Name: _____ Score: _____

Answer key

Solve each inequality.

1) $2x + 5 > 13$

$-5 \quad -5$

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

$x > 4$

$x > 4$

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

$x - 4 \leq 15$

$+4 \quad +4$

$x \leq 19$

$x \leq 19$

3) $5x - 7 \geq 8$

$+7 \quad +7$

$\frac{5x}{5} \geq \frac{15}{5}$

$x \geq 3$

$x \geq 3$

4) $\frac{x}{2} + 4 < 7$

$-4 \quad -4$

$2\left(\frac{x}{2}\right) < 3\,(2)$

$x < 6$

$x < 6$

5) $9x - 3 > 6$

$+3 \quad +3$

$\frac{9x}{9} > \frac{9}{9}$

$x > 1$

$x > 1$

6) $11 + 3x \leq 17$

$-11 \quad -11$

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

$x \leq 2$

$x \leq 2$

7) $4x - 12 \geq 8$

$+12 \quad +12$

$\frac{4x}{4} \geq \frac{20}{4}$

$x \geq 5$

$x \geq 5$

8) $3x + 7 < 9$

$-7 \quad -7$

$\frac{3x}{3} < \frac{2}{3}$

$x < \frac{2}{3}$

$x < \frac{2}{3}$

9) $\frac{x}{4} + 1 > 10$

$-1 \quad -1$

$4\left(\frac{x}{4}\right) > (9)(4)$

$x > 36$

$x > 36$

10) $\frac{x-6}{4} \leq 2$ (4)

$x - 6 \leq 8$

$+6 \quad +6$

$x \leq 14$

$x \leq 14$

11) $7x - 3 > 18$

$+3 \quad +3$

$\frac{7x}{7} > \frac{21}{7}$

$x > 3$

$x > 3$

12) $3x + 1 \geq 7$

$-1 \quad -1$

$\frac{3x}{3} \geq \frac{6}{3}$

$x \geq 2$

$x \geq 2$

Answer key

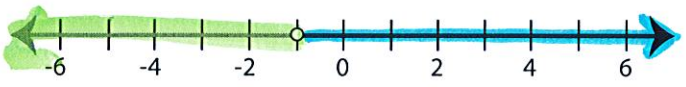
Solve each inequality and graph the solution. Solutions are green.

1) $6x - 4 < -10$

$+4 \quad +4$

$\frac{6x}{6} < \frac{-6}{6}$

$x < -1$

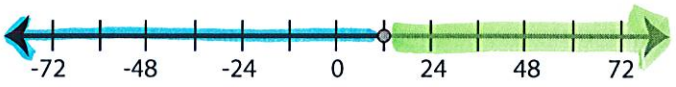


2) $2(17) \leq 2\left(\frac{x}{2} + 11\right)$

$34 \leq x + 22$

$-22 \quad -22$

$x \geq 12$



3) $-4x - 7 > 1$

$+7 \quad +7$

$\frac{-4x}{-4} > \frac{8}{-4}$

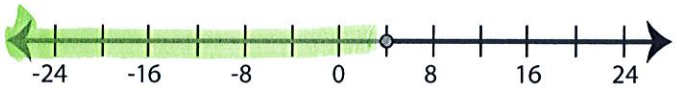
$x < -2$

4) $8 \leq -2x + 16$

$-16 \quad -16$

$\frac{-8}{-2} \leq \frac{-2x}{-2}$

$x \leq 4$

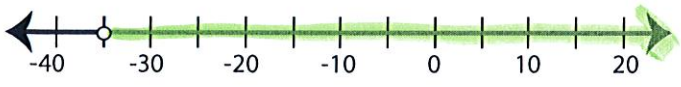


5) $-9 < \frac{x}{5} - 2$

$+2 \quad +2$

$5(-7) < \left(\frac{x}{5}\right)(5)$

$x > -35$

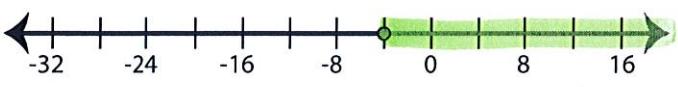


6) $-6x + 20 \geq -11x$

$+6x \quad +6x$

$\frac{20}{5} \geq \frac{-5x}{-5}$

$x \geq -4$

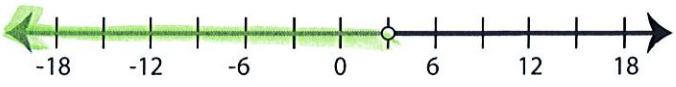


7) $-1 > 5x - 16$

$+16 \quad +16$

$\frac{15}{5} > \frac{5x}{5}$

$x < 3$



8) $4(-7) \leq \left(\frac{x+2}{4}\right)(4)$

$-28 \leq x + 2$

$-2 \quad -2$

$x \geq -30$