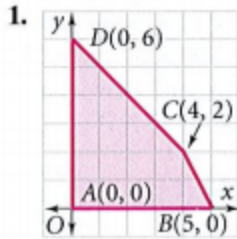
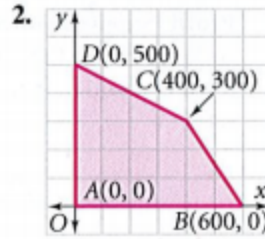


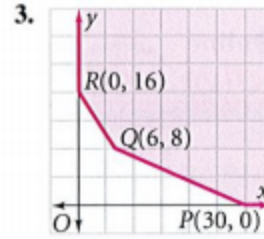
Find the values of  $x$  and  $y$  that maximize or minimize the objective function for each graph.



Maximum for  
 $P = 3x + 2y$



Maximum for  
 $P = 7x + 4y$



Minimum for  
 $C = 2x + 3y$

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

4. 
$$\begin{cases} x \leq 5 \\ y \leq 4 \\ x \geq 0, y \geq 0 \end{cases}$$

Maximum for  
 $P = 3x + 2y$

5. 
$$\begin{cases} x + y \geq 8 \\ y \geq 5 \\ x \geq 0 \end{cases}$$

Minimum for  
 $P = 3x + 2y$

6. 
$$\begin{cases} x + y \leq 8 \\ 2x + y \leq 10 \\ x \geq 0, y \geq 0 \end{cases}$$

Maximum for  
 $N = 100x + 40y$

7. 
$$\begin{cases} x + y \geq 6 \\ x \leq 8 \\ y \leq 5 \end{cases}$$

Minimum for  
 $C = x + 3y$

8. 
$$\begin{cases} x + 2y \geq 8 \\ x \geq 2 \\ y \geq 0 \end{cases}$$

Minimum for  
 $C = x + 3y$

9. 
$$\begin{cases} 2 \leq x \leq 6 \\ 1 \leq y \leq 5 \\ x + y \leq 8 \end{cases}$$

Maximum for  
 $P = 3x + 2y$

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.

14. 
$$\begin{cases} 3x + y \leq 7 \\ x + 2y \leq 9 \\ x \geq 0, y \geq 0 \end{cases}$$

Maximum for  
 $P = 2x + y$

15. 
$$\begin{cases} 25 \leq x \leq 75 \\ y \leq 110 \\ 8x + 6y \geq 720 \end{cases}$$

Minimum for  
 $C = 8x + 5y$

16. 
$$\begin{cases} x + y \leq 11 \\ 2y \geq x \\ x \geq 0, y \geq 0 \end{cases}$$

Maximum for  
 $P = 3x + 2y$

17. 
$$\begin{cases} 2x + y \leq 300 \\ x + y \leq 200 \\ x \geq 0, y \geq 0 \end{cases}$$

Maximum for  
 $P = x + 2y$

18. 
$$\begin{cases} 5x + y \geq 10 \\ x + y \geq 6 \\ x + 4y \geq 12 \\ x \geq 0, y \geq 0 \end{cases}$$

Minimum for  
 $C = 10,000x + 20,000y$

19. 
$$\begin{cases} 6 \leq x + y \leq 13 \\ x \geq 3 \\ y \geq 1 \end{cases}$$

Maximum for  
 $P = 4x + 3y$