Day 3 – Solving Multi-Step Inequalities - Practice

Directions: Solve each inequality.

1. $-x \le 5$

$\frac{-x}{-1} \le \frac{5}{-1}$ ÷ by −

$\boxed{x \ge -5}$

2. $-7 > -x$

$\frac{-7}{-1} > \frac{-x}{-1}$ ÷ by −

$7 < x$ rewrite

$\boxed{x > 7}$

3. $12x - 6 \ne 14x - 2$

$-14x \quad -14x$

$-2x - 6 \ne -2$

$+6 \quad +6$

$\frac{-2x}{-2} \ne \frac{4}{-2}$

$\boxed{x \ne -2}$

4. $11 > 4x + 3$

$-3 \quad -3$

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

$2 > x$ rewrite

$\boxed{x < 2}$

5. $11x - 5 \le 15x + 3$

$-15x \quad -15x$

$-4x - 5 \le 3$

$+5 \quad +5$

$\frac{-4x}{-4} \le \frac{8}{-4}$ ÷ by −

$\boxed{x \ge -2}$

6. $15 - \frac{5}{8}x > 10$

$-15 \quad -15$

x by $-\frac{8}{5}$: $-\frac{5}{8}x > -5 \cdot -\frac{8}{5}$

$\boxed{x < 8}$

7. $-2(3 + x) > -14$

$-6 - 2x > -14$

$+6 \quad +6$

$\frac{-2x}{-2} > \frac{-8}{-2}$ ÷ by −

$\boxed{x < 4}$

8. $86 > 7x + 2(x + 7)$

$86 > 7x + 2x + 14$

$86 > 9x + 14$

$-14 \quad -14$

$\frac{72}{9} > \frac{9x}{9}$

$8 > x$ rewrite

$\boxed{x < 8}$

9. $-10(-7 + x) \ge 180$

$70 - 10x \ge 180$

$-70 \quad -70$

$\frac{-10x}{-10} \ge \frac{110}{-10}$ ÷ by −

$\boxed{x \le -11}$