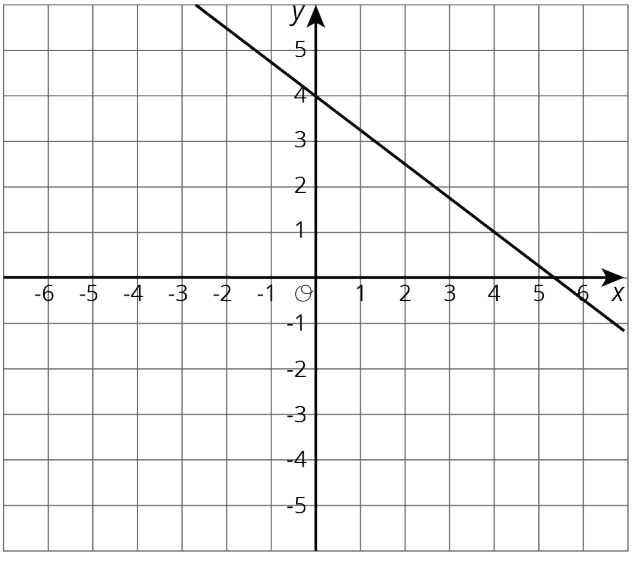
Lesson 13 Practice Problems

1. Here is the graph for one equation in a system of equations:



   a. Write a second equation for the system so it has infinitely many solutions.

   b. Write a second equation whose graph goes through $(0, 1)$ so the system has no solutions.

   c. Write a second equation whose graph goes through $(0, 2)$ so the system has one solution at $(4, 1)$.

2. Create a second equation so the system has no solutions.

$$\begin{cases} y = \frac{3}{4}x - 4 \\ \end{cases}$$

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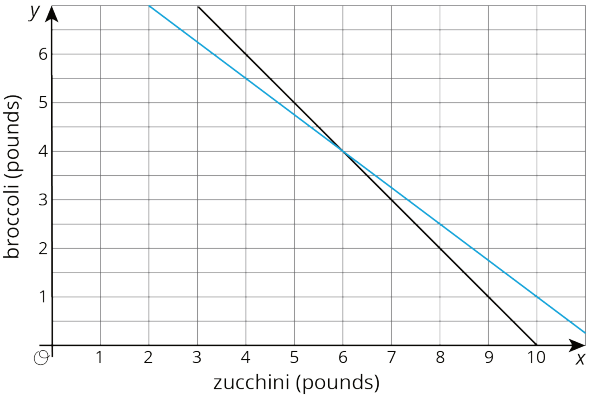
3. Andre is in charge of cooking broccoli and zucchini for a large group. He has to spend all $17 he has and can carry 10 pounds of veggies. Zucchini costs $1.50 per pound and broccoli costs $2 per pound. One graph shows combinations of zucchini and broccoli that weigh 10 pounds and the other shows combinations of zucchini and broccoli that cost $17.



   a. Name one combination of veggies that weighs 10 pounds but does not cost $17.

   b. Name one combination of veggies that costs $17 but does not weigh 10 pounds.

   c. How many pounds each of zucchini and broccoli can Andre get so that he spends all $17 and gets 10 pounds of veggies?

(From Unit 5, Lesson 12.)

4. The temperature in degrees Fahrenheit, F, is related to the temperature in degrees Celsius, C, by the equation

$$F = \frac{9}{5}C + 32$$

   a. In the Sahara desert, temperatures often reach 50 degrees Celsius. How many degrees Fahrenheit is this?

   b. In parts of Alaska, the temperatures can reach -60 degrees Fahrenheit. How many degrees Celsius is this?

   c. There is one temperature where the degrees Fahrenheit and degrees Celsius are the same, so that $C = F$. Use the expression from the equation, where F is expressed in terms of C, to solve for this temperature.

(From Unit 4, Lesson 17.)

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