

Lesson #10 A: Solving and Graphing One Variable Inequalities and Compound Inequalities
(Reference: Lessons #45, #66, #70, #73, #77, #81, & #82 in book)**Problem**

1. For each of the following inequalities, solve the inequality for the given variable and then graph the inequality, and give me the solution set in interval notation.

1. $3(5x - 4) \leq 30x + 3$

2. $2(x - 8) - 3x > 6 - 3(2x + 4)$

3. $4(x - 1) - 2x \leq 6 - 5(x + 2)$

4. $-\frac{2}{3}(3x - 6) - 8 < \frac{1}{2}(2x + 4) - 2x$

5. For each of the following compound inequalities, please solve the inequality, graph the inequality, and give me the solution set for the inequality in interval notation.

5. $-3 > x - 7 > 2$

6. $-15 \leq 3(2x - 1) \leq 39$

7. $-12 \leq -6x - 18$ or $-2(4 - x) \geq 10$

8. $3x - 4 - 6x + 8 < 10$ or $31 < -2(x + 1) - 4x + 9$

9. $-4 < -2(2x - 2) + 6x + 2 < 8$

10. $-9 \leq 3x - 4 + 2x \leq 11$