

# Algebra 1

## Practice Quiz 5.1-5.3

NAME \_\_\_\_\_

Solve each inequality and then graph (1-8 only) on a number line which is provided on the right. (2 Points)

1.  $x + 4 > 11$

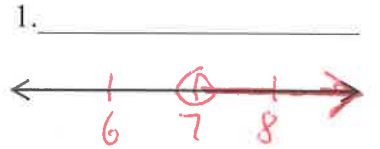
$$-4 \quad -4$$

$$x > 7$$

2.  $x - 5 \leq 13$

$$+5 \quad +5$$

$$x \leq 18$$



3.  $-2 \geq x - 7$

$$+7 \quad +7$$

$$5 \geq x$$

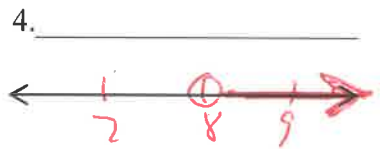
$$x \leq 5$$

4.  $4x + 8 < 5x$

$$\frac{-4x \quad -4x}{8 < x}$$

$$8 < x$$

$$x > 8$$



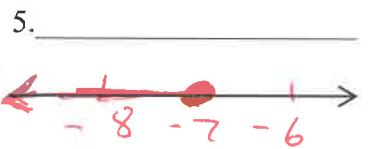
5.  $11 + x \leq 4$

$$-11 \quad -11$$

$$x \leq -7$$

6.  $\frac{4x}{4} \geq \frac{12}{4}$

$$x \geq 3$$



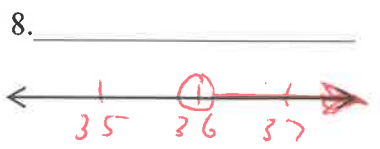
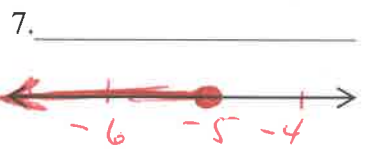
7.  $\frac{-7x}{-7} \geq \frac{35}{-7}$

$$x \leq -5$$

$$x \leq -5$$

8.  $\frac{x}{4} > 9$

$$x > 36$$

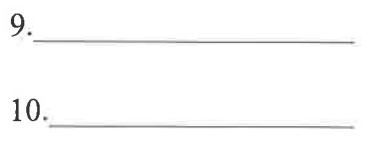


9.  $\frac{4}{3} \cdot \frac{3}{4}x \leq \frac{12}{1} \cdot \frac{4}{2}$

$$x \leq 16$$

10.  $\frac{-64}{8} \geq \frac{8x}{8}$

$$-8 \geq x$$



Points (20) \_\_\_\_\_

**Write an inequality and then solve. (2 Points)**

11. The sum of a number and 15 is at most 24.

$$\begin{array}{r} x + 15 \leq 24 \\ -15 \quad -15 \\ \hline x \leq 9 \end{array}$$

11. \_\_\_\_\_

12. 3 times a number is at least 27.

$$\begin{array}{r} 3x \geq 27 \\ \frac{3x}{3} \geq \frac{27}{3} \\ \hline x \geq 9 \end{array}$$

12. \_\_\_\_\_

13. 3 times the sum of a number and 4 is no more than 21.

$$\begin{array}{r} 3(x+4) \leq 21 \\ 3x + 12 \leq 21 \\ -12 \quad -12 \\ \hline 3x \leq 9 \\ \hline x \leq 3 \end{array}$$

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

**Solve each inequality. (3 Points)**

14.  $3x - 12 \leq 21$

$$\begin{array}{r} 3x - 12 \leq 21 \\ +12 \quad +12 \\ \hline 3x \leq 33 \\ \frac{3x}{3} \leq \frac{33}{3} \\ \hline x \leq 11 \end{array}$$

16. \_\_\_\_\_

15.  $8x - 14 < 3x + 21$

$$\begin{array}{r} 8x - 14 < 3x + 21 \\ -3x \quad -3x \\ \hline 5x - 14 < 21 \\ +14 \quad +14 \\ \hline 5x < 35 \\ \frac{5x}{5} < \frac{35}{5} \\ \hline x < 7 \end{array}$$

17. \_\_\_\_\_

18. \_\_\_\_\_

16.  $5(x - 3) \geq 3x + 9$

$$\begin{array}{r} 5x - 15 \geq 3x + 9 \\ -3x \quad -3x \\ \hline 2x - 15 \geq 9 \\ +15 \quad +15 \\ \hline 2x \geq 24 \\ \frac{2x}{2} \geq \frac{24}{2} \\ \hline x \geq 12 \end{array}$$

19. \_\_\_\_\_

17.  $\frac{4}{3}x - 6 > 10$

$$\begin{array}{r} \frac{4}{3}x - 6 > 10 \\ +6 \quad +6 \\ \hline \frac{4}{3}x > 16 \\ \frac{3}{4} \cdot \frac{4}{3}x > \frac{16}{1} \cdot \frac{3}{4} \\ \hline x > 12 \end{array}$$

Points (24) \_\_\_\_\_

18.  $3(x - 2) + 8 \leq 7(x + 3) + 5$

$$\begin{array}{r} 3x - 6 + 8 \leq 7x + 21 + 5 \\ \hline 3x + 2 \leq 7x + 26 \\ -3x \quad -3x \\ \hline 2 \leq 4x + 26 \\ -26 \quad -26 \\ \hline -24 \leq 4x \\ \frac{-24}{4} \leq \frac{4x}{4} \\ \hline -6 \leq x \end{array}$$

19.  $\frac{3x - 6}{4} > 3$

$$\begin{array}{r} 3x - 6 > 12 \\ +6 \quad +6 \\ \hline 3x > 18 \\ \frac{3x}{3} > \frac{18}{3} \\ \hline x > 6 \end{array}$$