

1. Solve for  $x$  by *busting the fractions*:  $\frac{2}{5}x + \frac{1}{3} = 1$ .

2. *"I HATE solving equations with decimals!"* Beverly whined to her friends. *"It is just such a pain! I seem to always make mistakes or lose my decimal point,"* she finished. *"Do you have an example?"* asked her friend Dorothy. *"I do. Look at this problem,"* Beverly said.

Solve for  $x$ :

$$.52x - .32 = 1.23$$

*"Oh, don't let that kind of problem get you frustrated,"* Dorothy told Beverly. *"Just multiply everything by 100 first!"* she added gleefully. *"What?"* Beverly asked. *"How can I do that?"*

- a. Try Dorothy's suggestion: multiply each term by 100. Can you solve the equation easier then?
  - b. Solve the original equation. Did you get the same answer as in part (a)?
3. Eugene solved the system of equations below. His solution was  $(3, -4)$ . Without solving the system yourself, can you tell him whether the solution is correct? Prove whether or not the system is correct and explain your reasoning.

$$\begin{aligned}x + y &= -1 \\ \frac{1}{3}x + \frac{1}{4}y &= 0\end{aligned}$$

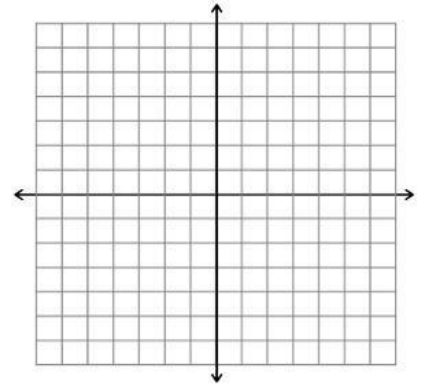
4. Paco and his friend Fabienne like to collect baseball cards. Paco has 5 cards and collects 2 more each week. Fabienne has 9 cards and collects 1 more each week. These relationships are shown as rules (equations) below. For the rules,  $x$  represents the number of weeks and  $y$  represents the number of cards.

Paco's Rule:  $y = 5 + 2x$

Fabienne's Rule:  $y = 9 + 1x$

- a. In how many weeks will Paco and Fabienne have the same number of baseball cards?
  - b. How many cards will each person have at this time?
  - c. Choose a second method (table, graph or equal values) to verify that your answers above are correct.
5. Use tables, rules, and a graph to find and check the solution for the following problem.

Edda has a poodle that weighs 7 pounds and gains 1 pound per year. Walden has a young sheltie that weighs 2 pounds and gains 1 pound every 6 months. When will the two dogs weigh the same amount?



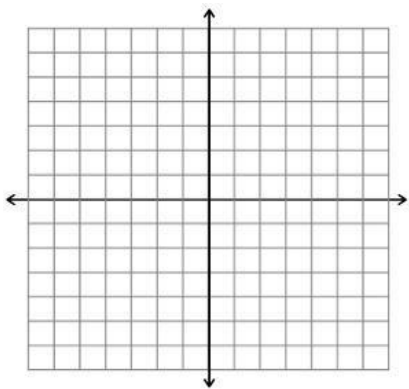
6. Solve the following equation for the indicated variable. Show all of your work.

Solve for  $x$ :  $y = 4x + 3$

7. Solve the equation below for  $y$ . State the growth and the  $y$ -intercept.

$$-6z + 5z = -3(2 - z)$$

8. Graph  $y = -2x + 1$  without using a table. Explain the steps you took to graph it.



9. Solve the following system of equations using the equal values method. Show your work and check your answer.

$$\begin{aligned} 2x - 2y &= 6 \\ y &= 11 - 3x \end{aligned}$$