

# Algebra 2

# 1.6 Solving Linear Inequalities

Name: \_\_\_\_\_

Answers

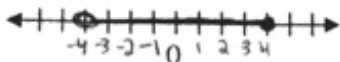
Per: \_\_\_\_\_

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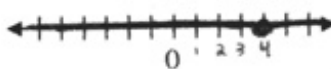
Show ALL work on this handout.

Graph the inequality on a number line.

15.  $-4 < x \leq 4$



18.  $x > 4$  or  $x \leq 4$



\* All real numbers  
(the whole # line)

Decide whether the given number is a solution of the inequality.

20.  $10 - x \geq 3; 7$

$$10 - (7) \geq 3$$

$$3 \geq 3$$

True, so yes 7 is a solution.

24.  $-8 < x - 11 < -6; 5$

$$-8 < (5) - 11 < -6$$

$$-8 < -6 < -6$$

↑                      ↑  
-6 is never less than -6

No, 5 is not a solution.

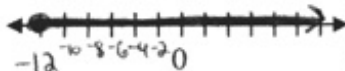
Solve the inequality. Then graph your solution.

26.  $7 - n \leq 19$

$$\begin{matrix} -7 & & -7 \\ -n & & -n \end{matrix}$$

$$\frac{-n}{-1} \leq \frac{12}{-1}$$

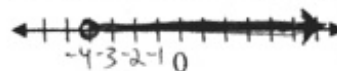
$$n \geq -12$$



28.  $\frac{1}{2}x - 4 > -6$

$$\frac{1}{2}x > -2$$

$$x > -4$$



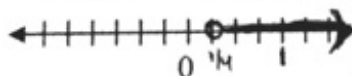
32.  $-n + 6 < 7n + 4$

$$\begin{matrix} +n & & +n \\ -n & & -n \end{matrix}$$

$$6 < 8n + 4$$

$$\frac{2}{8} < \frac{8n}{8}$$

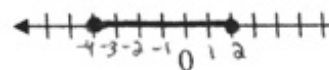
$$\frac{1}{4} < n$$



38.  $-16 \leq 3x - 4 \leq 2$

$$\frac{-12}{3} \leq \frac{3x}{3} \leq \frac{6}{3}$$

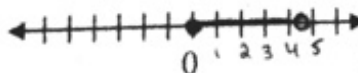
$$-4 \leq x \leq 2$$



40.  $-2 < -2n + 7 \leq 7$

$$\frac{-9}{-2} < \frac{-2n}{-2} \leq \frac{0}{-2}$$

$$\frac{9}{2} > n \geq 0$$



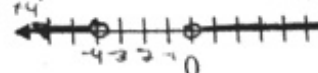
44.  $3x + 2 < -10$  or  $2x - 4 > 4$

$$\frac{3x}{3} < \frac{-12}{3}$$

$$x < -4$$

$$\frac{2x}{2} > \frac{8}{2}$$

$$x > 4$$



remember to  
FLIP signs