

Solving Equations and Inequalities

Date _____ Period _____

CLASS EXAMPLES: Solve each equation.

1) $-2 + 5m - m = -16 + m - 2 - 2$

2) $263 = -4r + 7(8r - 7)$

3) $6(8r - 2) - 6(6r - 2) = 12$

4) $18 - 3n = -3(n - 8)$

Solve each equation.

5) $4v + 2v = -2 + 1 + 4v - 3$

6) $-6(5n - 5) = 240$

7) $6(8 + 2r) = -r - 17$

8) $-7(-4 + 3b) = -8b - 37$

$$9) -1 = 8(2n + 5) - 2(8n - 5)$$

$$10) -(1 + 6x) = 5x - 4(8x - 5)$$

CLASS EXAMPLES: Solve each proportion.

$$11) \frac{6}{5} = \frac{3}{v}$$

$$12) \frac{x-5}{5} = \frac{x}{2}$$

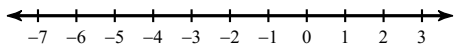
Solve each proportion.

$$13) \frac{x-7}{8} = \frac{7}{4}$$

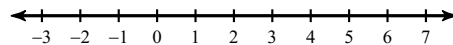
$$14) \frac{2}{4} = \frac{n+5}{n}$$

CLASS EXAMPLES: Solve each inequality and graph its solution.

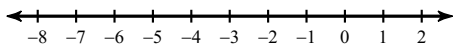
$$15) 7r + 4 + 4r > -7$$



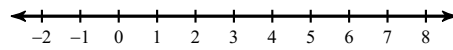
$$16) -51 < -3(1 + 4x)$$



$$17) -7 + 4n \leq 3(n - 3)$$

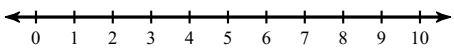


$$18) -24 + 3p \geq 3(p - 8)$$

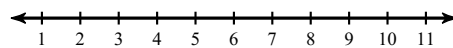


Solve each inequality and graph its solution.

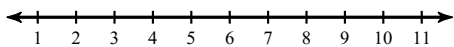
$$19) 4 < 6k - 6k$$



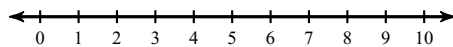
$$20) -n - 6n < -7n + 1$$



$$21) -6 - 6(x + 7) > -84$$



$$22) 31 + x \leq 4(x + 4)$$



Answers to Solving Equations and Inequalities

1) $\{-6\}$

3) $\{1\}$

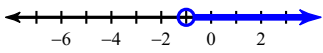
5) $\{-2\}$

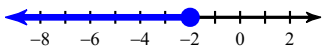
7) $\{-5\}$

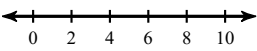
9) No solution.

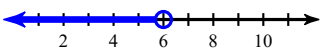
11) $\left\{\frac{5}{2}\right\}$

13) $\{21\}$

15) $r > -1$:  A number line with tick marks from -6 to 2. A blue circle is drawn at -1, and a blue arrow points to the right from this circle.

17) $n \leq -2$:  A number line with tick marks from -8 to 2. A blue circle is drawn at -2, and a blue arrow points to the left from this circle.

19) No solution. :  A number line with tick marks from 0 to 10. No solution is indicated on the number line.

21) $x < 6$:  A number line with tick marks from 2 to 10. A blue circle is drawn at 6, and a blue arrow points to the left from this circle.