

4.4 Practice A

Without graphing, determine whether the system of linear equations has *one solution*, *infinitely many solutions*, or *no solution*. Explain your reasoning.

1. $y - 3x = 5$
 $y = 3x + 5$

2. $y = 6x + 2$
 $y = 6x - 2$

3. $y = 5x + 9$
 $y = 3x - 2$

Solve the system of linear equations. Check your solution.

4. $y = 4x - 5$
 $y + 2 = 4x$

5. $y = 2 - 3x$
 $2x - y = 13$

6. $y = \frac{2}{3}x - 3$
 $2x - 3y = 9$

7. A gift basket has 2 soaps and 5 lotions and costs \$20. A second gift basket has 6 soaps and 15 lotions and costs \$50. Is it possible to determine the price of the soap?
8. Both equations in a system of linear equations have y -intercepts at $(0, 2)$.
- Is it possible for this system to have only *one solution*? Explain your reasoning.
 - Is it possible for this system to have *no solution*? Explain your reasoning.
 - Is it possible for this system to have *infinitely many solutions*? Explain your reasoning.
9. For a given two-digit number, the second digit is 2 more than 5 times the first digit. Also, 5 times the first digit is 3 more than the second digit. Find the two-digit number.
10. Find the values of a and b so the system shown has infinitely many solutions.
- $$2x + 9y = 3$$
- $$4x + ay = b$$