

For the following,

- a. Clearly identify your variables
- b. Set up a system of equations that represents the information in the problem
- c. Solve the system, showing all work
- d. Answer the question in a complete sentence

1. Anna Banana goes to the store to buy candy. She buys a mixture of jelly beans and Hershey's kisses that weighs 4 lbs (her mother was NOT happy with her). The jelly beans cost \$2.25/lb and the kisses cost \$3.35/lb. Anna ended up spending \$10.98 before tax. How many pounds of each type of candy did she buy?

- a. Variables: _____ c. _____

- b. System:

d. _____

2. You just purchased a cellular phone and are trying to decide the best cellular phone company in which to give your business. When you contacted the Talks-A-Lot company, they were offering a monthly plan of \$40 for 500 minutes and \$0.25 for each minute over the 500 minutes. In the Sunday paper you see an ad for the ChatAway company, which offers a monthly plan of \$35 for 500 minutes and \$0.30 for each minute over the 500 minutes. How many minutes would you have to talk over the 500 minutes for the cost to be the same with both companies? What would be the equal cost?

- a. Variables: _____ c. _____

- b. System:

d. _____

3. The juniors run a fundraiser selling boxes of fresh fruit from Florida. The price for a small box of oranges was \$16 and that for a large box of grapefruit was \$27. Herbert worked hard and brought in \$920 from his sales. A friend of his asked how many boxes of each type he sold. He said that his number of grapefruit was ten less than twice his number of oranges. How many boxes of each type did he sell?

a. Variables:

c.

b. System:

d.

For the next three problems, just (a)clearly identify your variables and then (b)set up the system that you would solve to answer the question. Do not solve your systems!!!

4. Rodney's Kitchen Supplies makes and sells spoons and forks. It costs the store \$2 to buy the supplies needed to make a fork, and \$1 for the supplies needed to make a spoon. The store sells the forks for \$4 and the spoons for 5\$. Last month Rodney's Kitchen Supplies spent \$39 on supplies and sold the all of the forks and spoons that were made last month using those supplies for \$93. How many forks and spoons did they make?

a.

b.

5. A farmhouse shelters 16 animals. Some of them are chickens and the others are cows. Altogether these animals have 60 legs. How many chickens and how many cows are in the farmhouse?

a.

b.

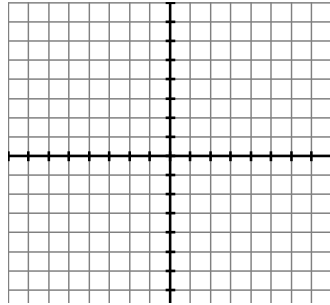
6. Last season two running backs on the Steelers football team rushed for a combined total of 1550 yards. One rushed 4 times as many yards as the other. How many yards were rushed by each one?

a.

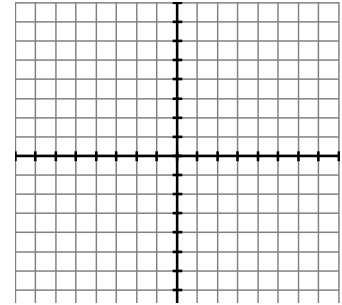
b.

For 1 – 4, graph each system very neatly and highlight the solution region with either a distinct color or with happy faces. Clearly mark the boundaries. Color code the inequalities and their graphs.

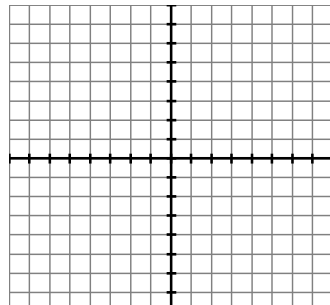
$$1. \begin{cases} y > -3 - \frac{1}{2}x \\ y \leq 4 \end{cases}$$



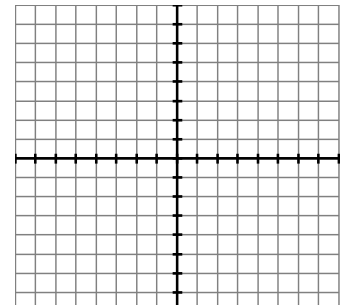
$$2. \begin{cases} y > \frac{1}{4}(x+1) - 3 \\ 4x - 2y > 8 \end{cases}$$



$$3. \begin{cases} 2y < 4 + 3x \\ y + 5 \geq \frac{1}{2}x \end{cases}$$



$$4. \begin{cases} y \geq -\frac{3}{2}(x-3) + 1 \\ x - y > 5 \end{cases}$$



5. Write a system of inequalities to match the graphs.

