

Name: _____ Date: _____

Unit 2 Study Guide

Solve each system of linear equations by the given method.

_____ 1. Solve by **Substitution**: $y = 2x - 2$
 $6x + 2y = 16$

(2, 2)

(-2, -2)

_____ 2. Solve by **Substitution**: $4x - y = -6$
 $y = 2x + 2$

_____ 3. Solve by **Elimination**: $5x - 3y = 7$
 $x + 3y = 5$

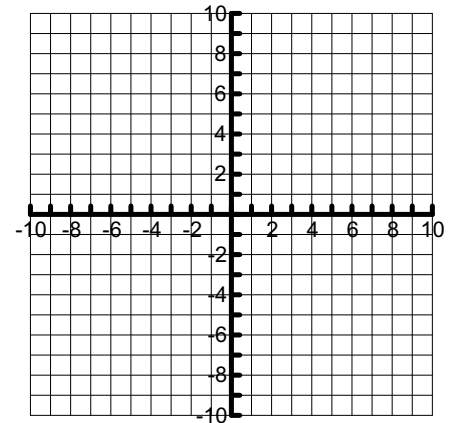
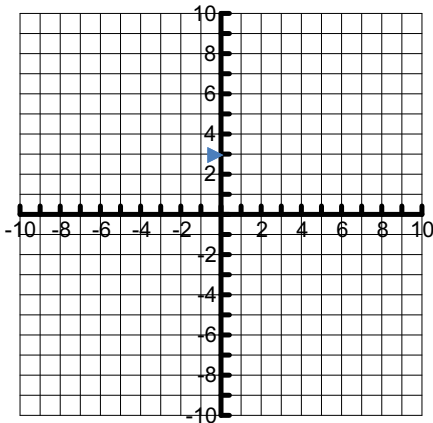
Solve by **Elimination**: $4x + 3y = 19$
 $3x - 3y = 9$

(2, 1)

(4, 1)

_____ 4. Solve by **Graphing**: $y = -x + 3$ (1, 2)
 $y = x + 1$

_____ 6. Solve by **Graphing**: $y = -2x + 7$ (2, 3)
 $-3x + 6y = 12$



Free Response Questions:

SHOW ALL YOUR WORK

7. Alyssa needs \$5.00 to buy some ice cream. The only money she has is a jar of dimes and quarters.

a. Write an **equation** in standard form for the different amounts of dimes, d , and quarters, q , she could use. $.10d + .25q = 5.00$

b. If Alyssa has 10 quarters, how many dimes will she need to buy the ice cream?

25 dimes

8. Bill wants to buy some CDs at the music store. Used ones sell for \$4.99, and new ones sell for \$13.99. He has \$75 to spend that he got for his birthday.

a. Write a linear equality to represent the situation.

$$4.99u + 13.99n = 75$$

b. Can Bill buy 4 used and 4 new CDs?

No—the amount was 75.92

9. A package of hot dogs cost \$2 and a package of hamburger cost \$8. You bought a total of 11 packages of meat and you spent \$52. How many packages of **hotdog** meat did you buy? *Use a system to solve.*

6

10. A store sold 32 pairs of jeans for a total of \$1050. Brand A sold for \$30 per pair and Brand B sold for \$35 per pair. How many of **Brand A** were sold? *Use a system to solve.*

14

11. Is the ordered pair (5, 9) a solution to the following linear system?

$$x + y = 14$$

$$-x + 2y = 11$$

No, because it does not work for both equations.

12. What is the solutions of the following linear system?

$$y = -1x + 7$$

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

(2,5)

13. You are taking a test worth 100 points. There are a total of 32 total questions consisting of five-point questions and two-point questions. How many **two-point** questions are on the test

20

14. Write the reason for each step in solving the equation.

Equation	Steps
$2(4x + 30) = 76$	Original Equation
$8x + 60 = 76$	Distributive Property
$8x = 16$	Subtraction Prop of Eq
$x = 2$	Division Prop of Eq

15. Write the reason for each step in solving the equation

Equation	Steps
$4x + 3x - 9 = 54$	Original Equation
$7x - 9 = 54$	Combine like terms
$7x = 63$	Addition Prop of Eq
$x = 9$	Division Prop of Eq

Solve the literal equation for the given variable:

16.

$$V = \pi r^2 h, \text{ for } h$$

$$h = \frac{V}{\pi r^2}$$

$$\pi r^2$$

Solve the literal equation for the given variable:

17.

$$6w - y = 2z, \text{ for } y \quad y = 6w - 2z$$

18. The formula for Ohm's Law is $E = IR$, where E represents voltage measured in volts, I represents current measured in amperes, and R represents resistance measured in ohms.

A. Solve the formula for R . $R = E / I$

B. Suppose a current of 0.20 ampere flows through a resistor connected to a 10-volt battery. What is the resistance in the circuit? $R = 50$

