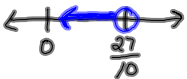


$$2. \frac{1}{5} + \frac{1}{3}x > \frac{1}{2}x - \frac{1}{4}$$

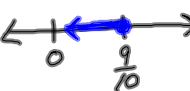
$$12 + 20x > 30x - 15$$

$$\begin{array}{r} -20x \quad -20x \\ \hline 12 > 10x - 15 \\ +15 \quad +15 \\ \hline \frac{27}{10} > \frac{10x}{10} \\ \frac{27}{10} > x \end{array}$$


Dec 1-9:32 AM

$$3. \frac{3}{10} \geq k - \frac{3}{5}$$

$$3 \geq 10k - 6$$


$$\begin{array}{r} +6 \quad +6 \\ \hline 9 \geq 10k \\ \frac{9}{10} \geq \frac{10k}{10} \\ \frac{9}{10} \geq k \end{array}$$


Dec 1-9:34 AM

$$5. -2x - 3x + 11 > 4x - (11 - 9x)$$

$$-5x + 11 > 4x - 11 + 9x$$

$$-5x + 11 > 13x - 11$$

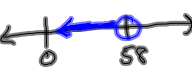
$$\begin{array}{r} +5x \quad +5x \\ \hline 11 > 18x - 11 \\ +11 \quad +11 \\ \hline \frac{22}{18} > \frac{18x}{18} \\ \frac{11}{9} > x \end{array}$$


Dec 1-9:36 AM

$$6. k + 18 - 2(k - 20) > 0$$

$$k + 18 - 2k + 40 > 0$$

$$-k + 58 > 0$$

$$\begin{array}{r} -58 \quad -58 \\ \hline -k > -58 \\ \frac{-k}{-1} > \frac{-58}{-1} \\ k < 58 \end{array}$$


Dec 1-9:38 AM

7. Suppose you had  $d$  dollars in your bank account. You spent \$22 but have at least \$28 left. How much money did you have initially? Write and solve an inequality that represents this situation.

$$d - 22 \geq 28$$

$$\begin{array}{r} +22 \quad +22 \\ \hline d \geq 50 \end{array}$$

Dec 1-9:40 AM

$$8. \frac{2x-1}{2} + 3 \leq -4 \quad \text{or} \quad \frac{8x-2}{2} - 1 \geq 6$$


$$2x - 1 + 6 \leq -8$$

$$2x + 5 \leq -8$$

$$\begin{array}{r} -5 \quad -5 \\ \hline 2x \leq -13 \\ \frac{2x}{2} \leq \frac{-13}{2} \\ x \leq -6.5 \end{array}$$

$$8x - 2 - 2 \geq 12$$

$$8x - 4 \geq 12$$

$$\begin{array}{r} +4 \quad +4 \\ \hline 8x \geq 16 \\ \frac{8x}{8} \geq \frac{16}{8} \\ x \geq 2 \end{array}$$


Dec 1-9:40 AM

10.  $|x + \frac{1}{3}| = \frac{20}{4}$

$$|x + \frac{1}{3}| = 5$$


$$x + \frac{1}{3} = 5 - \frac{1}{3} \quad x + \frac{1}{3} = -5 - \frac{1}{3}$$

$$-\frac{1}{3} \quad -\frac{1}{3}$$

$$x = 4\frac{2}{3} \quad x = -5\frac{1}{3}$$

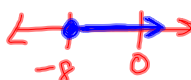
Dec 1-12:39 PM

16.  $-13 < 3x - 10 < 20$

$$\begin{array}{r} -13 < 3x - 10 \\ +10 \quad +10 \\ \hline -3 < 3x \\ \frac{-3}{3} \quad \frac{3}{3} \\ \hline -1 < x \end{array} \quad \begin{array}{r} 3x - 10 < 20 \\ +10 \quad +10 \\ \hline 3x < 30 \\ \frac{3x}{3} \quad \frac{30}{3} \\ \hline x < 10 \end{array}$$


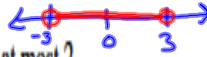
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18.  $-\frac{x}{2} \leq 4$  (-2)

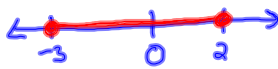
$$x \geq -8$$


Dec 1-12:43 PM

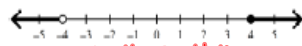
19. all real numbers that are greater than -3 but less than 3

$$-3 < x < 3$$


20. all real numbers at least -3 and at most 2

$$-3 \leq x \leq 2$$


Dec 1-12:44 PM

21. 

$x < -4$  or  $x \geq 4$

22. Write four solutions to the inequality  $1 > \frac{x}{3}$ . 0, -1, -2, -3

Dec 1-12:47 PM

Write and solve an inequality.  $n - 6 \geq 2$   $n \geq 8$

23. The result of 6 subtracted from a number  $n$  is at least 2. What numbers are solutions?

24. An airline requires carry-on luggage to weigh at most 40 pounds. Your suitcase currently weighs 10 pounds. How many pounds  $p$  are available for you to fill your suitcase with other items?

$$\begin{array}{r} 10 + p \leq 40 \\ -10 \quad -10 \\ \hline p \leq 30 \end{array}$$

Dec 1-12:48 PM

Write an inequality to describe the situation.

25. A van can hold a maximum of 8 passengers. Let  $p$  represent the number of passengers.

$$p \leq 8$$

Dec 1-12:50 PM

Dec 1-12:50 PM