

Module 7 Lesson 5

Try This 13 – 16 Possible Solutions

TT 13. a. $x - 2y = 4$ $\leftarrow$ Equation 1

$$2x - 4y = 12 \quad \leftarrow \text{Equation 2}$$

Isolate x in Equation 1 and substitute the expression into Equation 2.

$$x - 2y = 4 \qquad \qquad \qquad 2x - 4y = 12$$

$$x = 2y + 4 \qquad \qquad \qquad 2(2y + 4) - 4y = 12$$

$$4y + 8 - 4y = 12$$

$$8 = 12$$

Solving by substitution results in a false statement.

b. $3x + y = 5$ $\leftarrow$ Equation 1

$$9x + 3y = 15 \quad \leftarrow \text{Equation 2}$$

Isolate y in Equation 1 and substitute the expression into Equation 2.

$$3x + y = 5 \qquad \qquad \qquad 9x + 3y = 15$$

$$y = -3x + 5 \qquad \qquad \qquad 9x + 3(-3x + 5) = 15$$

$$9x - 9x + 15 = 15$$

$$15 = 15$$

Solving by substitution results in a true statement.

TT 14. a. The result of algebraically solving a system with no solutions is a false statement.

b. The result of algebraically solving a system with infinitely many solutions is a true statement.

TT 15. Student answers will vary.

TT 16. Student answers will vary.