

Algebra 1 6.5

Solve systems of equations

Determine the best method to solve a system

Apply systems of equations

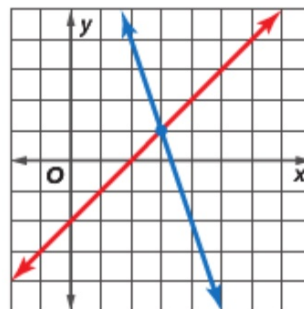
solve by graphing

solve by substitution

solve by elimination

whiteboards

$$y = -3x + 10$$
$$y = x - 2$$



Whiteboards:

1. Determine the best method (substitution or elimination) to solve the system.
2. Explain your choice. " *We chose substitution because...*"
3. Solve the system.

$$\begin{array}{l}
 * \\
 1. \quad 2x + 3y = -11 \\
 \quad \quad -8x - 5y = 9
 \end{array}
 \xrightarrow{4}
 \begin{array}{r}
 8x + 12y = -44 \\
 -8x - 5y = 9 \\
 \hline
 \end{array}$$

$$(2, -5)$$

$$\frac{7y}{7} = \frac{-35}{7}$$

$$y = -5$$

$$2x + 3 \cdot (-5) = -11$$

$$\begin{array}{r}
 2x + (-15) = -11 \\
 \quad \quad +15 \quad +15 \\
 \hline
 2x = 4
 \end{array}$$

$$2x = 4$$

$$\begin{array}{l} 2. \quad 3x + 4y = 11 \\ \quad \quad 2x + y = -1 \end{array} \quad \begin{array}{l} \\ \underline{-4} \end{array} \rightarrow$$

12. **FINANCIAL LITERACY** For a Future Teachers of America fundraiser, Denzell sold food as shown in the table. He sold 11 more subs than pizzas and earned a total of \$233. Write and solve a system of equations to represent this situation. Then describe what the solution means.

Item	Selling Price
pizza	\$5.00
sub	\$3.00

25
36

$$5p + 3s = 233$$

$$s = p + 11$$

$$-5p + 5s = 55$$

$$8s = 278$$

$$s = 36$$

$$L = \$10 \quad p = \$0.03$$

$$10 + 400(.03) = \$22$$

16. **PAINTBALL** Clara and her friends are planning a trip to a paintball park. Find the cost of lunch and the cost of each paintball. What would be the cost for 400 paintballs and lunch?



$$* L + 500p = 25$$

$$- L + 200p = 16$$

$$\hline 300p = 9$$

$$\frac{300p}{300} = \frac{9}{300}$$

$$p = 0.03$$

$$L + 500(.03) = 25$$

$$L + 15 = 25$$

$$-15 \quad -15$$

$$L = 10$$

$(3, 0)$

$(0, 5)$

$$\textcircled{-4x + 4x} - 1 = 3$$

$$\begin{array}{r} -1 = 3 \\ +1 \quad +1 \\ \hline 0 = 4 \end{array}$$

18. **BOOKS** The library is having a book sale. Hardcover books sell for \$4 each, and paperback books are \$2 each. If Connie spends \$26 for 8 books, how many hardcover books did she buy?

19. **MUSIC** An online music club offers individual songs for one price or entire albums for another. Kendrick pays \$14.90 to download 5 individual songs and 1 album. Geoffrey pays \$21.75 to download 3 individual songs and 2 albums.
- How much does the music club charge to download a song?
 - How much does the music club charge to download an entire album?

\$9.15 albums
\$1.15 song

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