Name _____ Date _____

5.2 Puzzle Time

Where Do High Jumpers Store Their Valuables?

Write the letter of each answer in the box containing the exercise number.

Solve the system of linear equations with a method of your choice.

1.
$$y = x$$
$$y = 2x - 1$$

2.
$$y = -x$$
$$y = 3x - 4$$

3.
$$y = 5x - 6$$
$$y = 4x - 2$$

4.
$$x + y = 7$$
$$7x + y = 1$$

5.
$$-8x + y = 9$$
$$5x - y = 3$$

6.
$$x - y = 0$$
$$9x + y = 0$$

7.
$$x + y = 5$$
$$3x - y = 7$$

8.
$$3x - 2y = 12$$
$$4x + 2y = 16$$

9.
$$\frac{1}{2}x + y = 2$$
$$-x + y = 2$$

10.
$$\frac{1}{2}x + \frac{1}{4}y = 2$$
$$x + y = 1$$

Answers

P. $(20, 32)$

V. $(0, 0)$

L. $(7, -6)$

I. $(-1, 8)$

T. $(4, 0)$

U. $(4, 14)$

A. $(1, -18)$

N. $(1, -1)$
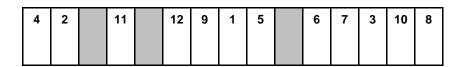
E. $(-4, -23)$

O. $(0, 2)$

A. $(3, 2)$

L. $(1, 1)$

$$6x - y = 24$$

11. $6x + y = -12$

12. There are a total of 52 students on the soccer team and the field hockey team. The field hockey team has 12 more students than the soccer team. Write a system of linear equations that fits this situation. How many students are on the soccer team x and the field hockey team y?

4	2		11		12	9	1	5		6	7	3	10	8

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

    $2x - 3y = 9$