

Unit 4 Math Test Review

Name: _____ #: _____

Parent Signature (test alert): _____

Test is on: _____

1. Write an algebraic expression to represent each situation or phrase.

a. Jeff is 4 years younger than Greg.

If Jeff is y years old, how old is Greg? _____

b. Boxes of markers cost \$9 each.

How much do b boxes cost? _____

c. 7 more than c _____

d. increase the product of 8 and x by 12 _____

e. one-half as much as 2 less than m _____

2. Look for a pattern in each set of equations. Describe the pattern in words.
Use a variable and write an equation that represents the pattern.

a. $9 + 9 = 2 * 9$

$$\frac{4}{5} + \frac{4}{5} = 2 * \frac{4}{5}$$

$$0.33 + 0.33 = 2 * 0.33$$

Description: _____

Equation that generalizes the pattern: _____

b. $26 * 18 + 26 * 103 = 26 * (18 + 103)$

$$\frac{7}{8} * 18 + \frac{7}{8} * 103 = \frac{7}{8} * (18 + 103)$$

$$0.03 * 18 + 0.03 * 103 = 0.03 * (18 + 103)$$

Description: _____

Equation that generalizes the pattern: _____

3. Mrs. Mierkowicz displayed the expression $32 * 6 + 2 * 9$ for the class and calculated that it was 1,746. The answer she displayed was not correct.

a. Show the steps that you would use to find the correct answer. Identify your answer.

b. Rewrite the expression using parentheses to show how you could evaluate the expression to get Mrs. Mierkowicz's answer.

4. a. Circle any equations or inequalities that have only one solution.

b. Underline any equations or inequalities that have no solutions.

Note: The variable v cannot be equal to 0 in any of the equations below.

① $v * 3 = v \div 3$

② $|v| > 0$

③ $v \div 3 = v * \frac{1}{3}$

④ $v + 22 = 76$

⑤ $v + 271 = 271 + v$

⑥ $v * 2 = 24$

5. Describe the solution set in words. Then graph it.

Describe a. in words: _____

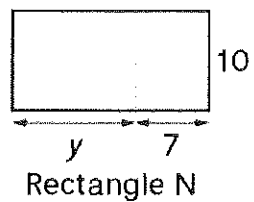
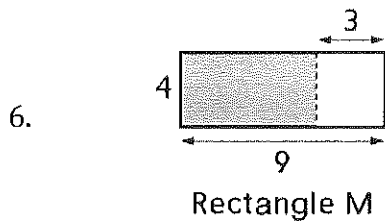
a. $m > 13$



Describe b. in words: _____

b. $n < 6$





a. Write one expression that represents the area of the shaded part of Rectangle M. Use the Distributive Property to write a second expression representing the same area.

Expression: _____

Other expression with Distributive Property: _____

b. Write one expression that represents the area of Rectangle N. Use the Distributive Property to write a second expression representing the same area.

Expression: _____

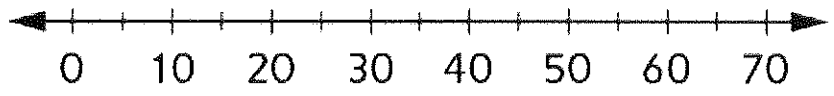
Other expression with Distributive Property: _____

7. Temperatures inside a refrigerator should be a minimum of 35 degrees Fahrenheit. The maximum temperature should be 40 degrees Fahrenheit.

Define a variable: _____

Represent the statement with variables: _____

Graph the solution set that makes both inequalities true.



Describe how your graph represents the situation.

8. Show how to use the Distributive Property to simplify and solve the problems.

a. $44 * 102$ _____

b. $97 * 35$ _____

c. $64 - 16$ _____

9. Tell whether each statement is true or false.

a. $|-54| < -54$ ___ _____

b. $|-14| > 1$ ___ _____

c. $|-47| < 48$ ___ _____

d. $|-8| < -1$ ___ _____

10. Badwater Basin in Death Valley, California is 282 feet below sea level.

a. Write an expression to represent Badwater Basin's location.

b. Write an expression to represent how far Badwater Basin is from sea level.

c. Explain why you wrote different expressions for Problems a and b.

11. For the Chapter 4 test, the mean absolute deviation for Mrs. Erby's class was 9.50.

For Mrs. Schwartzenberger's class, it was 4.75.

What does this tell you about the test scores in the two classes?

Unit 4 Math Test Review

Name: Key #:

Parent Signature (test alert): _____

Test is on: _____

1. Write an algebraic expression to represent each situation or phrase.

- a. Jeff is 4 years younger than Greg.
If Jeff is y years old, how old is Greg? $y - 4$
- b. Boxes of markers cost \$9 each.
How much do b boxes cost? $9 \cdot b$
- c. 7 more than c $c + 7$
- d. increase the product of 8 and x by 12 $8x + 12$
- e. one-half as much as 2 less than m $\frac{1}{2}(m - 2)$

2. Look for a pattern in each set of equations. Describe the pattern in words.
Use a variable and write an equation that represents the pattern.

- a. $9 + 9 = 2 * 9$
 $\frac{4}{5} + \frac{4}{5} = 2 * \frac{4}{5}$
 $0.33 + 0.33 = 2 * 0.33$

Description: Adding a number to itself equals 2 times
or double that number.

Equation that generalizes the pattern: $x + x = 2x$

- b. $26 * 18 + 26 * 103 = 26 * (18 + 103)$
 $\frac{7}{8} * 18 + \frac{7}{8} * 103 = \frac{7}{8} * (18 + 103)$
 $0.03 * 18 + 0.03 * 103 = 0.03 * (18 + 103)$

Description: Finding the sum of two products that have a
common factor is equal to adding the two uncommon
factors and multiplying the sum

Equation that generalizes the pattern: by the common factor.

$a \cdot x + a \cdot y = a(x + y)$
OR $x \cdot 18 + x \cdot 103 = x(18 + 103)$

3. Mrs. Mierkowicz displayed the expression $32 * 6 + 2 * 9$ for the class and calculated that it was ~~517~~. The answer she displayed was not correct.

a. Show the steps that you would use to find the correct answer. Identify your answer.

~~Step 1 = $32 * 6 = 192$~~ ① $32 * 6 = 192$
~~Step 2 = $1 * 9 = 9$~~ ② $2 * 9 = 18$
~~Step 3 = $192 + 9 = 201$~~ ③ $192 + 18 = 210$
 $(32 * 6 + 2) * 9 = 1,746$

b. Rewrite the expression using parentheses to show how you could evaluate the expression to get Mrs. Mierkowicz's answer.

$$(32 * 6) + (1 * 9)$$

4.

① $v * 3 = v \div 3$

② $|v| > 0$

③ $v \div 3 = v * \frac{1}{3}$

④ $v + 22 = 76$

⑤ $v + 271 = 271 + v$

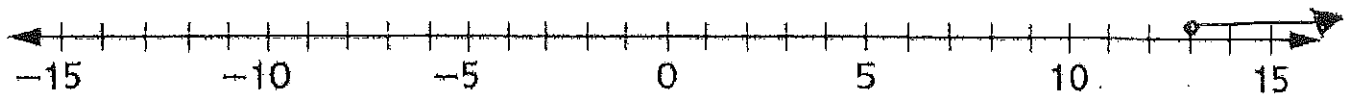
⑥ $v * 2 = 24$

a. Circle any equations or inequalities that have only one solution.

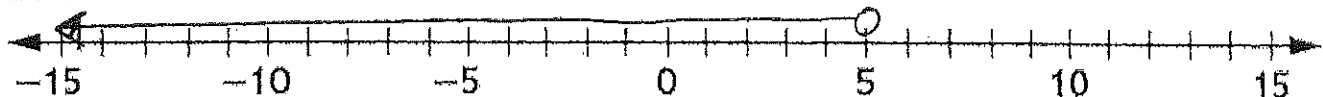
b. Underline any equations or inequalities that have no solutions.

5. Describe the solution set in words. Then graph it.

a. $m \geq 13$

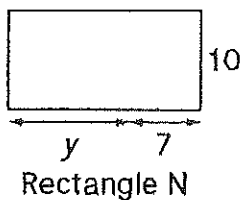
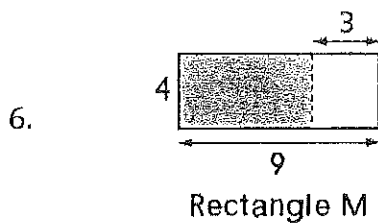


b. $n < 5$



Describe a. in words: All numbers greater than or equal to 13.

Describe b. in words: All numbers less than 5.



a. Write one expression that represents the area of the shaded part of Rectangle M. Use the Distributive Property to write a second expression representing the same area.

$$\underline{4(9-3)}$$

$$\underline{(4 \cdot 9) - (4 \cdot 3)}$$

b. Write one expression that represents the area of Rectangle N. Use the Distributive Property to write a second expression representing the same area.

$$\underline{10(y+7)}$$

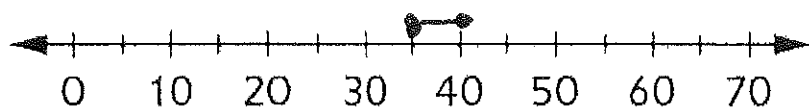
$$\underline{10y + (10 \cdot 7)}$$

7. Temperatures inside a refrigerator should be a minimum of 35 degrees Fahrenheit. The maximum temperature should be 40 degrees Fahrenheit.

Define a variable: $t = \text{temp. in } ^\circ\text{F}$

Represent the statement with variables: $35 \leq t \leq 40$

Graph the solution set that makes both inequalities true.



Describe how your graph represents the situation.

The line segment has closed circles because the temperature can be between 35 and 40, including 35 and 40 degrees Fahrenheit.

8. Show how to use the Distributive Property to simplify and solve the problems.

a. $44 \cdot 102$ $\underline{44(100+2) = 44 \cdot 100 + 44 \cdot 2 = 4400 + 88 = 4488}$

b. $97 \cdot 35$ $\underline{35(100-3) = 35 \cdot 100 - 35 \cdot 3 = 3500 - 105 = 3395}$

c. $64 - 16$ $\underline{16(4-1) = 16 \cdot 3 = 48}$
 OR $\underline{8(8-2) = 8 \cdot 6 = 48}$

9. Tell whether each statement is true or false.

a. $|-54| < -54$ _ false

b. $|-14| > 1$ _ true

c. $|-47| < 48$ _ true

d. $|-8| < -1$ _ false

10. Badwater Basin in Death Valley, California is 282 feet below sea level.

a. Write an expression to represent Badwater Basin's location.

-282

b. Write an expression to represent how far Badwater Basin is from sea level.

$|-282|$

c. Explain why you wrote different expressions for Problems a and b.

The basin is located below sea level so it is a negative number. How far it is from sea level is a distance. Distance is always positive, so the distance from the surface would be its absolute value.

11. For the Chapter 4 test, the mean absolute deviation for Mrs. Erby's class was 9.50.

For Mrs. Schwartzenberger's class, it was 4.75.

What does this tell you about the test scores in the two classes?

The test scores in Mrs. S's class were closer together or more bunched than the scores in Mrs. Erby's class. Mrs. Erby may have had some very high or very low scores which would increase the mean absolute deviation.