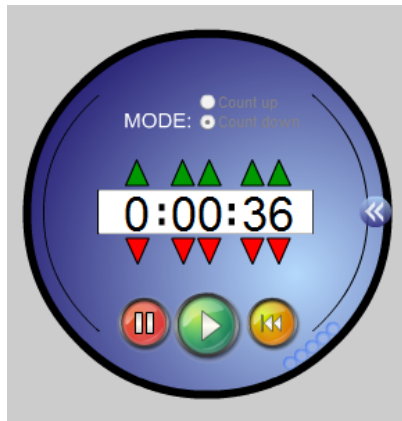


Warm-Up

Network Quiz



minutes!

Remember this???

$$-3(4v + 6) = v - 17$$

$$-12v - 18 = v - 17$$

$$-12v - 1v - 18 = \boxed{v - v} - 17$$

$$-13v - 18 = -17$$

$$-13v \boxed{+18 + 18} = -17 + 18$$

$$-13v \leftarrow$$

$$\frac{-13v}{-13} = \frac{1}{-13}$$

$$v = -\frac{1}{13}$$

Section 6.5 **Solving Linear Inequalities by Using Multiplication and Division**

Does the inequality stay true?

1) **Multiply each side by 2**

$$-4^{(2)} < 2^{(2)} \quad \text{yes}$$

$$-8 < 4 \quad \text{yes}$$

2) **Divide each side by 2**

$$\frac{-4}{2} < \frac{2}{2}$$

$$-2 < 1$$

3) **Multiply each side by -2**

$$-4^{(-2)} < 2^{(-2)}$$

$$8 < -4 \quad \text{NO}$$

$$8 > -4 \quad \text{OK}$$

4) **Divide each side by -2**

$$\frac{-4}{-2} < \frac{2}{-2}$$

$$2 < -1 \quad \text{NO}$$

$$2 > -1 \quad \text{OK}$$

* When multiplying or dividing by a negative number in the **last step** of solving inequality you must **Reverse** the sign to make the inequality true

A. $-5x < 25$
 $\underline{-5} \quad \underline{-5}$
 $x > -5$

B. $7a \leq -21$
 $\underline{7} \quad \underline{7}$
 $a \leq -3$

Solve
Graph

$$-2(3 - 1.5n) < 4(2 - n)$$

$$-6 + 3n < 8 - 4n$$

$$-6 + 3n + 4n < 8 \boxed{-4n + 4n}$$

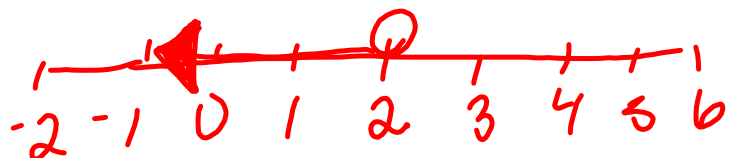
$$-6 + 7n < 8$$

$$\boxed{6 + 6} + 7n < 8 + 6$$

$$\frac{7n < 14}{7 \quad 7}$$

$$n < 2$$

Last Step!



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

$$-12-36x > 12+2x$$

$$-12-36x-2x > 12 \boxed{+2x-2x}$$

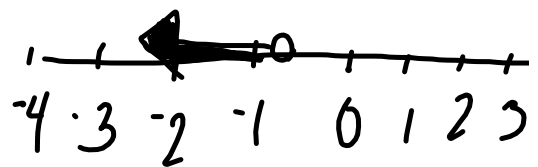
$$-12-38x > 12$$

$$\boxed{-12+12}-38x > 12+12$$

$$\frac{-38x}{-38} > \frac{24}{-38} \quad \text{Last Step!}$$

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

$$x < -0.63$$



Solve

Graph

Remember Eliminate Fractions by Multiplying all Fractions by the LCM

LCM = 70

$$\frac{(70)}{2} + \frac{(70)4p}{7} > \frac{13(70)}{10}$$

$$\frac{70}{2} + \frac{280p}{7} > \frac{910}{10}$$

$$35 + 40p > 91$$

$$\boxed{35-35} + 40p > 91-35$$

$$\frac{40p}{40} > \frac{56}{40}$$

$$p > \frac{56}{40}$$

Last Step

LCM=12

$$\overset{(12)}{\underline{\underline{\frac{2}{3}}}} (x-4) \leq \overset{(12)}{\underline{\underline{\frac{3}{4}}}} (2x+5)$$

$$\frac{24}{3} (x-4) \leq \frac{36}{4} (2x+5)$$

$$8(x-4) \leq 9(2x+5)$$

$$8x - 32 < 18x + 45$$

$$8x - 18x - 32 < \boxed{18x - 18x} + 45$$

$$-10x - 32 < 45$$

$$-10x \boxed{-32 + 32} < 45 + 32$$

$$\frac{-10x}{-10} < \frac{77}{-10}$$

$$x > -\frac{77}{10}$$

$$x > -7.7$$

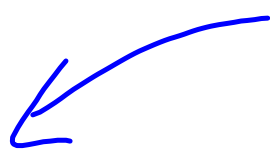
divide by
negative
Reverse
the
sign.



Homework

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3 all



a) $-9^{(4)} < -2^{(4)}$, Multiply by 4
 $-36 < -8$ *yes*

- 9 [a,c,e]
 - 11 [a,c]
 - 12 [a,c]
 - 17 [b]
- } Solve Graph

