

HW: Compound Inequalities

I. In Problems 1 – 8, do the following:

SHOW YOUR WORK for credit.

> Solve each inequality in simplified improper fraction or radical form.

> Graph the result on a number line.

> Write the answer in Interval Notation.

1.) $2 < 3x - \frac{5}{2} \leq 7$

2.) $7x \leq 3\left(\frac{2}{3}x - \frac{1}{2}\right)$ or $5x - \frac{1}{4} > 8x$

3.) $5 \leq \sqrt{8}x - \frac{2}{3} \leq 10$

4.) $3x > 2\sqrt{75} - 4x$ or $5x - \sqrt{8} > 10x - \sqrt{32}$

$$5.) \quad \left| \frac{2}{5} - x \right| - 2 < 8$$

$$6.) \quad 3 + 2 \left| \frac{1}{3} - \frac{x}{4} \right| \geq 9$$

$$7.) \quad 11 - \sqrt{18} \left| \frac{3}{2}x - \sqrt{50} \right| \leq 8$$

$$8.) \quad 5 - \frac{2}{3} |\sqrt{98}x - 2| > -5$$