

HW: word Problems

Inequalities

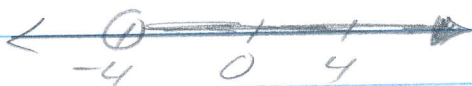
NOV. 19

$$1.) \quad \begin{array}{r} 2e + 7 < 15 + 4e \\ -4e \quad \quad -4e \\ \hline \end{array}$$

$$\begin{array}{r} -2e + 7 < 15 \\ -7 \quad -7 \\ \hline \end{array}$$

$$\begin{array}{r} -2e < 8 \\ \div 2 \quad \div 2 \\ \hline \end{array}$$

$$e > -4$$

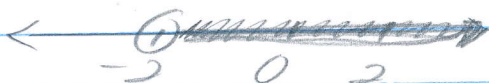


*divided by a negative
So flip the symbol

$$2.) \quad \begin{array}{r} -3(3x + 1) < 15 \\ -9x - 3 < 15 \\ \quad \quad +3 \quad +3 \\ \hline \end{array}$$

$$\begin{array}{r} -9x < 18 \\ \div -9 \quad \div -9 \\ \hline \end{array}$$

$$x > -2$$

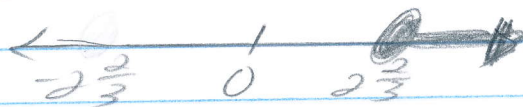


$$3.) \quad \begin{array}{r} 6 \overline{) 3x + 10 \geq 3} \\ \underline{3x } \\ 10 \\ \underline{9 } \\ 1 \end{array}$$

$$\begin{array}{r} 3x + 10 \geq 18 \\ -10 \quad -10 \\ \hline \end{array}$$

$$\begin{array}{r} 3x \geq 8 \\ \div 3 \quad \div 3 \\ \hline \end{array}$$

$$x \geq 2\frac{2}{3}$$

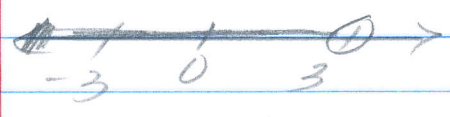


4.) $10[4.5 - 0.5x > 1x]$

$$\begin{array}{r} 45 - 5x > 10x \\ +5x \quad +5x \\ \hline 45 > 15x \\ 15 \quad 15 \end{array}$$

$3 > x$
rewrite

$x < 3$

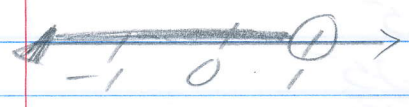


5.) $15x - 4 < 9 + 2x$

$$\begin{array}{r} 15x - 4 < 9 + 2x \\ -2x \quad -2x \\ \hline 13x - 4 < 9 \\ +4 \quad +4 \end{array}$$

$$\frac{13x < 13}{13 \quad 13}$$

$x < 1$



The largest integer is 0.

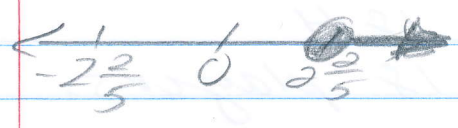
6.) $3x \geq 2 - 2(x - 5)$

$3x \geq 2 - 2x + 10$

$3x \geq 12 - 2x$

$$\begin{array}{r} 3x > 12 - 2x \\ +2x \quad +2x \\ \hline 5x \geq 12 \\ 5 \quad 5 \end{array}$$

$x \geq 2\frac{2}{5}$



The smallest integer is 1.

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$$7) \frac{-4c > 35}{-5 \quad -5}$$

$$c < -7$$

$$\leftarrow \frac{0}{-7} \quad 0 \quad \frac{1}{7} \rightarrow$$

$$(C) -9$$

$$8) \frac{2c - 6 \geq 10}{+6 \quad +6}$$

$$\frac{2c \geq 16}{2}$$

$$c \geq 8$$

$$\leftarrow \frac{1}{8} \quad 0 \quad \frac{8}{8} \rightarrow$$

(B) 4 not a solution

9) let $x = \#$ of rides

$$1.25x + 3.75 \geq 44$$

$$\frac{-3.75 \quad -3.75}{1.25x \geq 40.25}$$

$$\frac{1.25x \geq 40.25}{1.25 \quad 1.25}$$

$$x \geq 32.2$$

Kevin can ride 32 or more rides.

10) let $x = \#$ of players

$$450 + 28.75x \leq 979$$

$$\frac{-450 \quad -450}{28.75x \leq 529}$$

$$\frac{28.75x \leq 529}{28.75 \quad 28.75}$$

$$x \leq 18.4$$

They can take 18 players.