9.4 Two-Variable Inequalities **Math 55 Professor Busken**

Objectives

- Graph Solutions of Linear Inequalities
- Graph Solutions of Systems of Linear Inequalities

Exercises

1. Determine whether each ordered pair is a solution of $y \leq x + 6$

   a) $(0, 2)$ b) $(5, 7)$ c) $(4, 19)$ d) $(-2, -5)$

2. Graph the solutions of each inequality on a coordinate plane.

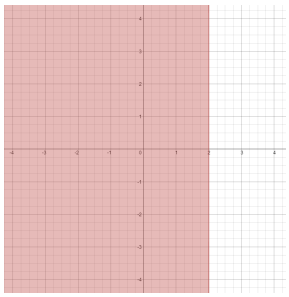
   a) $x \leq 2$ b) $y \geq 3$ c) $3x - 4y > 12$ d) $y < \frac{2}{3}x - 2$

3. Graph the solutions of each system of inequalities.

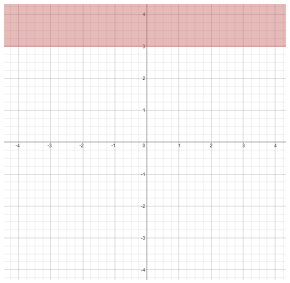
   a) $\begin{cases} x > 3 \\ y \leq 2 \end{cases}$ b) $\begin{cases} y \geq x + 1 \\ 2x + 3y \leq -6 \end{cases}$ c) $\begin{cases} x - y > 3 \\ 2x + 4y < 8 \end{cases}$

Answers: 1a) yes 1b) yes, 1c) no, 1d) yes

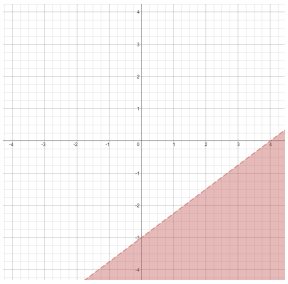
2)



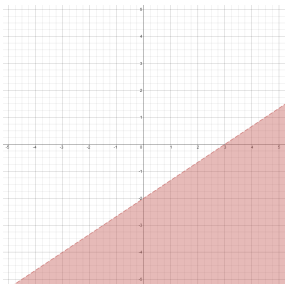
(a) $x \le 2$



(b) $y \ge 3$

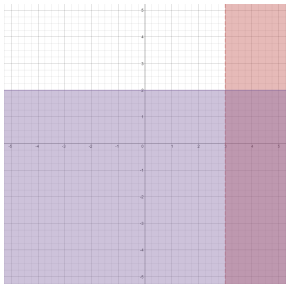


(c) $3x - 4y > 12$

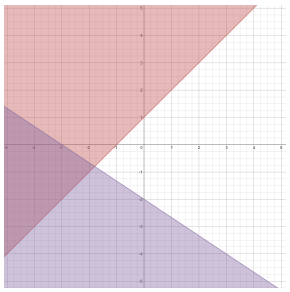


(a) $y < \frac{2}{3}x - 2$

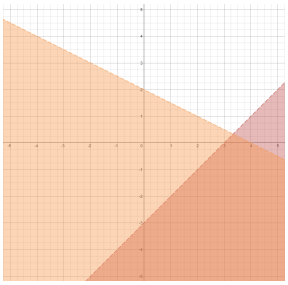
3)



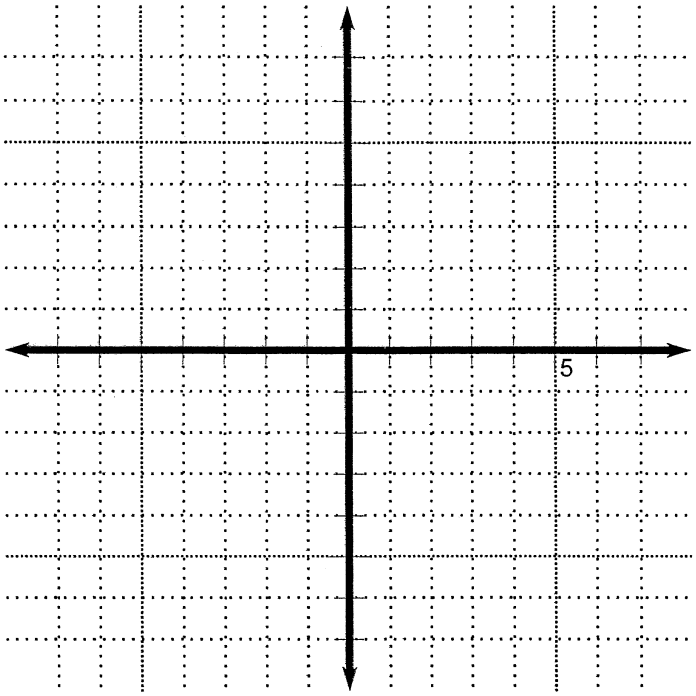
(a) $\begin{cases} x > 3 \\ y \le 2 \end{cases}$



(b) $\begin{cases} y \ge x + 1 \\ 2x + 3y \le -6 \end{cases}$



(c) $\begin{cases} x - y > 3 \\ 2x + 4y < 8 \end{cases}$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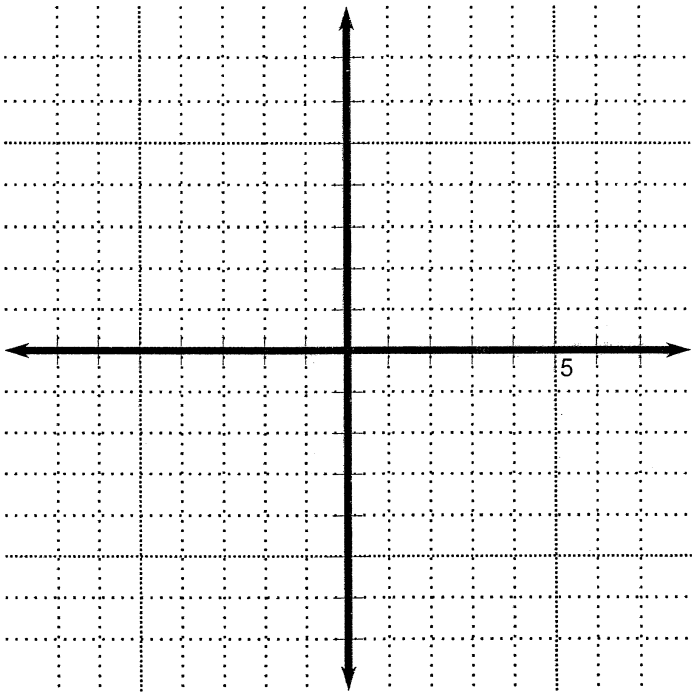
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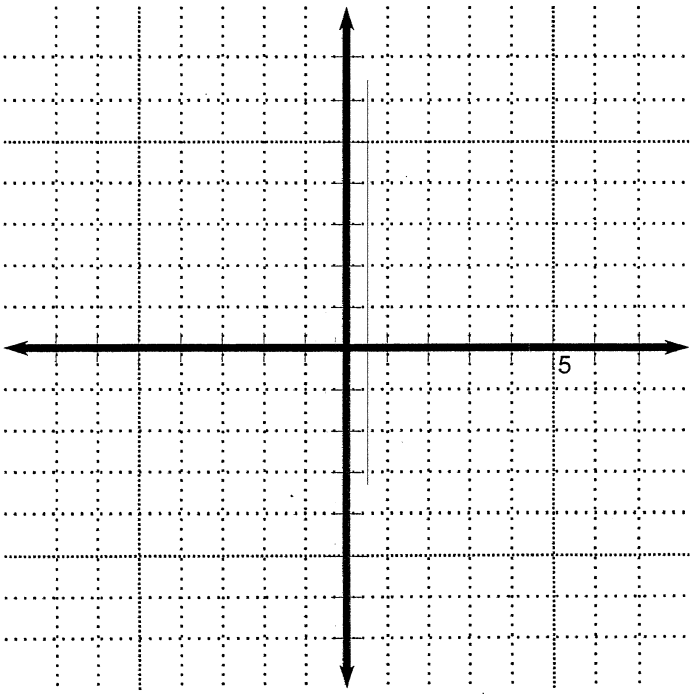
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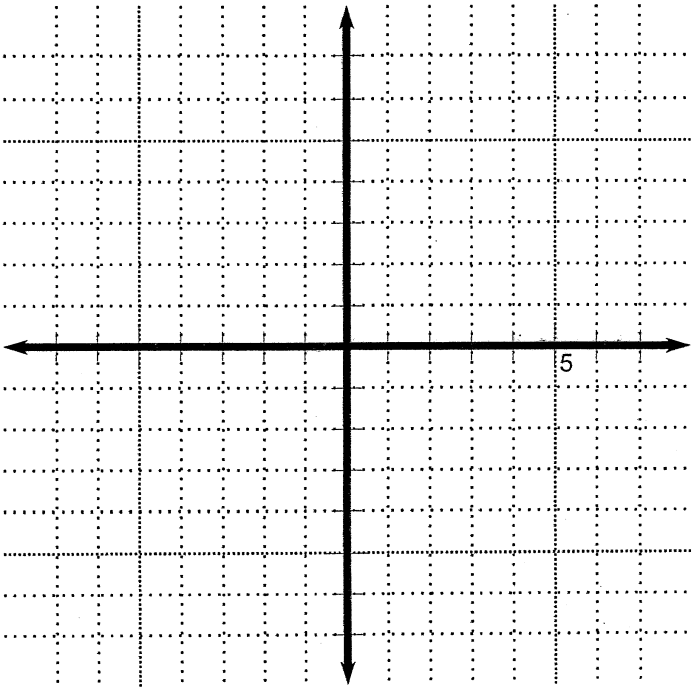
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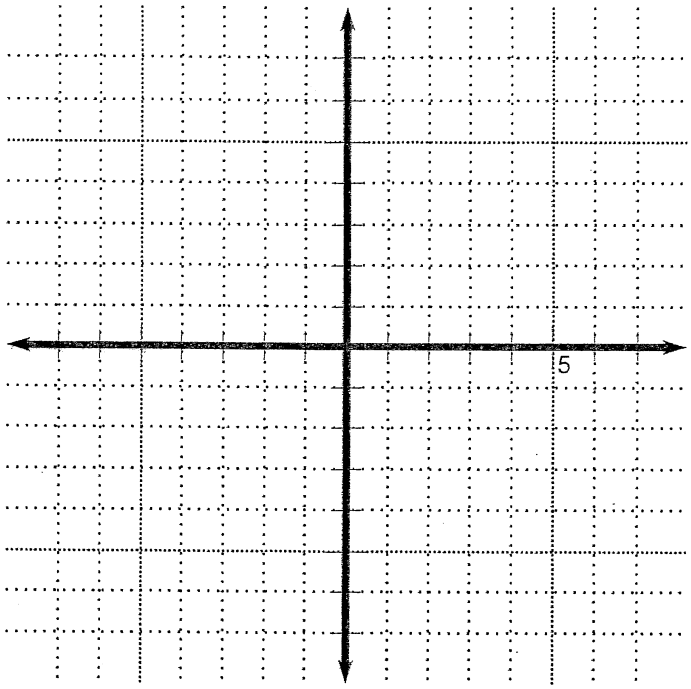
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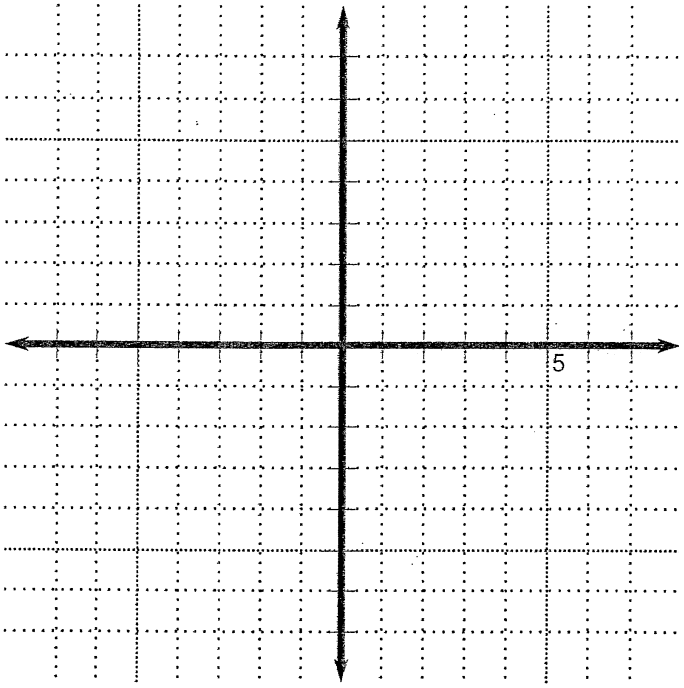
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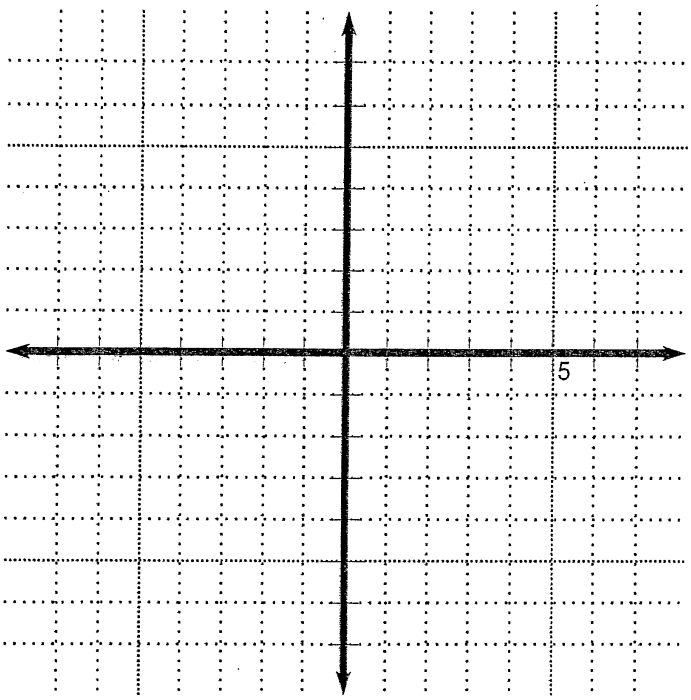
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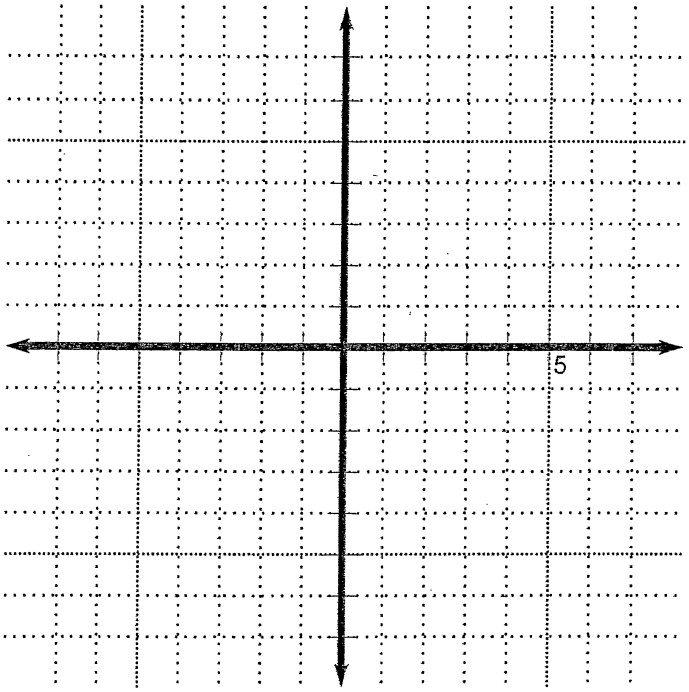
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