A1 Lesson 4.7 Homework

Name _____

1. A system of inequalities is given below.

$2x + 3y > 10$

$-4x + y < -27$

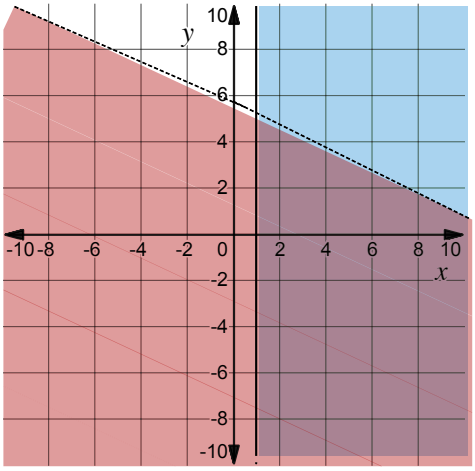
Is $(7, -1)$ a solution to the system? Give a reason for your answer.

yes it is in the double shaded portion

2. Graph the system of inequalities.

$y < 6 - \frac{1}{2}x$

$x \geq 1$



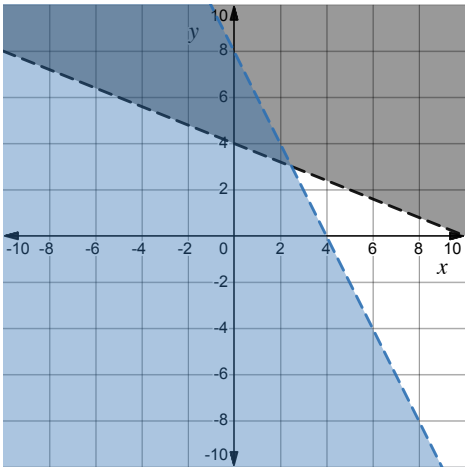
3. The graph of a system of inequalities is shown. Which of the following points is a solution to the system?

A) $(0, 0)$

B) $(8, -2)$

C) $(-4, 8)$

D) $(0, 4)$



4. A system of inequalities is given.

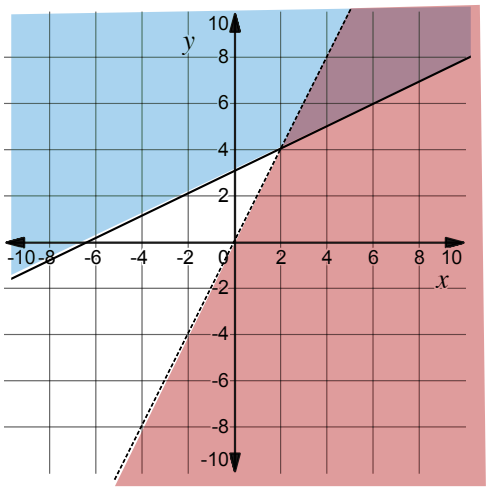
$-2x + 4y \geq 12$

$y < 2x$

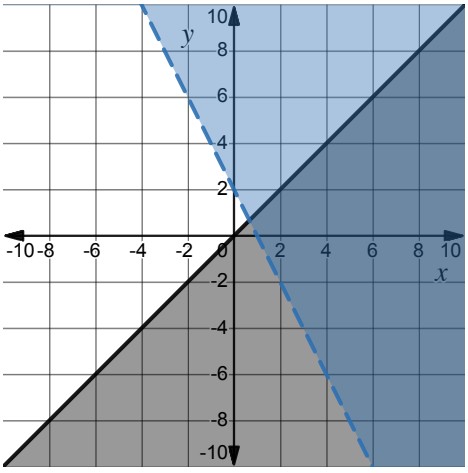
a. Graph the system of inequalities.

b. Give 3 solutions to the system.

(6, 8), (6, 9), (6, 10)



5. Write a system of inequalities whose solutions are shown in the graph below.



$y \leq x$

$y > -2x + 2$

6. The graph of a system of two linear inequalities is shown below.

a. Which point(s) represents an ordered pair that is a solution to neither inequality?

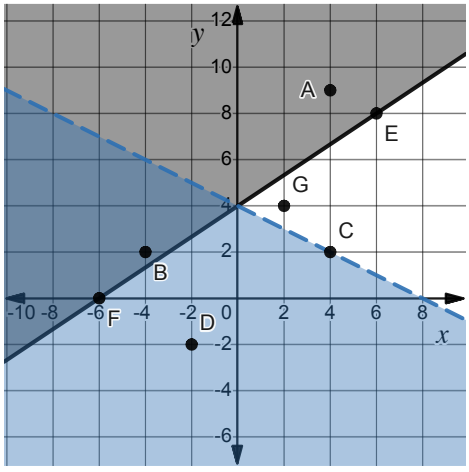
G, C

b. Which point(s) represents an ordered pair that is a solution to both inequalities?

B, F

c. Which point(s) represents an ordered pair that is a solution to only one of the two inequalities?

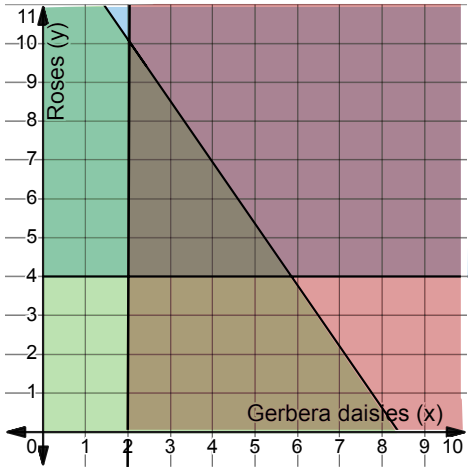
D, A, E



7. Katelyn is making bouquets out of gerbera daisies and roses. She wants each bouquet to have at least 2 gerbera daisies and at least 4 roses. Gerbera daisies cost $\$3$ per stem and roses cost $\$2.50$ per stem. Katelyn wants each bouquet to cost at most $\$25$. Let x be the number of gerbera daisies in the bouquet and y be the number of roses in the bouquet.

a. Write a system of inequalities to represent these constraints.

b. Graph the system.



c. Find a combination of Gerbera daisies and roses that meets her constraints but would come in under budget (less than $\$25$). How many such combinations are there? (3,6), 10

d. Find a combination of Gerbera daisies and roses that meets her constraints and would cost exactly $\$25$. (5,4)

e. Is $(3, 5.5)$ a solution to this system? Explain your reasoning.

Yes it is a solution but would not make sense as you can't get half a flower

8. To earn money, Ren walks dogs and pulls weeds for people in his neighborhood. He earns $\$5$ for walking a dog and $\$15$ for weeding a yard. He walks dogs for a half hour and he weeds for 1 hour. Ren wants to earn at least $\$90$ this week, but he can work at most 8 hours.

a. Write a system of inequalities describing the number of dogs Ren walks, d, and the number of yards he weeds, w.

$5d + 15w \geq 90$

$0.5d + 1w \leq 8$

b. Give a possible solution to the system. Explain what your solution means and why it meets the constraints of the problem.

5 dog walks and 5 weed pullings

he makes 100$ and spends 7 1/2 hours