

1-11-18

Aim: SWBAT translate and solve word problems.

HW: Review due Wednesday

Inequalities Quiz tomorrow

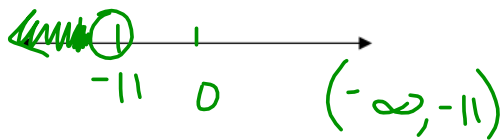
Do Now: Packet Page 13 # 2 - 3

Practice Problems. Solve and graph your solution on a number line.

Use interval notation to represent your solution.

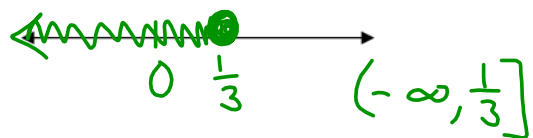
1) $9b - 3b + 34 < 2b - 10$

$$\begin{array}{r} 6b + 34 < 2b - 10 \\ -2b \quad -2b \\ \hline 4b + 34 < -10 \\ -34 \quad -34 \\ \hline 4b < -44 \\ \frac{4b}{4} < \frac{-44}{4} \\ b < -11 \end{array}$$



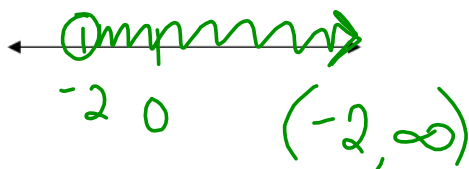
2) $10(1.2c + 1.2) \geq 10(5.2c - 0.4c)$

$$\begin{array}{r} 12c + 12 \geq 52c - 4c \\ 12c + 12 \geq 48c \\ -12c \quad -12c \\ \hline 12 \geq 36c \\ \frac{12}{36} \geq \frac{36c}{36} \\ \frac{1}{3} \geq c \end{array}$$



3) $\frac{10a}{-5} > \frac{-5(a+6)}{-5}$

$$\begin{array}{r} -2a < a + 6 \\ -a \quad -a \\ \hline -3a < 6 \\ \frac{-3a}{-3} < \frac{6}{-3} \\ a > -2 \end{array}$$

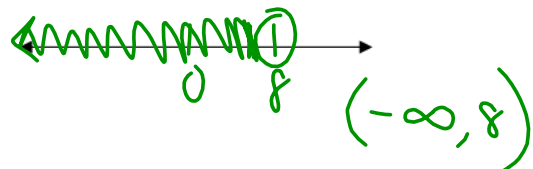


$10a > -5(a+6)$
 $10a > -5a - 30$
 $+5a \quad +5a$

OR $\frac{15a}{15} > \frac{-30}{15}$
 $a > -2$

4) $9(c-3) < 29 + 2c$

$$\begin{array}{r} 9c - 27 < 29 + 2c \\ -2c \quad -2c \\ \hline 7c - 27 < 29 \\ +27 \quad +27 \\ \hline 7c < 56 \\ \frac{7c}{7} < \frac{56}{7} \\ c < 8 \end{array}$$



Homework - Solving Multi-Step Inequalities

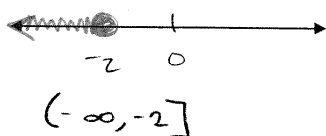
Solve each inequality and graph your solution on a number line. Use interval notation to represent the solution

$$1) \quad \frac{2(5+n)}{2} \leq \frac{6}{2}$$

$$\frac{5+n}{1} \leq \frac{3}{1}$$

$$\frac{5+n}{-5} \quad \frac{-5}{-5}$$

$$n \leq -2$$

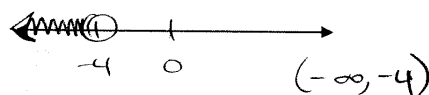


$$2) \quad \frac{5-4z}{+4z} > \frac{17-z}{+4z}$$

$$\frac{5}{-17} > \frac{17}{-17} + \frac{3z}{-17}$$

$$\frac{-12}{3} > \frac{3z}{3}$$

$$-4 > z$$



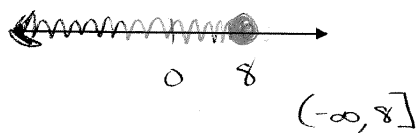
$$3) \quad 2(5x-4) \leq 8(x+1)$$

$$\frac{10x-8}{-8x} \leq \frac{8x+8}{-8x}$$

$$\frac{2x-8}{+8} \leq \frac{8}{+8}$$

$$\frac{2x}{2} \leq \frac{16}{2}$$

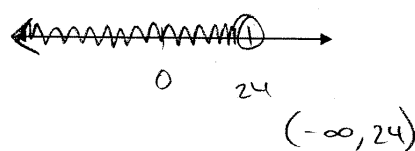
$$x \leq 8$$



$$4) \quad \left(\frac{1}{3}m - \frac{1}{2}m\right) > (-4)$$

$$\frac{2m-3m}{-1} > \frac{-24}{-1}$$

$$m < 24$$



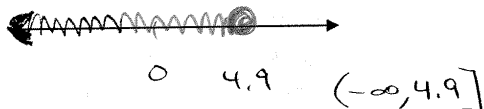
$$5) \quad 100(3.7z) \leq 100(33.32 - 3.1z)$$

$$370z \leq 3332 - 310z$$

$$+310z \quad +310z$$

$$\frac{680z \leq 3332}{680 \quad 680}$$

$$z \leq 4.9$$



$$6) \quad 100(-0.6y - 3.79) < 100(5.2y + 19.67)$$

$$-60y - 379 < 520y + 1967$$

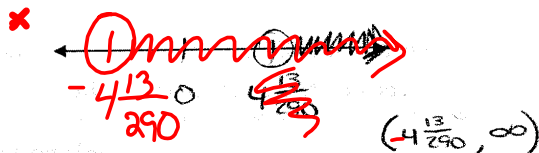
$$+60y \quad +60y$$

$$-379 < 580y + 1967$$

$$-1967 \quad -1967$$

$$\frac{-2346 < 580y}{580 \quad 580}$$

$$-4\frac{13}{290} < y$$



$$7) \quad 4(6k - 4) \geq 7k - (2k - 3)$$

$$24k - 16 \geq 7k - 2k + 3$$

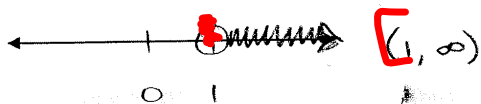
$$24k - 16 \geq 5k + 3$$

$$-5k \quad -5k$$

$$\frac{19k - 16 \geq 3}{+16 \quad +16}$$

$$\frac{19k \geq 19}{19 \quad 19}$$

$$k \geq 1$$



$$8) \quad 2.3x - 52.46 > -0.9(x - 117)$$

$$2.3x - 52.46 > -0.9x + 105.3$$

$$+0.9x \quad +0.9x$$

$$\frac{3.2x - 52.46 > 105.3}{+52.46 \quad +52.46}$$

$$3.2x > 157.76$$

$$\frac{3.2x > 157.76}{3.2 \quad 3.2}$$

$$x > 49.3$$

