Name:_____**Date:**_____**Per:**_____

Chapters 1 and 2 Assessment
Study Guide

1.2: Simplify using the order of operations

Ex: $8 + 10 \div 5 - 3$

$8 + 2 - 3$
$10 - 3$
7

Ex: $5^2 - 8 \cdot 2$

$25 - 16$
9

Ex: $\frac{16 \cdot 3 - 4}{16 - 3 \cdot 4}$

$\frac{48-4}{16-12}$
$\frac{44}{4}$

11

Ex: $25 - (2 + 2) \cdot 3$

$25 - (4) \cdot 3$

$25 - 12$

13

1.3-1.4 Translate the verbal phrase into an algebraic expression, equation, or inequality

Ex: The product of 11 and the sum of 7 and a number x is at least 12.

$11(7 + x) \geq 12$ *Don't forget to use parenthesis around the sum since it is the second key Word and at least means….12 or more.

Ex: The quotient of a number b and 15 is no more than 40.

$\frac{b}{15} \leq 40$

Ex: The number of days in w weeks.

$7w$ Imagine you had 3 weeks…that would be 21 days….

1.3: Find the unit rate

Ex: \$75 for 5 video games

\$15/game

Ex: 32 pencils in 8 boxes

4 pencils/box

Ex: Your monthly cell phone bill is $35, which includes the first 450 minutes. You must pay a fee for each minute you go over. Last month you paid $8.80 for using 40 extra minutes.

a) Find the cost per minute for each extra minute.

$$\frac{\$8.80}{40\ extra\ minutes} = \$0.22/min$$

b) Write an expression to represent your total cost for any number of *extra* minutes.

$35 + 0.22x$ x = number of extra minutes
*Don't forget to add 35 to find TOTAL cost!

c) Find the total cost if you used 35 extra minutes.

$35 + 0.22(35)$
$35 + 7.7$
$42.70

1.4 Is a given number a solution or not

Check whether the given number is a solution to the equation or inequality. Show your work.

Ex: $6x + 7 = 25;\ x = 3$

$6(3) + 7 = 25$
$18 + 7 = 25$
$25 = 25$
Yes

Ex: $\frac{m}{3} + 30 < 33\ ;\ m = 9$

$\frac{9}{3} + 30 < 33$
$3 + 30 < 33$
$33 < 33$
No

Ex: $6a + 9 \geq 21;\ a = 2$

$6(2) + 9 \geq 21$
$12 + 9 \geq 21$
$21 \geq 21$
Yes

2.5: Apply the Distributive Property

- **Be able to use the distributive property and identify and combine like terms**

Ex: $(p-3)(-8)$

$-8p + 24$

Ex: $3(m+5)-10$

$3m + 15 - 10$
$3m + 5$

***Don't forget to rewrite subtracting as adding a negative to help with signs!!**

Ex: $6r + 2(r + 4)$

$6r + 2r + 8$
$8r + 8$

Ex: $4 - 2(x - 3) - 3x$

$4 - 2x + 6 - 3x$
$10 - 5x$

(ACC Only) You are saving to buy a new iPhone. Two of your neighbors have jobs that you can do for them. One neighbor will pay you $7 an hour to walk her two dogs and another neighbor will pay you $10 an hour to babysit. Your parents will only let you work 10 hours per week.

a) Use the information to write a simplified expression to represent the total amount of money you can make if you spend w hours walking dogs and the remaining hours babysitting.

$7w + 10(10 - w)$
$7w + 100 - 10w$
$-3w + 100$

b) Find the total amount of money you will make if you spend 7 hours a week walking dogs and the remaining hours babysitting.

$-3(7) + 100$
$-21 + 100$
79

- **Be able to simplify division problems using the distributive property**

Ex: $\frac{6x-14}{2}$

$3x - 7$

Ex: $\frac{9z-6}{-3}$

$-3z + 2$

Ex: $\frac{-24a-10}{-8}$

$3a + \frac{5}{4}$

***Don't forget to rewrite subtraction as adding a negative and leave answers as fractions when necessary.**

2.7: Find Square Roots and Compare Real Numbers

Ex: $x^2 = 49$

$x = \pm 7$

Ex: $\pm\sqrt{100}$

± 10

Ex: $-\sqrt{3600}$

-60

Ex: Estimate $\sqrt{101}$ between 2 integers

Between 10 and 11

Ex: Estimate $-\sqrt{72}$ between 2 integers

Between -9 and -8

Evaluate each expression:

Ex: $2\sqrt{x} - 4$ when $x = 25$

$2\sqrt{25} - 4$
$2 \cdot 5 - 4$
$10 - 4$
6

Ex: $\sqrt{x+1} - 5$ when $x = 15$

$\sqrt{15+1} - 5$
$\sqrt{16} - 5$
$4 - 5$
-1