

## Bell Ringer 1.9

Section 1.9

1. What are the solutions of  $|x| + 3 = 10$ ? Graph the solutions.

$$|x| = 7$$

$$x = 7, -7$$

$$|x + 2.5| = 4$$

2. What are the solutions of  $|x + 2.5| = 12$ ?

$$x + 2.5 = 4$$

$$x = 1.5$$

$$x + 2.5 = -4$$

$$x = -6.5$$

3. A squirrel is sitting on the ground 130 ft from a tree. The squirrel runs toward the tree in a straight line, but passes the tree to retrieve a distant acorn. The squirrel is running at a speed of 10 ft/s. The squirrel's distance  $d$  from the tree after  $t$  seconds is given by  $d = |130 - 10t|$ . After how many seconds is the squirrel 40 ft from the tree?

$$40 = |130 - 10t|$$

$$130 - 10t = 40$$

$$-130 \quad -130$$

$$130 - 10t = -40$$

4. What are the solutions of  $|\frac{3}{4}x - 7| = -6$ ?

No

$$|\frac{3}{4}x - 7| = -6$$

$$|\frac{3}{4}x - 7| = -6$$

$$-10t = -90$$

$$t = 9$$

$$-10t = -170$$

$$t = 17$$

5. Solve for  $t$ .  $10 - t = 4t + 12 - 3t$

$$\begin{array}{r|l} 10 - t & t + 12 \\ - 12 + t & t - 12 \\ \hline -2 & 2t \\ \hline -1 & t \end{array}$$

correct 1.8 #s 11-36

/26

due tomorrow: 1.9<sup>A</sup> 1-6, 11-13, 17, 19-26

⑪  $0 \leq x < 8$

⑰  $x \leq 7$  or  $x > 7$   
 $(-\infty, \infty)$

⑫  $1 \leq r < 4$

$(-\infty, 7] \cup (7, \infty)$

⑬  $85 \leq x \leq 100$

⑲  $(1, 6]$

⑮ A, C, D

⑳  $-3 < x < 4$

㉔  $x < -2$  or  $x \geq 1$

㉔  $6.3 - 8.1$

㉓  $4 < x < 14$

$$\textcircled{29} \quad \left(\frac{4}{7}\right) - \frac{4}{3} \leq \frac{1}{7}w - \frac{3}{4} < 1$$

$$\left(\frac{3}{3}\right) \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$


$$\frac{-16}{12} + \frac{9}{12} \quad \left(\frac{3}{3}\right) \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

$$(7) - \frac{7}{12} \leq \frac{1}{7}w < \frac{7}{4} \quad (7)$$

$$\frac{-49}{12} \leq w < \frac{49}{4}$$

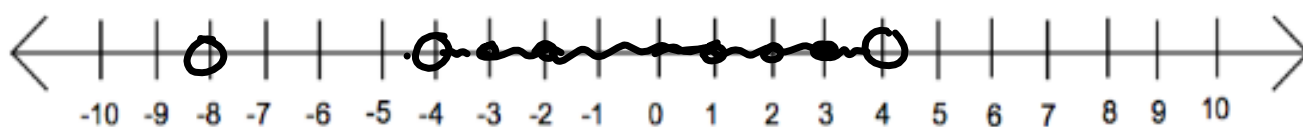
$$-4\frac{1}{12} \leq w < 12\frac{1}{4}$$

and ~~no~~ overlap intersect

or 

Get out a paper for notes :)

$$\cancel{|-8| = 8 \leq 4} \quad |x| < 4$$



$$-4 < x < 4$$

:

$$|x| < 4$$

$$-4 < x < 4$$

$$|x| < a$$

as long as  $a > 0$ ...

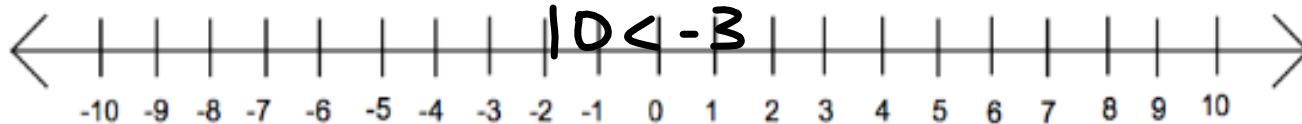
means

$$-a < x < a$$

$$|x| < -3$$

$$|-10|$$

$$10 < -3$$

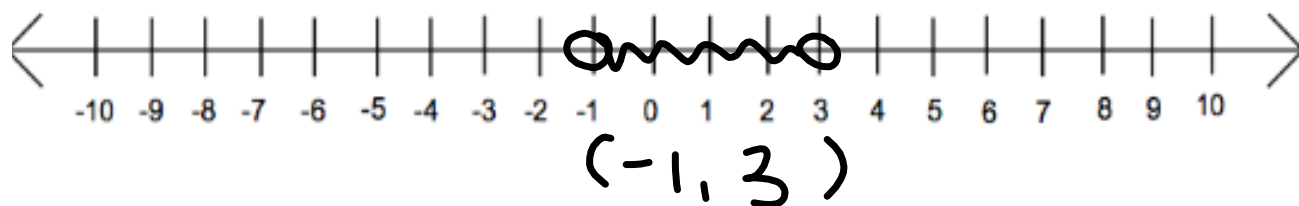


No sol.



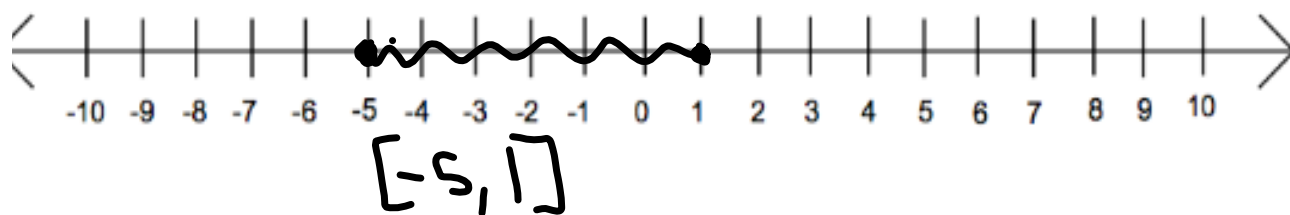
$$|n - 1| < 2$$

$$\begin{array}{c} -2 < n - 1 < 2 \\ +1 \quad +1 \quad +1 \\ -1 < n < 3 \end{array}$$



$$|x + 2| \leq 3$$

$$\begin{array}{ccc} -3 & \leq & x + 2 & \leq & 3 \\ -2 & & -2 & & \\ \downarrow & & & & \downarrow \\ -5 & \leq & x & \leq & 1 \end{array}$$



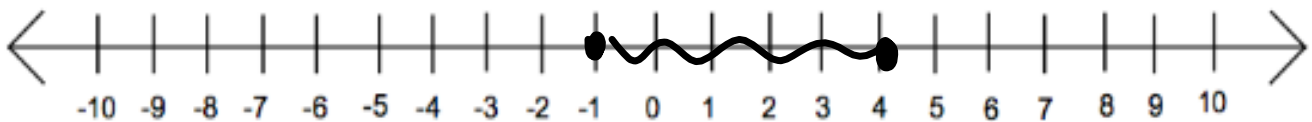
$$|2x - 3| + 6 \leq 11$$

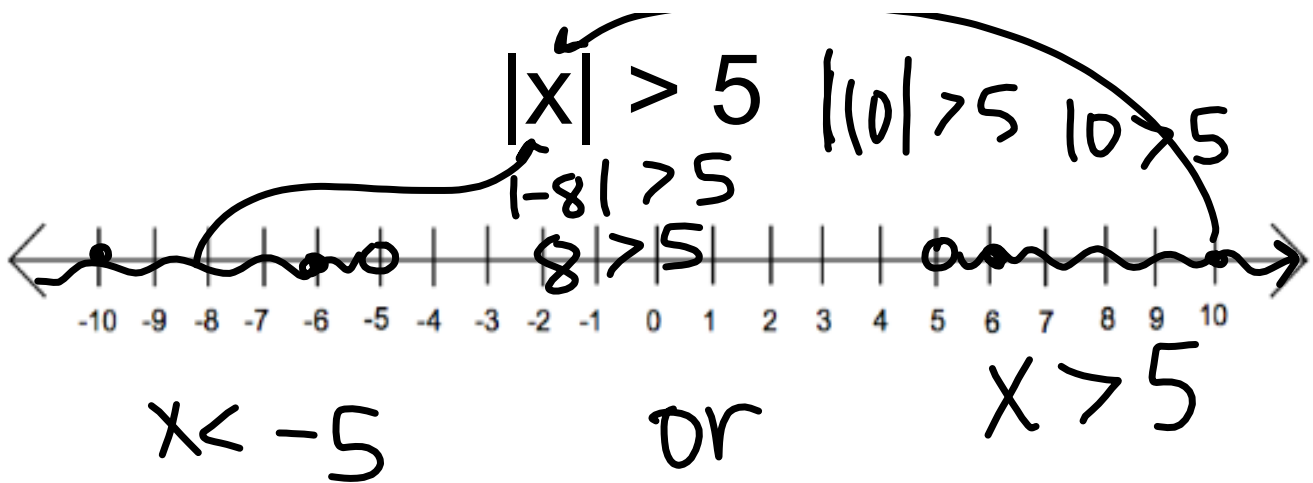
$$|2x - 3| \leq 5$$

$$-5 \leq 2x - 3 \leq 5$$

$$-2 \leq 2x \leq 8$$

$$-1 \leq x \leq 4 \quad [-1, 4]$$





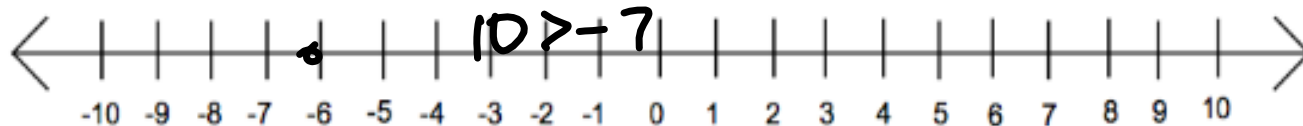
$$|x| > 5$$

$$x < -5 \text{ or } x > 5$$

$$|x| > -7 \quad \infty \text{ sol}$$

$$6 > -7$$

$$10 > -7$$



$$|-7| > -7$$

$$7 > -7$$

$$|x| > a$$

means

$$x < -a \text{ or } x > a$$

$$|c - 1| \geq 5$$

 $\rightarrow$ 

$$c - 1 \leq -5$$

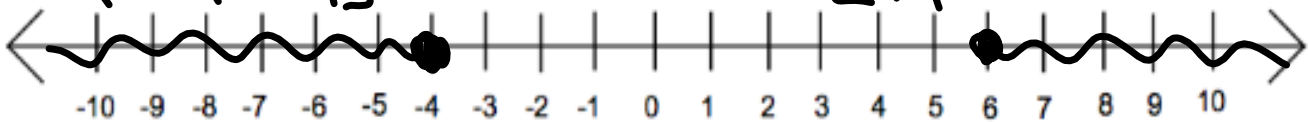
or

$$c - 1 \geq 5$$

$$c \leq -4$$

C

$$c \geq 6$$





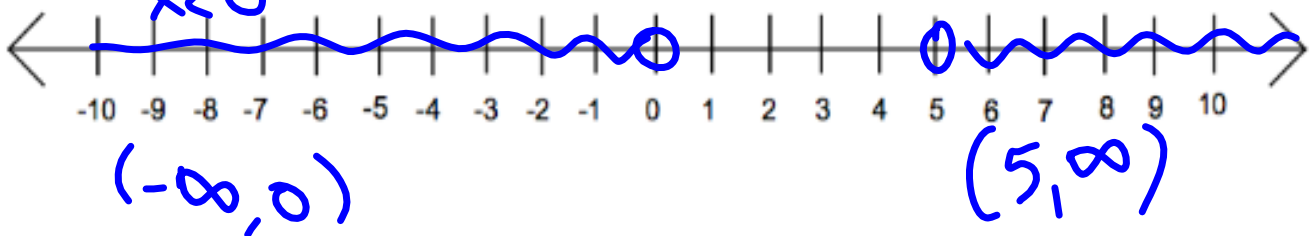
$$4|2x - 5| + 1 > 21$$

$$|2x - 5| > 5$$

$$\frac{2x-5}{2} < -\frac{5}{2} \quad \text{or} \quad \frac{2x-5}{2} > \frac{5}{2}$$

$$x < 0$$

$$x > 5$$



The official weight of a nickel is 5g, but the actual weight can vary by up to 0.194 g.



What is the range of possible weights for a nickel?

$$5 \pm .194 = \text{~~~~~}$$

What about 40 nickels?

1.9 B hw 7-10, 14, 15, 27-32, 34, 45-46 due Mon

