

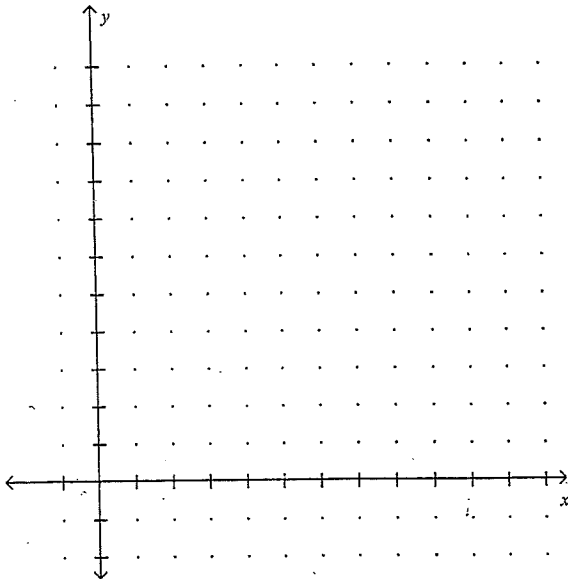
Linear Programming Day #3

Name: _____

In Groups

In your groups, solve the linear programming problem. Everyone must have their own work. Then you will solve problem by yourself!!!

Delores arrives at school late because her car broke down, and therefore, has only 45 min to complete a history exam. Because the test has two open-ended questions and thirty multiple-choice questions, she must answer at most 2 open-ended questions and at most 30 multiple-choice questions. Each correct open-ended question is worth 20 pts and each multiple choice question is worth 2 pts. She knows that it usually takes her 15 min to answer an open-ended question and only 1 min to answer a multiple-choice question. Assume that for each question Delores answers, she receives full credit. How many of each type of question should she answer to receive the maximum possible points? What is the maximum possible points that Delores can receive?

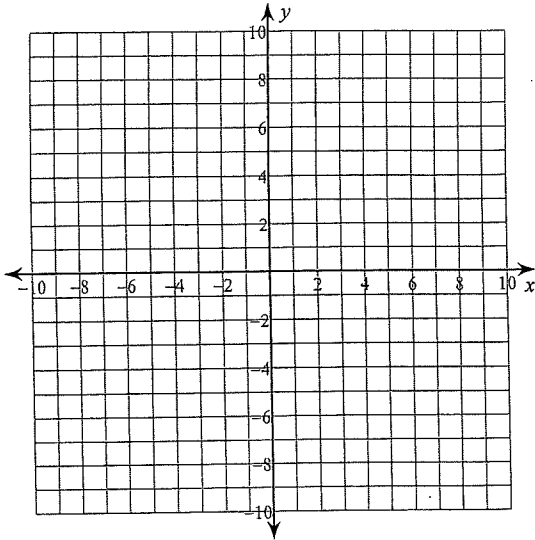


Review for Unit 3 Quiz 2

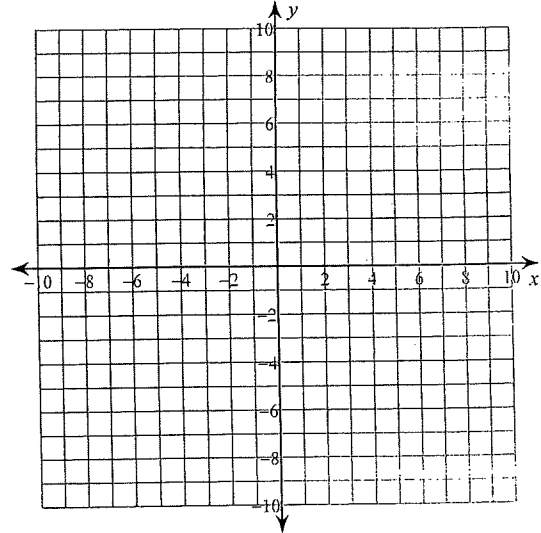
Date _____

Sketch the solution to each system of inequalities.

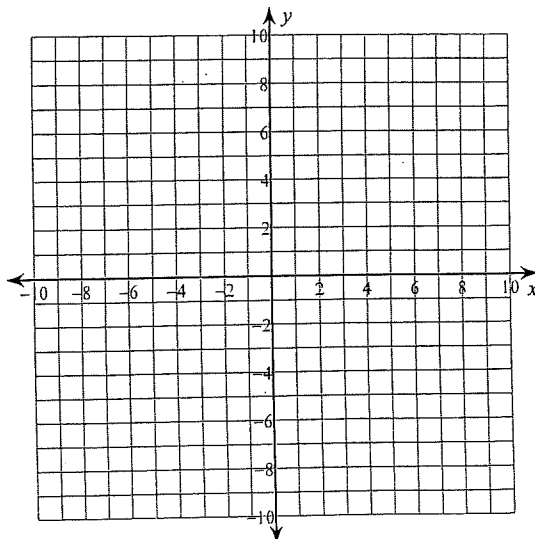
$$\begin{aligned} 1) \quad & 3x + 4y \geq -4 \\ & x - 4y \geq 20 \end{aligned}$$



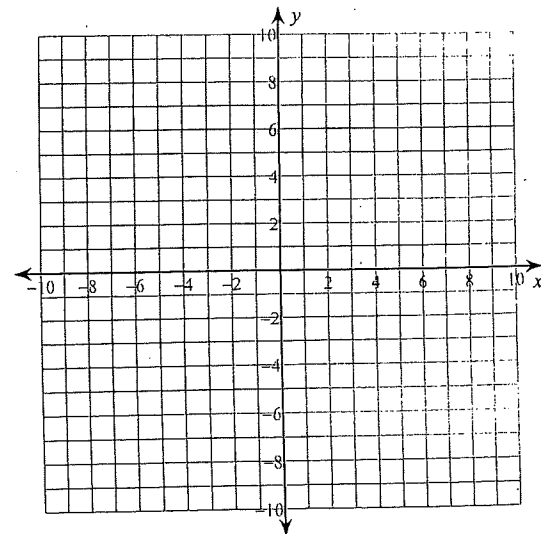
$$\begin{aligned} 2) \quad & 5x - 6y \leq 42 \\ & x - 6y \leq 18 \end{aligned}$$



$$\begin{aligned} 3) \quad & 8x - 5y < -25 \\ & x + 5y \leq -20 \end{aligned}$$



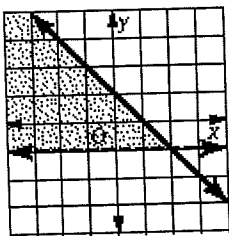
$$\begin{aligned} 4) \quad & x + 2y > 6 \\ & 5x + y \geq -6 \end{aligned}$$



Review for Unit 3 Quiz 2

Multiple Choice

_____ 1. Which system of inequalities is graphed?



- a. $y > -1$
 $y \geq -x + 1$
- b. $y \geq -1$
 $y \geq -x + 1$

- c. $y > -1$
 $y \leq -x + 1$
- d. $y > -1$
 $y < -x + 1$

Use the system of inequalities $y \geq 1$, $y - x \leq 6$, and $x + 2y \leq 6$.

_____ 2. Find the coordinates of the vertices of the feasible region.

- a. $(-6, 0), (-2, 4), (6, 0)$
- b. $(0, 1), (0, 3), (4, 1)$

- c. $(-5, 1), (-2, 4), (4, 1)$
- d. $(-5, 1), (-2, 4), (0, 3), (0, 1)$

_____ 3. Find the maximum value of $f(x, y) = 2x + y$ for the feasible region.

- a. 0
- b. 11

- c. 9
- d. 8

_____ 4. Find the minimum value of $f(x, y) = 2x + y$ for the feasible region.

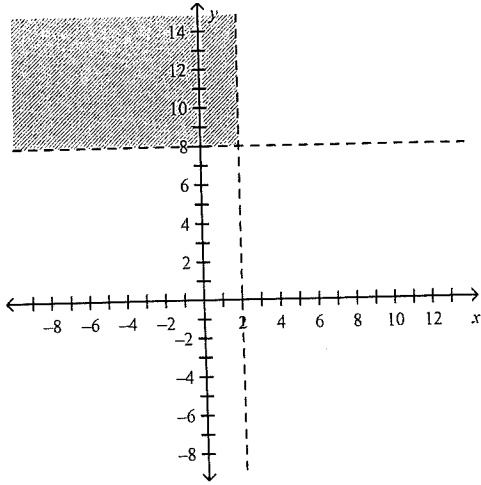
- a. -10
- b. 0

- c. -9
- d. -4

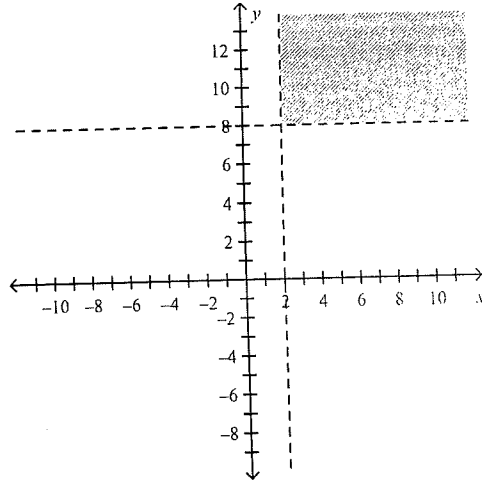
Solve the system of inequalities by graphing.

5. $x > 2$
 $y > 8$

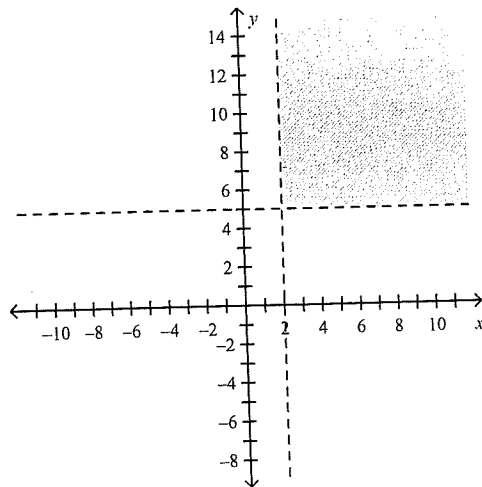
a.



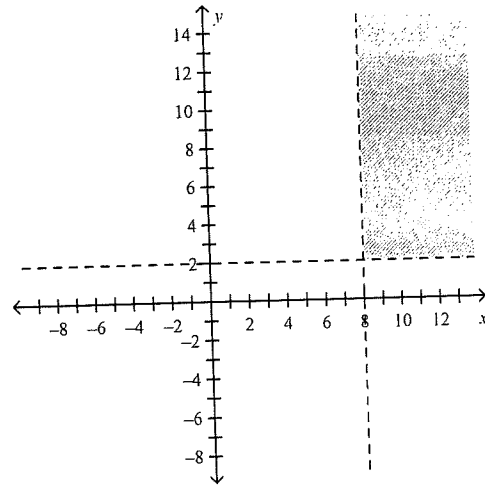
c.



b.



d.



Find the coordinates of the vertices of the figure formed by each system of inequalities.

6. $y \geq -2$
 $2x + y \leq 2$
 $y \leq 2x + 6$

- a. $(2, -2), (-4, -2), (-1, 4)$
- b. $(2, 4), (-1, -2), (-4, -2)$
- c. $(2, -2), (4, 2), (1, -4)$
- d. $(2, -2), (4, -2), (0, -8)$