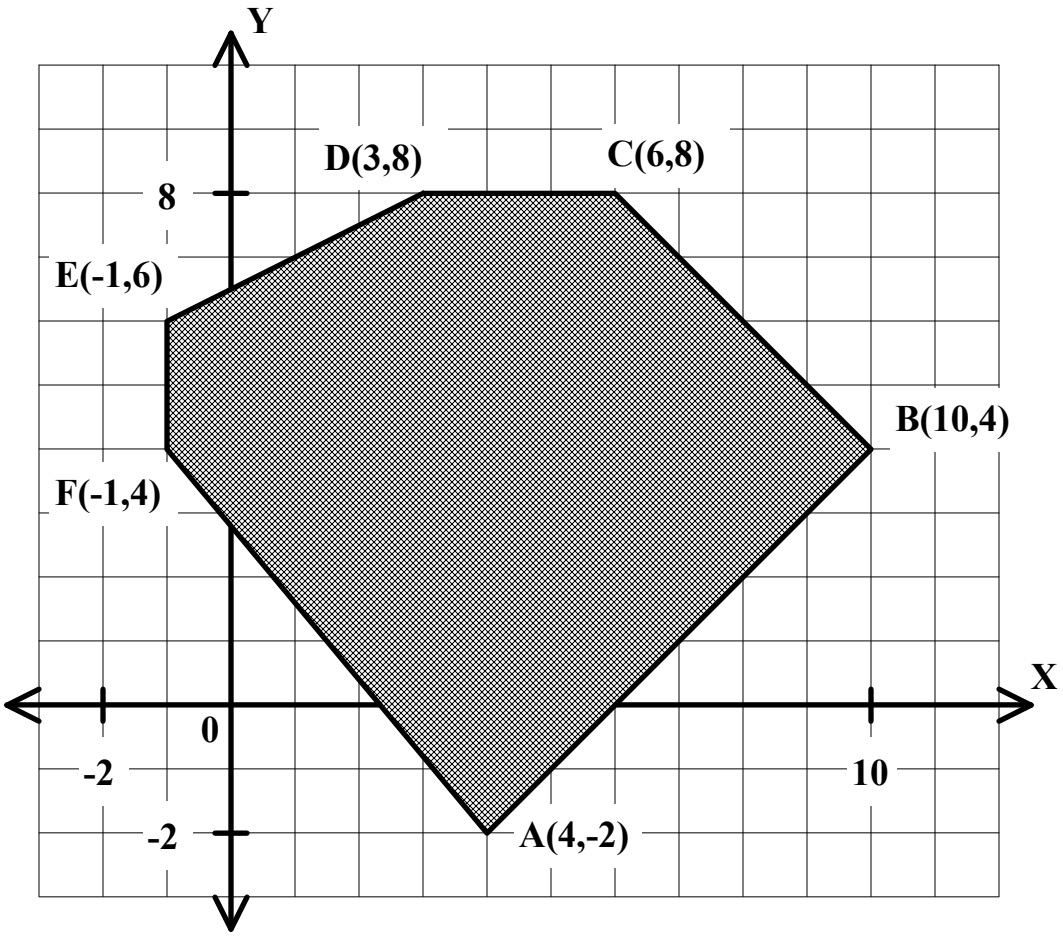
General Algebra II Worksheet #2 Unit 5 page 1 _____

Below, you are given a graph of a system of inequalities (system of constraints) and several objective functions. In each case, you are to find both the maximum and the minimum value of the objective function and the vertex at which each occurs.



1. $R = 4x + 2y$

R_{max} = _____ at _____

R_{min} = _____ at _____

2. $R = x + 5y$

R_{max} = _____ at _____

R_{min} = _____ at _____

3. $R = -2x + y$

R_{max} = _____ at _____

R_{min} = _____ at _____

4. $R = -x + 3y$

R_{max} = _____ at _____

R_{min} = _____ at _____

General Algebra II Worksheet #2 Unit 5 page 2

Below, you are given a system of constraints and several objective functions. Graph the system and find the indicated maximum and minimum value of the function and the vertex at which each occurs.

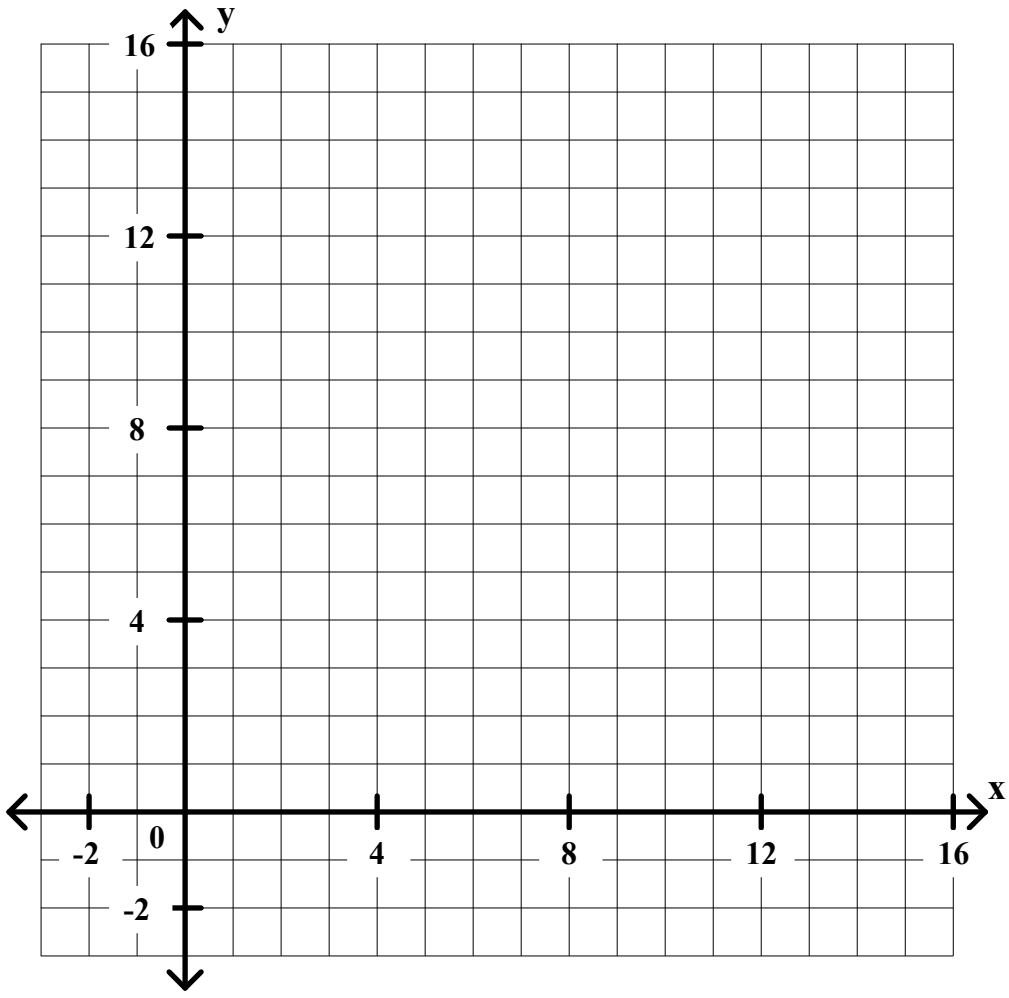
$2x + 3y \leq 45$

$-x + 2y \leq 16$

$x \geq 2$

$x - 3y \leq 0$

$x + y \geq 8$



5. $C = x + 4y$

C_{max} = _____ at _____

C_{min} = _____ at _____

6. $C = 3x - y$

C_{max} = _____ at _____

C_{min} = _____ at _____

7. $C = 2x + y$

C_{max} = _____ at _____

C_{min} = _____ at _____

8. $C = -4x + 3y$

C_{max} = _____ at _____

C_{min} = _____ at _____