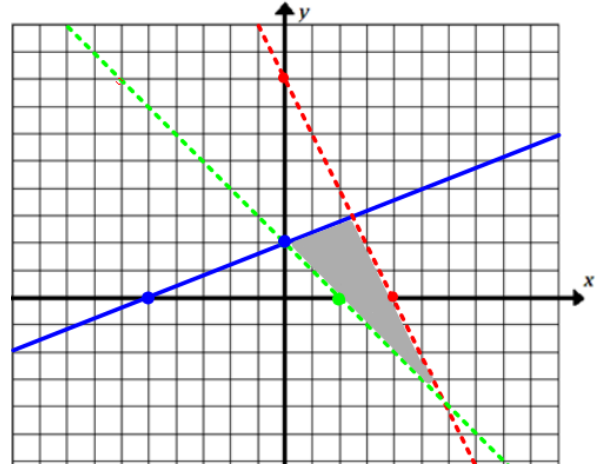


Name _____

Systems of Inequalities Worksheet 1

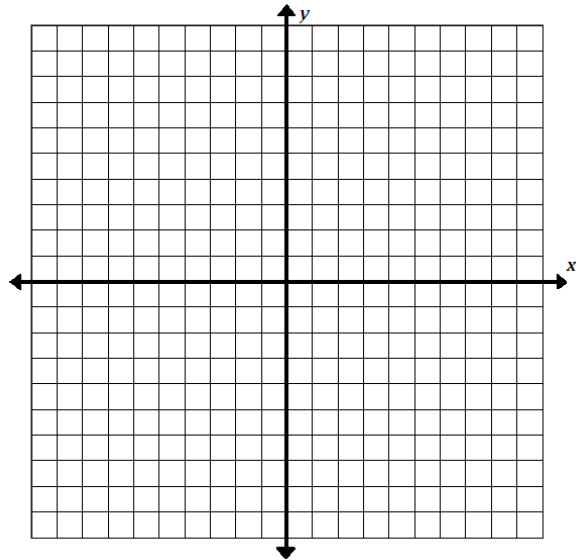
1. Write a system of inequalities for the graph shown below.



2. Solve the system of inequalities by graphing.

$$y < 2x + 4$$

$$3x - 2y \leq 6$$

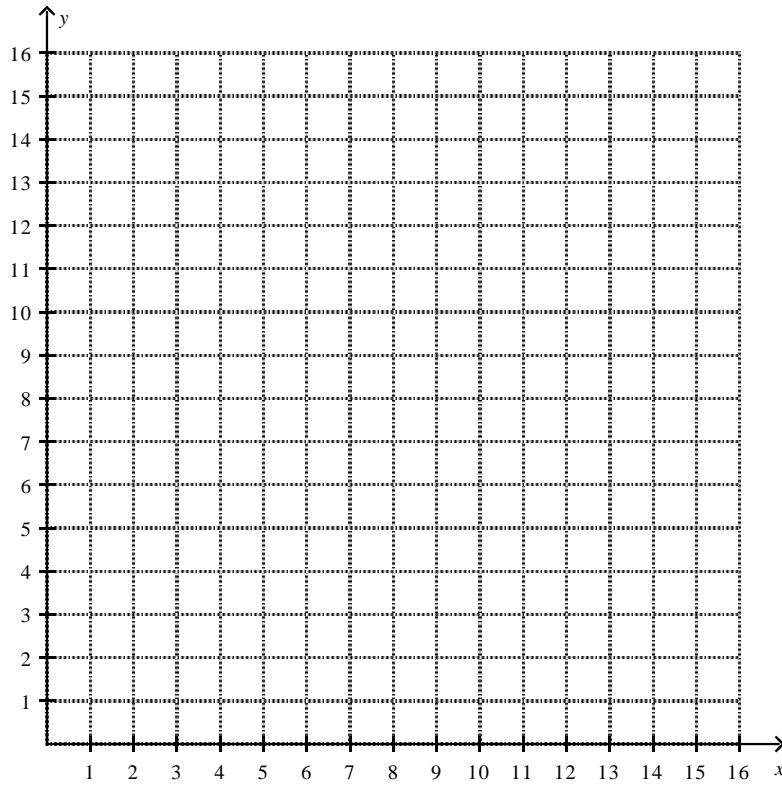


3. Is $(4, -10)$ a solution to the system?

$$y < -3x - 8$$

$$4x + 7y > -55$$

4. You have a gift certificate to a coffee shop worth \$30. You are buying coffee or a latte for all of your friends that will be joining you, so there will be at least 8 people total (including you). Each regular coffee is \$2 and each latte is \$5.
- Write and graph a system of inequalities to model the number of coffees and lattes you can buy. Be sure to label all parts of your graph.
 - State one solution that would work, and determine how much money remains on your gift certificate.



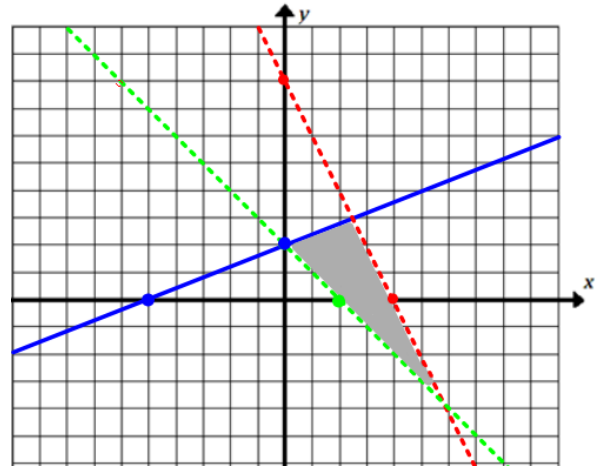
Systems of Inequalities Worksheet 1 Answers

1. Write a system of inequalities for the graph shown below.

$$y > -x + 2$$

$$y \leq \frac{2}{5}x + 2$$

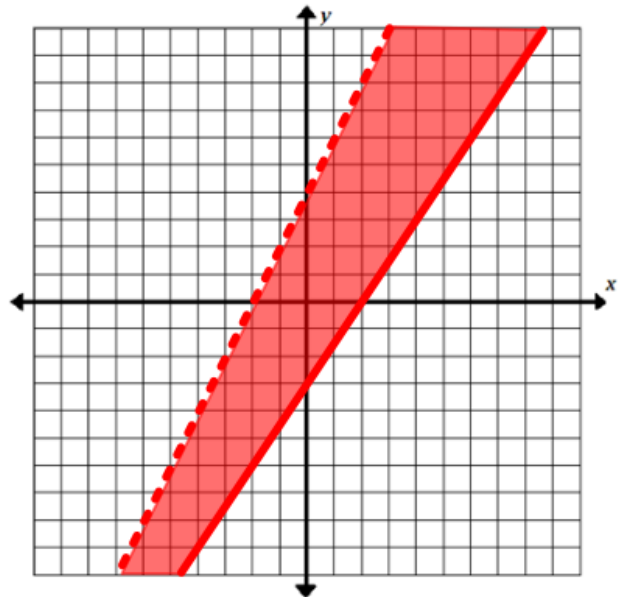
$$y < -2x + 8$$



2. Solve the system of inequalities by graphing.

$$y < 2x + 4$$

$$3x - 2y \leq 6$$



3. Is $(4, -10)$ a solution to the system?

$$y < -3x - 8$$
$$4x + 7y > -55$$

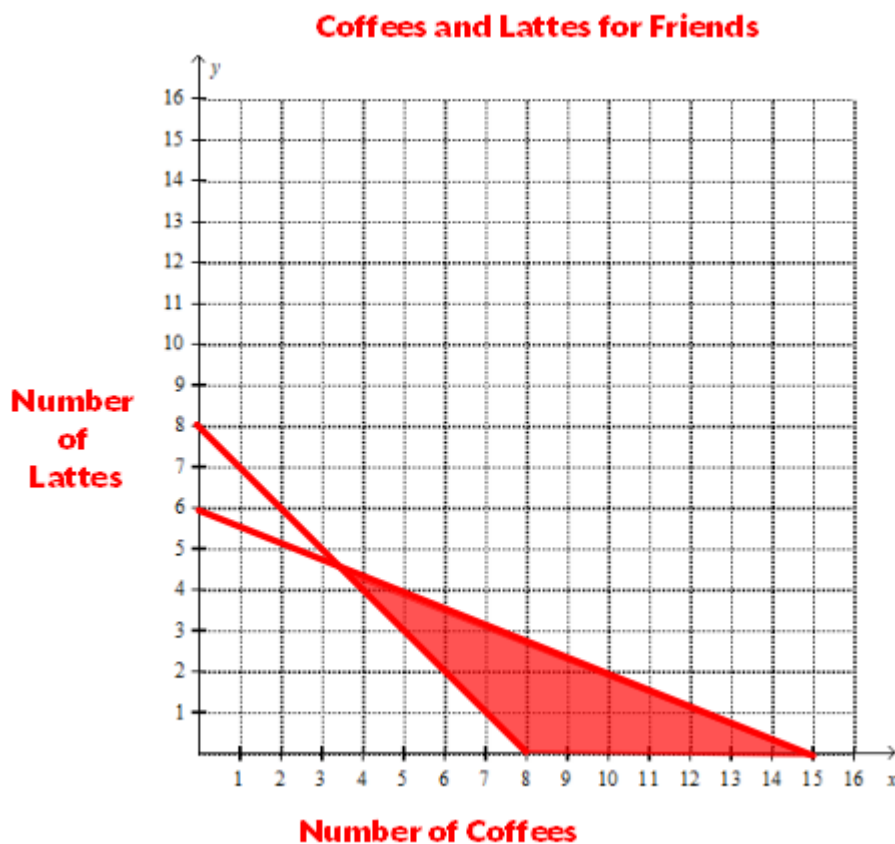
No

4. You have a gift certificate to a coffee shop worth \$30. You are buying coffee or a latte for all of your friends that will be joining you, so there will be at least 8 people total (including you). Each regular coffee is \$2 and each latte is \$5.
- Write and graph a system of inequalities to model the number of coffees and lattes you can buy. Be sure to label all parts of your graph.
 - State one solution that would work, and determine how much money remains on your gift certificate.

a) $x = \text{number of coffees}, y = \text{number of lattes}$

$$x + y \geq 8$$

$$2x + 5y \leq 30$$



- b) Sample Solution: 9 coffees and 1 latte
Total cost would be \$23, leaving \$7 on the gift certificate