

4.7 CW #7 More or Less

A Practice Understanding Task



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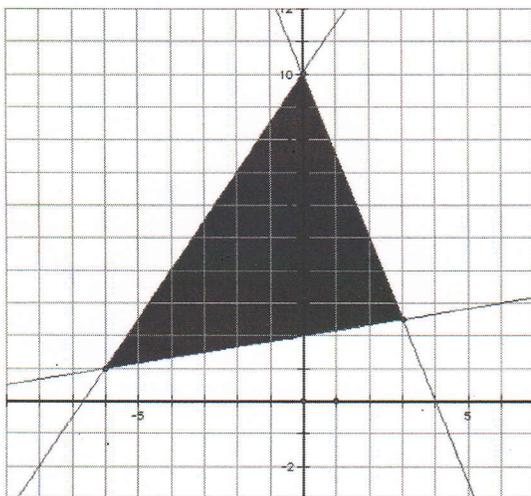
Solve the following systems of inequalities:

1.
$$\begin{cases} -5x + 3y \leq 45 \\ 2x + 3y > 24 \end{cases}$$

2.
$$\begin{cases} -10x + 6y \leq 90 \\ 6x + 9y > 36 \end{cases}$$

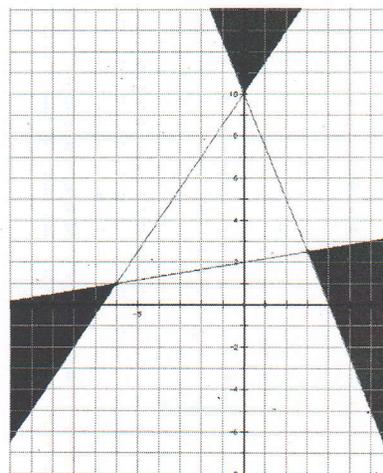
3. Is the point $(-3, 10)$ a solution to the system in problem #1? Why or why not?

4. Write the system of inequalities whose solution set is shown below:



5. Amanda is examining Frank's work on #4, when she exclaims, "You have written all of your inequalities backwards. The solution set to your system would look like this."

What do you think about Amanda's statement?



Carlos and Clarita have found a cat food that seems to appeal to even the most finicky of cats, *Figaro Flakes*. They want to mix it with a less expensive cat food, *Tabitha Tidbits*, to make an affordable, but tasty cat food.

Tabitha Tidbits contains 4 grams of protein and 6 grams of fat per scoop. *Figaro Flakes* contains 12 grams of protein and 4 grams of fat per scoop. Carlos wants to make a meal for cats that contains at least 8 grams of protein and no more than 6 grams of fat per scoop.

6. Write and solve a system of inequalities that Carlos can use to determine possible combinations of *Tabitha Tidbits* and *Figaro Flakes* that will satisfy both of these constraints.

7. Based on your work, suggest at least 3 different “recipes” using each type of cat food that meets Carlos’ nutritional goals. For example, would 1 scoop of *Tabitha Tidbits* and $\frac{1}{2}$ scoop of *Figaro Flakes* be an acceptable meal?