

**2.0H Equations & Inequalities Review** Name: \_\_\_\_\_ Per: \_\_\_\_\_

SHOW YOUR WORK IN PENCIL ONLY. NO WORK, NO CREDIT.

Solve each of the following equations for the given variable. **CHECK your answer.**

1.  $12x + 4 = 15x - 20$

4.  $4z + 3(z + 1) = (3z - 5)$

7.  $3x^2 = 108$

2.  $7 - 4x = 8x + 13$

5.  $\frac{1}{3} = 3 - 2\left(1 + \frac{c}{3}\right)$

8.  $3x^3 = 192$

9.  $2x^3 = 32$

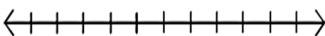
3.  $\frac{1}{3}\left(x + \frac{3}{2}\right) = \frac{1}{2}$


6.  $-\frac{2}{3}(a - 2) = \frac{5}{3}(a - 9)$


10.  $|5 + 2x| = 17$


11. If you multiply OR divide both sides of an inequality by a \_\_\_\_\_, you must \_\_\_\_\_ the inequality sign. Why?

**SOLVE and Graph each inequality.** Label the number line.

12.  $4(6n + 7) \geq 124$  

14.  $-2(a - 1) - 8 > a + 6$  

13.  $-138 > -6(6b - 7)$  

15.  $-3 - 6(4x + 6) \geq -111$  

Write an equation/inequality for the following story problem and solve.

16. Aimee wants to order some DVDs from Amazon. Each DVD costs \$8.49 and shipping for the entire order is \$5. She has only \$70 to spend.

a. Write an inequality to represent the situation: \_\_\_\_\_

b. How many DVD's can she order? \_\_\_\_\_

c. Graph 

17. Mickey and Minnie are eating candy. Mickey starts out eating  $\frac{1}{2}$  of a candy bar, and he then eats  $\frac{1}{8}$  of a candy bar every hour. Minnie starts out eating  $\frac{1}{4}$  of a candy bar, and she then eats  $\frac{1}{4}$  of a candy bar every hour. Write and solve an equation to find out how many hours it will take Mickey and Minnie to have eaten the same number of candy bars.