

## Chapter 3 Practice Test

### Section 1: Evaluating Algebraic Expressions

1) Evaluate the following expression if  $x=5$  and  $y=4$ :

$$3x - 2y + y^2$$

23  $3(5) - 2(4) + (4)^2$   
 $15 - 8 + 16$   
 $7 + 16 = \boxed{23}$

2) Evaluate the following expression if  $a=-3$ ,  $b=9$ , and  $c=15$ :

$$\frac{(b+c)-a}{c-4a}$$

1  $\frac{(9+15)-(-3)}{15-4(-3)} = \frac{24-(-3)}{15-(-12)} = \frac{24+3}{15+12} = \frac{27}{27} = \boxed{1}$

3) Evaluate the following expression if  $p=6$  and  $q=-3$ :

$$p^2 + 20q - 13$$

-37  $(6)^2 + 20(-3) - 13$   
 $36 + (-60) - 13$   
 $-24 - 13 = \boxed{-37}$

### Section 2: Simplifying Expressions

Simplify each of the following expressions:

4)  $7f + 9f - 8$   
 $16f - 8$

5)  $-8 - 7f - 2 + f$   
 $-6f - 10$

6)  $16n + (-4) - 16n + 42 - 3$   
 $-4 + 42 - 3$   
 $38 - 3 = \boxed{35}$

### Section 3: Distributive Property

Simplify each of the following expressions using the Distributive Property:

7)  $9(-x+11)$   
 $-9x + 99$

8)  $-3(-5y-2x)$   
 $15y + 6x$

9)  $\frac{2}{3}(10x+18)$   
 $\frac{20}{3}x + 12$

### Section 4: Factoring

Factor each of the following expressions completely:

10)  $33g + 44$   
 $11(3g+4)$

11)  $-15abc + 35ac$   
 $5ac(-3b+7)$

12)  $14w - wy + 21wx$   
 $w(14 - y + 21x)$

## Section 5: Adding and Subtracting Linear Expressions

Simplify the following expressions:

$$13) \quad 5(2x-3) + 4(-3x+5)$$
$$10x - 15 - 12x + 20$$

$$\boxed{-2x + 5}$$

$$14) \quad (x-11) - (6x-2)$$
$$x - 11 - 6x + 2$$

$$\boxed{-5x - 9}$$

$$15) \quad \frac{3}{4}(20x+12) - 2(x-5)$$
$$15x + 9 - 2x + 10$$

$$\boxed{13x + 19}$$

## Section 6: Combining Concepts

16) Simplify the following expression:

$$4(-5x+25) - 6x - 9$$
$$-20x + 100 - 6x - 9 = \boxed{-26x + 91}$$

17) Simplify the following expression and then evaluate the expression given that  $x = -4$ :

$$2(x-1) + 5x - x + 7 + 3x$$
$$\underline{2x - 2} + \underline{5x - x} + \underline{7 + 3x}$$

$$9x + 5$$

Then plug in for  $x$

$$9(-4) + 5$$

$$-36 + 5 = \boxed{-31}$$

\*If you finish this paper during class, come and check your answers with the teacher. Answers will also be posted to Miss Pyper's website. PLEASE check your answers so you know that you are doing the questions correctly. You CAN fix questions if you get them wrong.