

Unit 2 Study Guide

Solve for the given variable. Show your work!!

1) $8g - 5 = -4g + 19$

2) $-6x + 10 = -14$

3) $\frac{7}{9}x = 42$

4) $-3(n-5) = 30$

5) $\frac{m}{4} + 3 = 4$

6) $x + 2 = x - 2$

7) Write and solve the given equation: **Seven less than half a number is 16.**

8) Solve the following equations **and list how many solutions it has.**

a) $2a + 4 = 2a + 4$

b) $2a = -2a + 4$

c) $2a + 4 = 2a - 4$

d) $2a + 2a = 4$

9) Joe fixed 250 tires in one year. This is one-fifth of the amount that his Father fixed that year. How many tires did his father fix?

- 10) "Red Machine" steam cleaner rents for \$40 plus \$10 per hour. "GreenMachine" rents for \$20 plus \$20 per hour. Write and solve an equation to show what hour the two machines would equal the same price.

Equation:

Answer:

- 11) You and 3 friends pay \$26.55 for a pizza and 4 drinks (you all had the same). The pizza cost \$18.75. Write and solve an equation to find the cost of one drink.

Equation:

Answer:

- 12) Create an equation that has **Many Solutions** by filling in the empty boxes with a number.

$$8x - 3x + 2 - x = \square x + \square$$

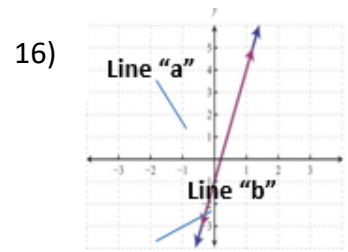
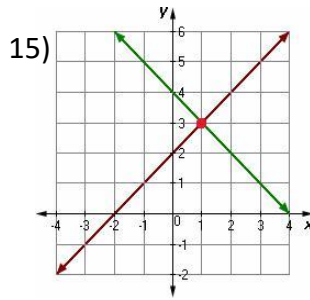
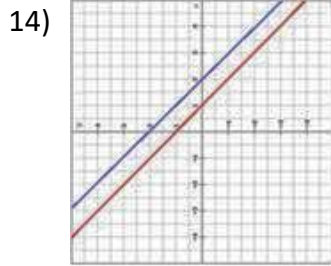
Number choices:

1 2 4 5 7 8 9

WRITING TO LEARN

- 13) How can you tell if a given value makes an equation true? For example: how would you know if $x=2$ is a solution for the equation $2x + 5 = 10$.

Use the Graphing Method to solve the system of equations. On the line below the graph list how many solutions each system has? #1-3.

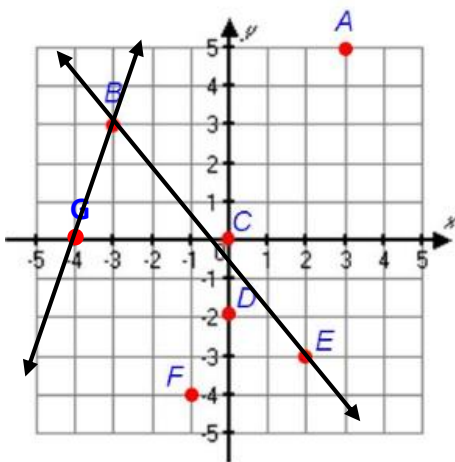


17) Steve is solving a system of linear equations algebraically. He finds that there are an infinite number of solutions. Which is a possible step in his solution?

- A) $x = 0$ B) $-6 = 6$ C) $6 = 6$ D) $6 = 0$

18) If equation A is $3x - 6y = 10$ and equation B is $3x - 6y = -4$, how many solutions will there be? Use complete sentences to tell why?

19) Which of these points is the intersection that shows the solution to this system of equations?



Letter: _____

The coordinates for that letter: _____

20) The school that Lisa goes to is selling tickets to the annual talent show. On the first day of ticket sales the school sold 4 senior citizen tickets and 5 student tickets for a total of \$102. The school took in \$126 on the second day by selling 7 senior citizen tickets and 5 student tickets. What is the price for one student ticket?

Equation for day 1:

Equation for day 2:

Cost:

Use the Algebraic – Elimination Method to solve the system of equations.

21) $x + y = 12$
 $-x + y = 4$

22) $x - 5y = 5$
 $x + y = -13$

Use the Algebraic – Substitution Method to solve the system of equation

23) $y = 3x + 5$
 $y = 5x - 11$

24) $y = x - 5$
 $x - 4y = -10$

Extension: Rick worked a total of 30 hours last week. On Saturday and Sunday he worked 5 times as many hours as he did for the rest of the week. How many hours did Rick work Monday through Friday?