution set for M on the number line below.



c. Write three possible values for M . _____

2. A 5-kilometer race is about 3.1 miles long. Mr. Williams completes the race in 32 minutes. What is his average time per mile? Give your answer in minutes and seconds. Show your work.

Solution: _____

3. Mrs. Mierkowicz used the spreadsheet below to record her students' scores on three math quizzes. The mean score for each student appears in Column F.

a. Which cell contains Vanessa's score on Quiz 3?

b. Using cell names, write a formula for calculating the value that should appear in cell F5.

c. Calculate Shelly's mean score and record what should be entered into cell F5.

	A	B	C	D	E	F
1	Student	Quiz 1	Quiz 2	Quiz 3	Quiz 4	Mean
2	Roland	96	93	89	98	94
3	Peyton	78	61	82	73	74
4	Vanessa	84	53	82	77	74
5	Shelly	94	100	98	100	

4. Use the nutritional information provided for two different kinds of canned peaches to compare the sugar and sodium content. Support your comparisons with unit rates.

Peaches in Syrup (4 oz.)	Peaches in Natural Juice (6oz)
Sugar: 21 grams	Sugar: 20 grams
Sodium: 5 grams	Sodium: 15 grams

a. Which serving of peaches has a higher concentration of sugar? _____
Use unit rates to explain and justify your answer.

b. Which serving of peaches has a higher concentration of sodium? _____
Use unit rates to explain and justify your answer.

5. You have at most \$12.00 to spend on lunch. You want to get a sandwich and a few side dishes. The sandwich is \$6.00. Each side dish is \$1.75.

a. Define a variable and write an inequality to represent the situation.

Define a variable: _____

Inequality: _____

b. Explain how you can use the inequality to find the maximum number of side dishes you can buy.

6.
 a. Complete the “What’s My Rule?” table.
 b. Describe the rule in words.

- c. Write an equation for the rule.

- d. Write the numbers in the table as ordered pairs.

- e. Plot the ordered pairs on the grid and connect your points.

- f. Use your rule to find the number of teaspoons of baking soda for 25 tablespoons. _

- g. Describe any patterns that you see in your graph.

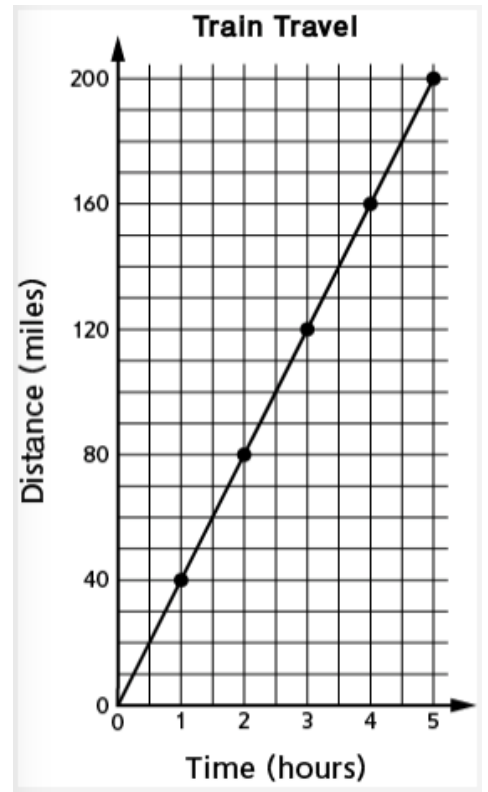
Number of Tablespoons of Baking Soda (x)	Number of Teaspoons of Baking Soda (y)
0	0
1	3
2	
3	
4	12
	18



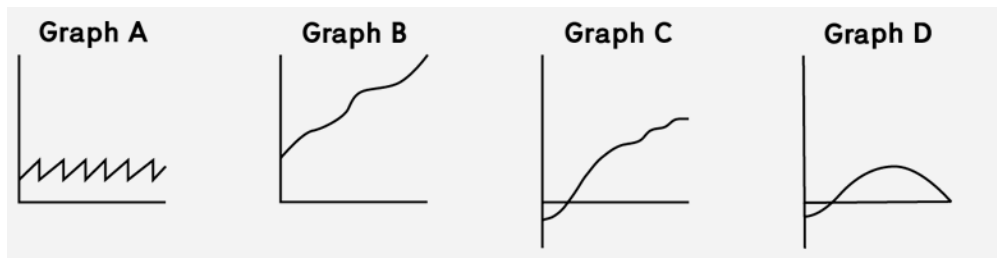
7.
 a. Write an equation that you could use to find the distance (y) that a train travels in x hours.

b. Use the graph or the equation to calculate how far the train travels in $2\frac{1}{2}$ hours.

c. Explain how you found your answer to Part b.



8. Each of the graphs represents one of the situations described below. Match each situation with its graph.



a. The length of a boy's hair during one year.

Graph _____

b. The elevation of a hiking trail that starts below sea level and goes to the peak of a mountain.

Graph _____

c. The height of a whale that jumps out of water.

Graph _____

d. An athlete's heart rate from the beginning of a workout.

Graph _____

Unit 7 Math Test Review

Name: Key #:

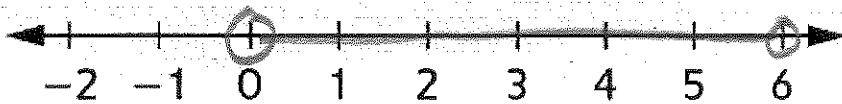
Parent Signature (test alert): _____

Test is on: _____

1. Three times a mystery number M is less than 18.

a. Write an inequality to represent this situation. $3M < 18$ or $M < 6$

b. If M is greater than 0, graph the solution set for M on the number line below.



c. Write three possible values for M . 1 $2\frac{3}{4}$ 5.5

2. A 5-kilometer race is about 3.1 miles long. Mr. Williams completes the race in 32 minutes. What is his average time per mile? Give your answer in minutes and seconds. Show your work.

$$32 \div 3.1 = 10.32258$$

$$.32258 \times 60 \text{ (seconds in a minute)} = 19.3548$$

Solution: 10 mins. 19 secs.

3. Mrs. Mierkowicz used the spreadsheet below to record her students' scores on three math quizzes. The mean score for each student appears in Column F.

a. Which cell contains Vanessa's score on Quiz 3? D4

b. Using cell names, write a formula for calculating the value that should appear in cell F5.

$$(B5 + C5 + D5 + E5) \div 3$$

c. Calculate Shelly's mean score and record what should be entered into cell F5.

98

	A	B	C	D	E	F
1	Student	Quiz 1	Quiz 2	Quiz 3	Quiz 4	Mean
2	Roland	96	93	89	98	94
3	Peyton	78	61	82	73	74
4	Vanessa	84	53	82	77	74
5	Shelly	94	100	98	100	<u>98</u>

4. Use the nutritional information provided for two different kinds of canned peaches to compare the sugar and sodium content. Support your comparisons with unit rates.

Peaches in Syrup (4 oz.)	Peaches in Natural Juice (6oz)
Sugar: 21 grams $21 \div 4 = 5.25$	Sugar: 20 grams $20 \div 6 = 3.3\bar{3}$
Sodium: 5 grams $5 \div 4 = 1.25$	Sodium: 15 grams $15 \div 6 = 2.5$

a. Which serving of peaches has a higher concentration of sugar? Peaches in Syrup
Use unit rates to explain and justify your answer.

Peaches in Syrup have 5.25 grams of sugar per ounce, while Peaches in Natural Juice have 3.33 grams of sugar per ounce.

b. Which serving of peaches has a higher concentration of sodium? Peaches in Natural Juice
Use unit rates to explain and justify your answer.

Peaches in Natural Juice have 2.5 grams of sodium per ounce, while Peaches in Syrup have 1.25 grams of sodium per ounce.

5. You have at most \$12.00 to spend on lunch. You want to get a sandwich and a few side dishes. The sandwich is \$6.00. Each side dish is \$1.75.

a. Define a variable and write an inequality to represent the situation.

Define a variable: Let s stand for the number of side dishes.

Inequality: $6.00 + (1.75 * s) \leq 12.00$

b. Explain how you can use the inequality to find the maximum number of side dishes you can buy.

Substitute the different values for s and find the one that makes the value of the expression closest to but not more than \$12.00.

6.
 a. Complete the "What's My Rule?" table.
 b. Describe the rule in words.

Divide the number of
 Teaspoons of Baking Soda
 by 3 to get the Table-
 spoons.

- c. Write an equation for the rule.

$$y \div 3 = x \text{ or } x \times 3 = y$$

- d. Write the numbers in the table as ordered pairs.

(0,0), (1,3), (2,6), (3,9),
 (4,12), (6,18)

- e. Plot the ordered pairs on the
 grid and connect your points.

- f. Use your rule to find the number of teaspoons
 of baking soda for 25 tablespoons.

$$y \div 3 = 25 \quad y = 75 \text{ or } 25 \times 3 = 75$$

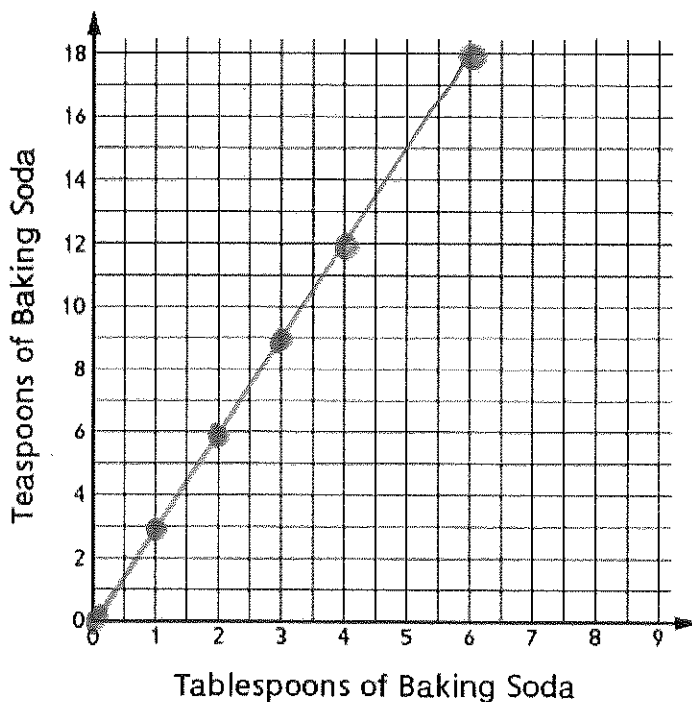
- g. Describe any patterns that you see in your
 graph.

The points are all on
 a line. The values for
 y increase by the
 same amount as the
 graph rises.

x	y
Number of Tablespoons of Baking Soda (x)	Number of Teaspoons of Baking Soda (y)
0	0
1	3
2	6
3	9
4	12
6	18

25

75



7.

a. Write an equation that you could use to find the distance (y) that a train travels in x hours.

$y = 40 * x$

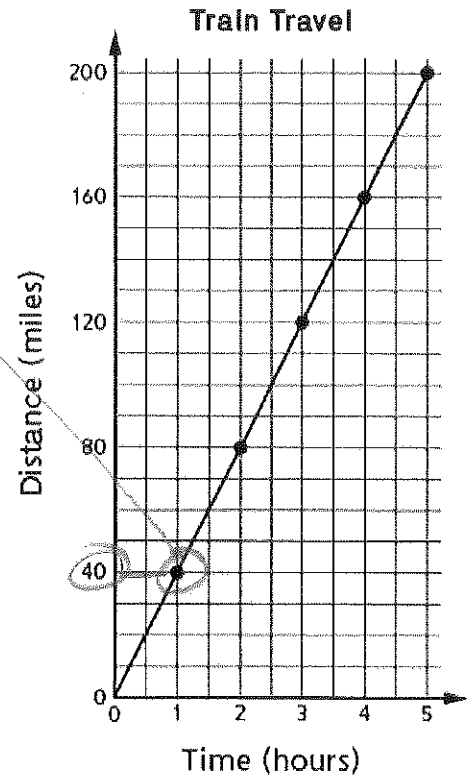
b. Use the graph or the equation to calculate how far the train travels in $2\frac{1}{2}$ hours.

100 miles

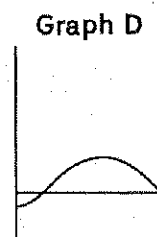
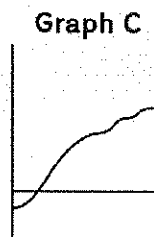
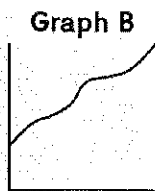
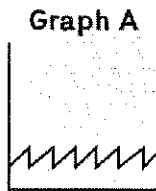
c. Explain how you found your answer to Part b.

I substituted $2\frac{1}{2}$ in for x in my equation.

I used the graph and found $2\frac{1}{2}$ on the x -coordinate, then watched the y -coordinate with it.



8. Each of the graphs represents one of the situations described below. Match each situation with its graph.



a. The length of a boy's hair during one year.

Graph A

b. The elevation of a hiking trail that starts below sea level and goes to the peak of a mountain.

Graph C

c. The height of a whale that jumps out of water.

Graph D

d. An athlete's heart rate from the beginning of a workout.

Graph B