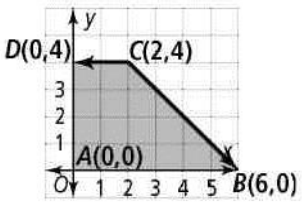
Name _____ Class _____ Date _____

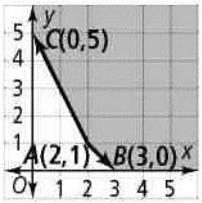
3-4 Linear Programming

Find the values of *x* and *y* that maximize or minimize the objective function for each graph.

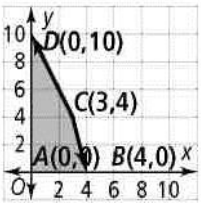
1. Maximum for $P = 6x + 2y$



2. Minimum for $P = 4x + y$



3. Maximum for $P = x + y$



Graph each system of constraints. Name all vertices. Then find the values of *x* and *y* that maximize or minimize the objective function.

7. $\begin{cases} x + 2y \le 6 \\ x \ge 2 \\ y \ge 1 \end{cases}$

Minimum for $C = 3x + 4y$

8. $\begin{cases} x + y \le 5 \\ x + 2y \le 8 \\ x \ge 0, y \ge 0 \end{cases}$

Maximum for $P = x + 3y$

9. $\begin{cases} x + y \le 6 \\ 2x + y \le 10 \\ x \le 0, y \ge 0 \end{cases}$

Maximum for $P = 4x + y$

Name_____ Class _____ Date_____

3-4 Practice (continued) *Form K*

Linear Programming

Graph each system of constraints. Name all vertices. Then find the values of *x* and *y* that maximize or minimize the objective function. Find the maximum or minimum value.

12. $\begin{cases} 3x + 2y \le 6 \\ 2x + 3y \le 6 \\ x \ge 0, y \ge 0 \end{cases}$

Maximum for $P = 4x + y$

13. $\begin{cases} 4x + 2y \le 4 \\ 2x + 4y \le 4 \\ x \ge 0, y \ge 0 \end{cases}$

Maximum for $P = 3x + y$

14. $\begin{cases} x + y \le 5 \\ 4x + y \le 8 \\ x \ge 0, y \ge 0 \end{cases}$

Minimum for $C = x + 3y$