

Learning 

to choose the best method for solving a system of equations

 **Collaborate**

Part 1: Write Equations

- Write 2 let statements
- Write 2 equations
- Describe how each equation matches the word problem

Part 2: Find P.O.I.

- Choose 2 methods and find the point of intersection
- Label properties
- Label answer

Part 3: Describe

- Write a paragraph describing why you prefer one method over the other.

Part 4: H.O.T of your choice

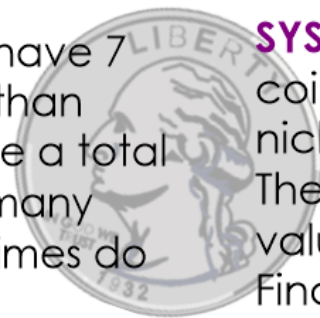
SYSTEM 1: You have \$5 and spend \$0.75 a day. Your friend has 4 dollars and spends \$0.50 each day. In how many days will you have the same amount of money?



SYSTEM 2: You have 3 times as many dimes as nickels. In all you have \$1.40. How many coins of each type does you have?



SYSTEM 3: You have 7 more quarters than dimes and have a total of \$5.60. How many quarters and dimes do you have?



SYSTEM 4: You have 130 coins consisting of nickels and quarters. The coins combined value comes to \$15.90. Find out how many of each coin you have.

LET STATEMENTS

Let _____ = _____

Let _____ = _____

EQUATIONS

Equation 1:

Equation 2:

Method 1:

Show all work

Method 2:

Show all work

Which method do you prefer? Explain.



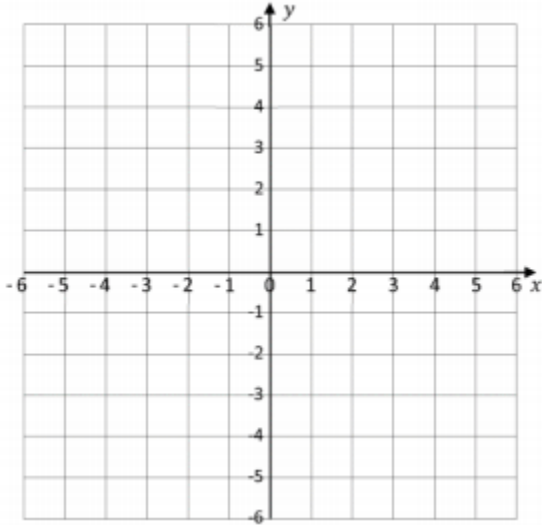
FOCUS ON HIGHER ORDER THINKING

SYSTEMS OF EQUATIONS REVIEW SHEET

Graph each system of equations. Determine whether the system has *no* solution, *one* solution, or *infinitely many* solutions. If the system has one solution, name it.

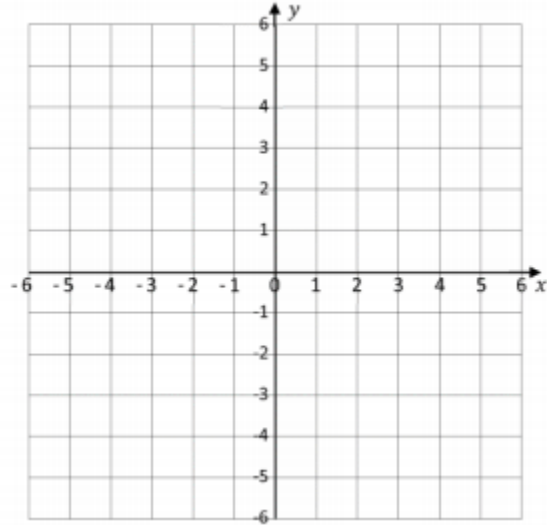
1. $\frac{1}{3}y = x$

$y + x + 4 = 0$



2. $x + 3y = 3$

$3y = -x + 9$



Use substitution to solve each system of equations. If the system does not have exactly one solution, state whether it has *no* solution or *infinitely many* solutions.

3. $y = 2x - 7$

$3x - 4y = 8$

4. $4y - 3x = 5$

$\frac{3}{4}x = y - 4$

5. $x - 2y = -3$

$y = 3x - 1$

6. $y = -x + 3$

$x + y = -1$

Use elimination to solve each system of equations.

$$\begin{aligned} 7. \quad 6x - 7y &= 21 \\ 3x + 7y &= 6 \end{aligned}$$

$$\begin{aligned} 8. \quad 0.2x + 0.5y &= 0.7 \\ -0.2x - 0.6y &= -1.4 \end{aligned}$$

$$\begin{aligned} 9. \quad 2x + \frac{2}{3}y &= -8 \\ \frac{1}{2}x - \frac{1}{3}y &= 1 \end{aligned}$$

$$\begin{aligned} 10. \quad \frac{1}{2}x + \frac{2}{5}y &= -10 \\ 3x + 6y &= -6 \end{aligned}$$

Determine the best method to solve each system of equations. Then solve the system.

$$11. \quad x + y = 147$$

$$25x + 10y = 2415$$

$$12. \quad 7y = 2\frac{1}{2} - 2x$$

$$5x = 3y - 4$$

13. Three times one number added to five times a second number is 68. Three times the second number minus four times the first number is 6. What are the two numbers?

14. A trail mix that costs \$2.45 per pound is mixed with a trail mix that costs \$2.30 per pound. How much of each type of trail mix must be used to have 30 pounds of a trail mix that costs \$2.35 per pound?