# Warm-Up

## Simplify

a. $(-8y^2 + 3y - 7) + (5y^2 - 3) - (9y^2 - 8y)$

$-8y^2+3y-7+5y^2\cdot 3-9y^2+8y$

$-8y^2+5y^2-9y^2+3y+8y-7-3$

$-12y^2+11y-10$

b. $\dfrac{-2r(-4r + 10)}{4r}$

$\dfrac{8r^2}{4r} - \dfrac{20r}{4r}$

$2r-5$

Any Homework Questions???

$$\frac{x}{7} - 4 = 5$$

$$\frac{x}{7} - 4 + 4 = 5 + 4$$

$$(7)\frac{x}{7} = 9(7)$$

$$x = 63$$

$$3(5q-4) = 2(4q+6)$$

$$15q - 12 = 8q + 12$$

$$15q - 8q - 12 = 8q - 8q + 12$$

$$7q - 12 = 12$$

$$7q - 12 + 12 = 12 + 12$$

$$7q = 24$$

$$q = \frac{24}{7}$$

$$(4)\frac{3}{4}(5x-4) = \frac{1}{2}(4)(4x+3)$$ *

$$3(5x-4) = 2(4x+3)$$

$$15x - 12 = 8x + 6$$

$$15x - 8x - 12 = \boxed{8x - 8x} + 6$$

$$7x - 12 = 6$$

$$7x - 12 + 12 = 6 + 12$$

$$\frac{7x}{7} = \frac{18}{7} \quad x = \frac{18}{7} = 2\frac{4}{7}$$

A $29 + 13d$

B $85 + 6d$

$A = B$

$29 + 13d = 85 + 6d$

25. $3(p+5) + 4(p-2) = 4(p+6)$

$3p + 15 + 4p - 8 = 4p + 24$

$3p + 4p + 15 - 8 = 4p + 24$

$7p + 7 = 4p + 24$

$7p - 4p + 7 = 4p - 4p + 24$

$3p + 7 = +24$

$3p + 7 - 7 = +24 - 7$

$\frac{3p}{3} = \frac{17}{3}$

$p = 5\frac{2}{3}$

A B

28 + 0.38m = 22 + 0.46 m

(6) $\frac{1}{3}(5 - 3x) = \frac{5}{6}(x-2)$ (6)

$2(5-3x) = 5(x-2)$

$10-6x = 5x-10$

$10-6x-5x = 5x-5x-10$

$10-11x = -10$

$10-10-11x = -10-10$

$\frac{-11x}{-11} = \frac{-20}{-11}$ $x = \frac{20}{11} = 1\frac{9}{11}$

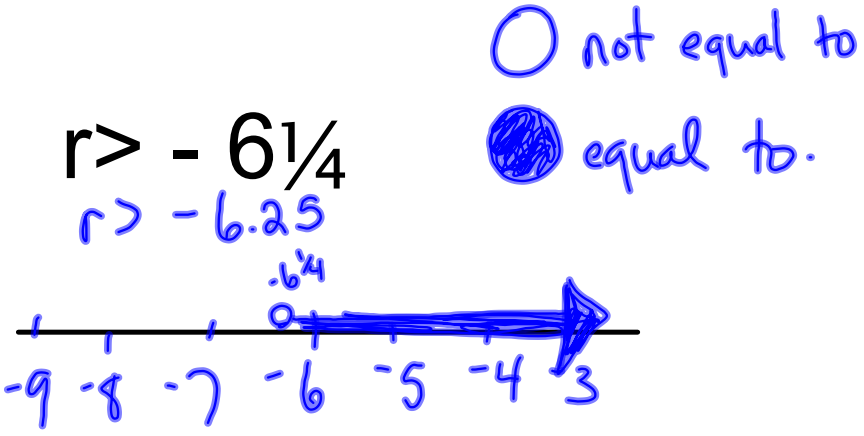
# Inequalities

Points to remember:

* Have a > or < sign
* ≤ less than or equal to
* When solving for the most part it is the same as solving equations EXCEPT when multiplying or dividing by a negative in the final step You MUST REVERSE YOUR SIGN!
* represent your answer on a number line

A. Draw a number line to show

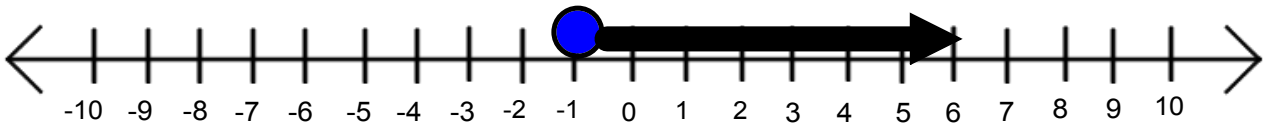
$r > -6\frac{1}{4}$




B. What are 4 possible solutions???

-6.1 -1, 8, 13, 2, 694

**Write an inequality to represent the number line below:**




$x \geq -1$

$90 + 5d < 100 + 4d$

A. Solve

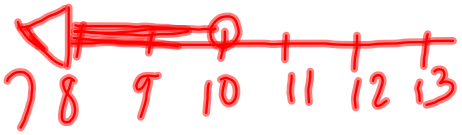
B. Graph

$90 + 5d - 4d < 100 + 4d - 4d$

$90 + d < 100$

$90 - 90 + d < 100 - 90$

$d < 10$



$3(4v + 6) - 2 \geq v - 17$

$12v + 18 - 2 \geq v - 17$

$12v + 16 \geq v - 17$

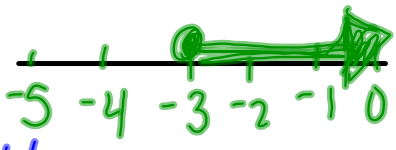
$12v - v + 16 \geq v - v - 17$

$11v + 16 \geq -17$

$11v + 16 - 16 \geq -17 - 16$

$\frac{11v}{11} \geq \frac{-33}{11}$

$v \geq -3$



**Multiply each side by 2**

$-4 < 2$

**Divide each side by 2**

$-4 < 2$

**Multiply each side by -2**

$-4 < 2$

$(-2) \quad (-2)$

$8 < -4$ ✗

$8 > -4$

**Divide each side by -2**

$-4 < 2$

$\frac{}{-2} \quad \frac{}{-2}$

$2 < -1$ ✗

$2 > -1$

Solve and Graph

$-6(2 + 6a) > 12 + 2a$

$-12 - 36a > 12 + 2a$

$-12 - 36a - 2a > 12 + 2a - 2a$

$-12 - 38a > 12$

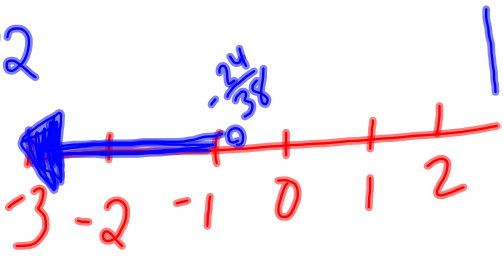
$-12 + 12 - 38a > 12 + 12$

$-38a > 24$

$\frac{-38a}{-38} > \frac{24}{-38}$

$a < -\frac{24}{38}$

$-\frac{24}{38} = -0.6$



$$\frac{3}{4}(5x-6) = \frac{1}{2}(4x+5)$$

# Solve and Graph

$2(x + 8) + 3(x - 4) \leq 4(x + 2)$

$2x + 16 + 3x - 12 \leq 4x + 8$

$2x + 3x + 16 - 12 \leq 4x + 8$

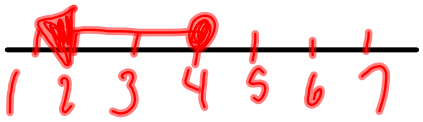
$5x + 4 \leq 4x + 8$

$5x - 4x + 4 \leq 4x - 4x + 8$

$x + 4 \leq 8$

$x + 4 - 4 \leq 8 - 4$

$x \leq 4$



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