Name _____

06-10-30-T8-A

Simultaneous inequalities

■ **A. Write the solution set of each pair of inequalities using set notation. Then graph each solution set. Answer on this sheet. In all problems $x \in \mathbb{R}$.**

[1] $\begin{cases} 6x + 5 > 3x \\ 3x - 2 < 7 \end{cases}$

[2] $\begin{cases} 3(x - 2) > x \\ 2x - 3 < 8 \end{cases}$

[3] $\begin{cases} 3(x - 4) > 2x + 5 \\ 2(x - 5) > 8 \end{cases}$

[4] $\begin{cases} 3 - (x - 4) > 4x + 5 \\ x - 5 > 1 \end{cases}$

[5] $\begin{cases} 3 - 2(x + 1) > x - 5 \\ 2x > -7 \end{cases}$

[6] $\begin{cases} 3(2x + 5) > 9x + 3 \\ 2x + 5 > -1 \end{cases}$

[7] $\begin{cases} 3 - 2x > 13 - (x - 5) \\ 2(x + 3) > -12 \end{cases}$

[8] $\begin{cases} 3 - 2x < 13 - (x - 5) \\ 2(x + 3) > -12 \end{cases}$

[9] $\begin{cases} 2x \le 20 - (2x + 12) \\ 2(x + 3) > -7 \end{cases}$

[10] $\begin{cases} 2x \le 20 - (2x + 12) \\ 2(x + 3) \le -7 \end{cases}$

[11] $\begin{cases} 2x \geq 20 - (2x + 12) \\ 2(x + 3) \geq -7 \end{cases}$

[12] $\begin{cases} \frac{2x}{5} \geq x + 12 \\ 2(x + 3) < 2 \end{cases}$

[13] $\begin{cases} 2\left(\frac{x-5}{4}\right) \geq 5x \\ 2x + 5 < 0 \end{cases}$

[14] $\begin{cases} \frac{x-5}{4} - \frac{x}{3} \geq 0 \\ 2x + 5 \leq 0 \end{cases}$

[15] $\begin{cases} \frac{x-3}{4} - \frac{3x-5}{3} \geq 3 \\ 2x \leq 0 \end{cases}$