

# 6.4 Notes

## Part B

“Solve and Graph Compound Inequalities”

Solve and graph the compound Inequality.

$$30 \geq -7x - 12 > 16$$

$$\begin{array}{r} +12 \quad +12 \quad +12 \\ \hline 42 \geq -7x > 28 \\ \hline \frac{-6 \leq x < -4} \end{array}$$

$$-15 \leq 5(3p - 2) < 20$$

$$\begin{array}{r} \frac{-3 \leq 3p - 2 < 4}{+2 \quad +2 \quad +2} \\ \hline \frac{-1 \leq 3p < 6}{\frac{-1}{3} \leq p < 2} \end{array}$$

Solve and graph the compound Inequality.

$$2(x + 18) - 6 \text{ or } 7x + 5 < -51$$

$$\begin{array}{r} X + 18 > 12 \\ \hline X > -6 \end{array} \quad \text{OR} \quad \begin{array}{r} 7x < -56 \\ \hline X < -8 \end{array}$$



Write the verbal sentence as an inequality. Then solve and graph.

Three times the difference of x and 4 is greater than or equal to -8 and less than or equal to 10.

$$-8 \leq 3(x - 4) \leq 10$$

$$\begin{array}{r} -8 \leq 3x - 12 \leq 10 \\ +12 \quad +12 \quad +12 \\ \hline 4 \leq 3x \leq 22 \\ \hline \frac{1\frac{1}{3} \leq x \leq 7\frac{1}{3}} \end{array}$$

