END GAME GOAL SETTING

Houston County School System Mathematics

Student Name:		Teacher Name:
Grade:AC6	Unit #: 4	Unit Title: One-Step Equations and Inequalities
Approximate Start Date of Unit:		Approximate End Date (and Test Date) of Unit:

(Initial in Box and & Date in the Space Provided When YOU CAN ☺) ☐	I can recognize solving an equation as a process of answering, "Which values from a specified set, if any, make the equation or inequality true?". I can use the solution to an equation to prove that the answer is correct. I can use substitution to determine whether a given number in a specified set makes an equation true.

EXAMPLES:

1. Each of the following numbers, if substituted for the variable, makes one of the equations below into a true number sentence.

Match the number to that equation: 3, 6, 15, 16, 44.

a. $n + 26 = 32$

n=6

b. $n - 12 = 32$

n=44

c. $17n = 51$

n=3

d. $4^2 = n$

n=16

e. $\frac{n}{3} = 5$

n=15

2. Look at the equation.

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

Part A

Does $x = 4$ make the equation true? Show your work or explain your answer.

No,

8 + 3(4-4) ≠ 4 + 8

8 + 3(0) ≠ 12

8+ 0 ≠ 12

8 ≠ 12

Part B

Does $x = 6$ make the equation true? Show your work or explain your answer.

yes, 8 + 3(6-4) = 6 +8

8 + 3(2) = 6 + 8

8 + 6 = 6 + 8

14 14

	3. An equation states that 50 is equal to the variable *y* with a coefficient of 10. Which value for *y* from the set {5,50,500} makes the equation true? **5** **Work!** **10y=50** **10(5)=50**

Student Notes/Comments/Questions:

(Initial in Box and & Date in the Space Provided When YOU CAN ☺) ☐	I can use inverse operations to solve one step variable equations.

EXAMPLES:

4. Find the solution to each equation. $7f = 49$ **f =7** $1 = \frac{r}{12}$ **r=12** $1.5 = d + 0.8$ **d= 0.7**	5. Match the equation with the correct solution on the right. $r + 10 = 22$ $r = 10$ $r - 15 = 5$ $r = 20$ $r - 18 = 14$ $r = 12$ $r + 5 = 15$ $r = 32$ **r + 10 =22 ; r=12** **r -15=5; r=20** **r-18=14; r= 32** **r + 5 =15; r = 10**
6. Find the solution to the equation using the method of your choice. Check your answer. $m + 108 = 243$ **m = 135**	7. Identify the mistake in the problem below. Then, correct the mistake. $q + 18 = 22$ $q + 18 - 18 = 22 + 18$ $q = 40$ **Mistake, it should be 22 - 18.** **q = 4**

8. Write a multiplication equation that has a solution of 8. Solve the equation to prove that your solution is correct.

3x = 24

Solve It.

3x = 24

÷3 | ÷ 3

X = 8

9. Identify the mistake in the problem below. Then, correct the mistake.

p-21=34

p-21-21=34-21

p=13

Mistake, 21 should be added to both sides.

p-21+21= 34 +21

p = 55

10. Examine the tape diagram below and write an equation it represents. Then, calculate the solution to the equation using the method of your choice.

70						
q	*q*	*q*	*q*	*q*	*q*	*q*

7q = 70

7q ÷7= 70 ÷ 7

q = 10

11. When solving equations algebraically, Meghan and Meredith each got a different solution. Who is correct? Why did the other person not get the correct answer?

Meghan	Meredith
$\frac{y}{2} = 4$	$\frac{y}{2} = 4$
$\frac{y}{2} \cdot 2 = 4 \cdot 2$	$\frac{y}{2} \div 2 = 4 \div 2$
$y = 8$	$y = 2$

Meghan is correct. Meredith should have multiplied by 2.

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(Initial in Box and & Date in the Space Provided When YOU CAN ☺) ☐	I can solve and write equations for real-world mathematical problems containing one unknown.

EXAMPLES: Write and solve an equation for each situation.

12. Marlo had \$35 but then spent $\$m$. Now Mario has \$15. How much did Mario spend? **20**

m + 15 = 35

m + 15 -15 = 35 -15

m = 20

13. Justin can type w words per minute. Melvin can type 4 times as many words as Justin. Melvin types 60 words per minute. How many words can Justin type per minute? **15 per minute**

Justin = w

Melvin = 4w

4w = 60

4w ÷ 4 = 60÷4

W= 15

14. Candice bought 4 notebooks that each cost the same amount. She paid with a \$20 bill and received \$10.32 in change. Write an equation that can be used to find x , the cost of each notebook.

\$2.42

Cost of notebook

\$20 - \$10.32 = \$9.68

4n= \$9.68

4n ÷ 4 = \$9.68 ÷ 4

n = \$2.42

15. Michael feeds his dog two times each day. In the morning, he feeds his dog one and a half times as many cups as he feeds his dog in the evening. In one week, he feeds his dog a total of 35 cups. Write an equation that can be used to find x , the number of cups he feeds his dog each evening.

2 Cups in the evening

Using the equation

1 ½ c + c = 35

2.5 c = 35

C = 14

Seven days in week

2 cups per day in the evening.

16. Jessica bought an 8-pound ham to serve at a party. She plans to serve each adult $\frac{2}{5}$ pound.

Write an equation to represent the number of adult servings, x , Jessica can get from the 8-pound ham. Use your equation to determine the number of adult servings in an 8-pound ham. Show your work.

17. Nolan recorded the number of hours, n, he spent reading over the summer for a library reading program.

Taylor read for twice as many hours as Nolan. If Taylor read for 54 hours, write an equation that can be used to find the number of hours Nolan read. Solve the equation to determine the number of hours Nolan read.

$\frac{2}{5}x = 8$

$(\frac{5}{2})\frac{2}{5}x = 8(\frac{5}{2})$

$X = \frac{40}{2} = 20$

20 servings

$\frac{n}{2} = 54$

$(2)\frac{n}{2} = 54(2)$

n = 26

26 Hours

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(Initial in Box and & Date in the Space Provided When YOU CAN ☺) ☐	I can recognize solving an equation as a process of answering, "Which values from a specified set, if any, make the equation or inequality true?". I can use the solution to an inequaltity to prove that the answer is correct. I can use substitution to determine whether a given number in a specified set makes an inequality true.

1. EXAMPLES: Which of the following number(s), if any, make the inequality true: $\{0, 3, 5, 8, 10, 14\}$?

   a. $m + 4 < 12$

   { 0,3,5 }

   b. $f - 4 > 2$

   { 8,10,14 }

   c. $\frac{1}{2}h \geq 8$

   None

2. Choose the number(s), if any, that make the inequality true from the following set of numbers: $\{0, 3, 4, 5, 9, 13, 18, 24\}$.

   a. $h - 8 < 5$ **0,3,4,5,9**

   b. $4g \geq 36$ **9,13,18,24**

   c. $\frac{1}{4}y > 7$ **none**

   d. $m - 3 \leq 10$ **0,3,4,5,9,13**

Student Notes/Comments/Questions:

(Initial in Box and & Date in the Space Provided When YOU CAN ☺) ☐	I can solve and write inequalities for real-world mathematical problems containing one unknown an graph on a number line.

EXAMPLES:

3.

	Statement	Inequality	Graph
a.	Caleb has at least \$5.	$c \geq 5$	
b.	Tarek has more than \$5.	$t > 5$	
c.	Vanessa has at most \$5.	$v \leq 5$	
d.	Li Chen has less than \$5.	$L < 5$	

Write an inequality to represent each situation. Then, graph the solution.

4. Blayton is at most 2 meters above sea level.

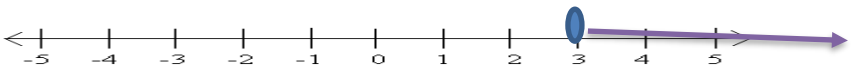
$b \leq 2$, where b is Blayton's position in relationship to sea level in meters.

5. Edith must read for a minimum of 20 minutes.

$E \geq 20$, where E is the number of minutes Edith reads.

6. Travis milks his cows each morning. He has never gotten fewer than 3 gallons of milk.

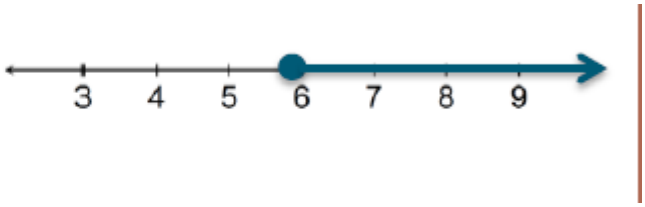
X ≥ 3



7. Kasey has been mowing lawns to save up money for a concert. He earns $15 per hour and needs at least $90 to go to the concert. How many hours should he mow?

$$15x \geq 90$$
$$\frac{15x}{15} \geq \frac{90}{15}$$
$$x \geq 6$$

*Kasey will need to mow for **6** or more hours.*



8. Ranger saves $70 each week. He needs to save at least $2,800 to go on a trip to Europe. How many weeks will he need to save?

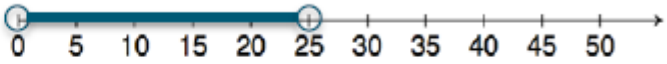
$$70x \geq 2{,}800$$
$$\frac{70x}{70} \geq \frac{2{,}800}{70}$$
$$x \geq 40$$

*Ranger needs to save for at least **40** weeks.*

9. Clara has less than $75. She wants to buy 3 pairs of shoes. What price shoes can Clara afford if all the shoes are the same price?

$$3x < 75$$
$$\frac{3x}{3} < \frac{75}{3}$$
$$x < 25$$

*Clara can afford shoes that are greater than **$0** and less than **$25**.*



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