Name: _____

5-1 Additional Practice

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1. Leveled Practice What conclusion can you make about the system of equations?

$$6y = 12x + 36$$
$$15y = 45x + 60$$

The slope of the first equation is [ ] the slope of the second equation.

The y-intercept of the first equation is [ ] the y-intercept of the second equation.

The system of equations has [ ] solution(s).

2. How many solutions does this system have?

$$y = 3x + 14$$
$$4y = 12x + 64$$

3. How many solutions does this system have?

$$x + 3y = 0$$
$$9y = -3x$$

4. Ben says this system of equations has one solution. Is he correct? Explain.

$$y = \frac{1}{4}x - 4$$
$$y = \frac{1}{4}x - 14$$

5. How many solutions does this system have?

$$-6x + 18y = 264$$
$$-12x - 36y = 130$$

6. How many solutions does this system have?

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

7. Reasoning The system of equations below shows the distance in miles, y, two trains travel in time, x. What conclusion can you make about the system of equations? Interpret your result in the context of the problem. MP.2

Train A: $y = 1.6x + 4$

Train B: $7y = 11.2x + 28$

8. Look for Relationships Does this system have one solution, no solutions, or infinitely many solutions? Write another system of equations with the same number of solutions that uses the first equation only. MP.7

$$15x + 65y = 185$$
$$-12x - 52y = -148$$

9. Higher Order Thinking Under what circumstances does the system of equations $Ax + y = B$ and $y = Lx + M$ have no solution?

Assessment Practice

10. By inspecting the equations, what can you determine about the solution(s) of this system?

$$x + 4 = y$$
$$x + 4y = 1$$

11. Choose the statement that correctly describes the number of solutions there are for this system of equations.

$$y = 3x + 2$$
$$y = 3x + 5$$

Ⓐ Infinitely many solutions, because the slopes are equal and the y-intercepts are equal.

Ⓑ Exactly one solution, because the slopes are equal but the y-intercepts are not equal.

Ⓒ No solution, because the slopes are equal but the y-intercepts are not equal.

Ⓓ Exactly one solution, because the slopes are not equal but the y-intercepts are equal.