Name_____

Block_____        Date_____

Students should study their notes from this chapter. Then they should try the practice test questions given below. Study Guide problems are due the day of the test.  Answers and work should be correct.  Key will be provided on my website.

<u>Students should be able to do the following</u>:

1) Evaluate algebraic expressions for any given rational number (see examples p. 350)

<u>Evaluate</u> $4a - 2b^2$  if $a = \frac{3}{4}$  and $b = -3$

2) Identify & use the vocabulary: coefficient, constant, term, like terms    (see example p.388)

<u>Circle the examples of like terms</u>:

x and 8x        $9y$ and $2y^2$

3 and 3x        7x and 6y

8 and -1        5ab and -3ab

<u>True or False</u> ?  For the algebraic expression  $7x - 2 + 5y - 6x$

____7 is a coefficient

____5 is a constant

____-2 is a constant

____ 5 is a coefficient

____There are three terms

<u>Write an algebraic expression</u> with the following characteristics:

three terms

two like terms

a constant of 5

a coefficient of -3

3) Write and interpret algebraic expressions from words and from situations
(see examples p.351-352,378,390, 398, 406)

Write algebraic expressions for the following:

_____three less than a number "n"

_____twice a number

_____the total cost of renting bowling shoes for $3 and playing "g" games for $4 per game

_____ the sale price of a pair of jeans that is marked 25% off a regular price of "j" dollars

Write a simplified algebraic expression for the perimeter of a rectangle whose length is $(2x + 3)$ and width is $(x + 2)$

Aaron is $(5x + 2)$ inches tall and Ben is $(8x - 3)$ inches tall. Write a simplified algebraic expression for how much taller Ben is than Aaron.

4) Find the next numbers in an arithmetic sequence and write an algebraic expression for the nth term.
(see examples p. 358-359)

Find the next three numbers in the sequence   4,8,12,16,____,____,____

Find the value of the nth term of this sequence:
2,4,6,8,10,...

5) Use the distributive property and the principle of adding/subtracting like terms to simplify algebraic expressions. (See examples p.376-377, 389, 396-397, 404-405)

<u>Simplify</u>

| 7x + x | (6x + 2) + 2(4x + 1) | 6x – y + 9 – 8x – 2y |
|---|---|---|
| 3(2x + 4) | 4 – (3x – 2) + 8x | –8(x + 2) – 4(5x – 3) |

6) Use the distributive property to do mental math (see example p. 378)

| 7(8.99) | 4(36) | $2(4\frac{1}{2})$ |
|---|---|---|
|  |  |  |

7)  Identify and use commutative, associative, identity of addition, identity of multiplication, zero property of multiplication and distributive properties. (See examples p. 368-370, 376)

Identify the property that was used:

_____ $5(9) + 2(9) = (5 + 2)(9)$

_____ $9(8) = 8(9)$

_____ $x (0) = 0$

_____ $1(6x + 3) = 6x + 3$

_____ $2 + (3 + 10) = (2 + 3) + 10$

8) Find the GCF and factor linear expressions. (See p.416-417)

Factor completely if possible: _____ $16x + 8x^2$

_____ $15x + 3$

_____ $4x + 7y$

9)  Recognize equivalent expressions:

Circle the equivalent expressions:

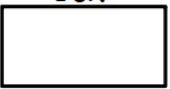$7x - 1 = 1 - 7x$       $-1x = -x$       $8 + (4 + 3) = 8(4) + 8(3)$

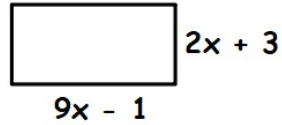$9x + -2 = 9x - 2$     $-4 - y = -1(y - 4)$     $-5x + 3 = 3 - 5x$

$2(4x + 8) = 8(x +2)$

## More Practice (Mixed Concepts)

| | | | |
|---|---|---|---|
| 10) Find the GCF of $12a^2$ and $9a$ | 11) Name the coefficient(s) in this algebraic expression:<br><br>$8x - y + 3$ | 12) Which of these are like terms?<br><br>a and 7      $8n$ and $2n^2$<br><br>-10 and 3     -x and 4x<br><br>2ab and 3a    4y and 10y | 13) Completely factor this expression:<br><br>$24ab + 18a$<br><br>$6a(4b + 3)$ |
| 14) Simplify:   $7x + x + 2x$ | 15) Completely factor:<br><br>$15x + 5x$ | 16) Use the distributive property to evaluate this expression:   $-6(5 + -9)$ | 17) Simplify:<br>$(x + 3) -2(x - 5)$ |
| 18) In the sequence<br>0.3, 0.6, 0.9<br><br>A) Find the next two terms<br><br><br>B) Write an algebraic expression for the n-th term | 19) Find the <u>perimeter</u> of this rectangle:<br><br>10x<br>                 2x | 20) Which of the following meet all of these conditions?<br>I have 3 terms.<br>I have a coefficient of -7<br>I have a constant of 2<br>Two of my terms are "like terms" | A)   $2a - 7a + 5a$<br><br>B)   $2 - 7x + 3 + 7x$<br><br>C)   $-7 + 2a + 10$<br><br>D)   $7x + 2$<br><br>E)   $12x - 7x + 2$ |

## More Practice (Mixed Concepts)

| | | |
|---|---|---|
| **21)** Show how to find the perimeter of this rectangle. Give final answer in simplified form. $2x + 3$  $9x - 1$ | **22)** Simplify: $-7x - y + 6 + x - 8y - 2$ | **23)** Simplify: $-9(x + 4) - 5(x - 3)$ |
| **24)** Show how to use the distributive property to do mental math to figure out the value of   $4(2.08)$ | **25)** Show how to use the distributive property to do mental math to figure out the value of   $8(26)$ | **26)** Simplify: $3(-6x + 1) - 5(-9x - 2)$ |