

## Systems of Equations Maze

Directions: Solve each system of equations by graphing. Show all work on the attached paper. Use your solutions to navigate through the maze. Staple all work to this paper.

**Start!**

$\begin{cases} y = \frac{3}{4}x - 4 \\ y = -\frac{1}{8}x + 3 \end{cases}$  (4, -6)
  $\begin{cases} y = -\frac{1}{2}x - 7 \\ y = 4x + 2 \end{cases}$  (-2, -6)
  $\begin{cases} y = x + 2 \\ y = -\frac{3}{5}x - 6 \end{cases}$  (-5, -3)
  $\begin{cases} y = \frac{7}{4}x - 8 \\ y = -\frac{5}{2}x + 9 \end{cases}$  (-5, -3)

$\begin{cases} y = -7x - 2 \\ y = x + 6 \end{cases}$  (4, -3)
  $\begin{cases} y = x + 7 \\ x = -3 \end{cases}$  (-9, -2)
  $\begin{cases} y = \frac{1}{3}x + 1 \\ y = -\frac{2}{3}x - 8 \end{cases}$  (-2, -4)
  $\begin{cases} y = -x - 6 \\ y = 5x + 6 \end{cases}$  (-2, -4)

$\begin{cases} 3x - 2y = 4 \\ 5x + 4y = 36 \end{cases}$  (2, -8)
  $\begin{cases} 5x - 8y = -56 \\ 3x + 4y = -16 \end{cases}$  (-8, 2)
  $\begin{cases} 2x - y = 6 \\ 4x - 2y = 6 \end{cases}$   $\emptyset$ 
 $\begin{cases} x - y = 2 \\ y = -7 \end{cases}$  (-7, -5)

$\begin{cases} 2x + 2y = 10 \\ y = -x + 5 \end{cases}$   $\infty$ 
 $\begin{cases} 4x - y = -7 \\ x + y = 2 \end{cases}$  (-1, -3)
 **End!** 😊
  $\begin{cases} x - 3y = 18 \\ 5x - 3y = 6 \end{cases}$  (-3, -7)

Version 1: Graphing Method © Gina Wilson (All Things Algebra), 2016

## Systems of Equations Maze

Directions: Solve each system of equations using the substitution method. Use your solutions to navigate through the maze. Staple all work to this paper!

**Start!**

$\begin{cases} 4x + 3y = 13 \\ y = 5x + 17 \end{cases}$  (-3, -2)
  $\begin{cases} y = -9x - 29 \\ 10x - 11y = -8 \end{cases}$  (1, -6)
  $\begin{cases} y = -8x + 2 \\ 11x + y = 5 \end{cases}$  (2, -1)
  $\begin{cases} y = 5x + 7 \\ y = 2x + 4 \end{cases}$  (-1, 2)

$\begin{cases} x = 4y + 21 \\ 3x + 8y = -17 \end{cases}$  (5, -4)
  $\begin{cases} 5x - 9y = -31 \\ x = 2y - 6 \end{cases}$  (-5, -4)
  $\begin{cases} 5x + 7y = -19 \\ x - 6y = 11 \end{cases}$  (9, -5)
  $\begin{cases} y = 2x - 13 \\ y = -2x + 23 \end{cases}$  (9, -5)

$\begin{cases} x + y = -1 \\ 2x - 5y = -37 \end{cases}$  (6, 5)
 **End!** 😊
  $\begin{cases} x - 7y = 21 \\ 5x - 4y = 12 \end{cases}$  (0, -3)
  $\begin{cases} 7x + 6y = 17 \\ x - y = 8 \end{cases}$  (0, 3)

$\begin{cases} 4x - 7y = 22 \\ 5x - 3y = 4 \end{cases}$  (-6, -5)
  $\begin{cases} x - 9y = 60 \\ 2x + 6y = -48 \end{cases}$  (2, -2)
  $\begin{cases} x + y = 2 \\ x - y = -10 \end{cases}$  (-3, -7)
  $\begin{cases} 4x + 2y = 14 \\ 2x + y = 7 \end{cases}$  (-4, 6)

Version 2: Substitution Method © Gina Wilson (All Things Algebra), 2016

## Systems of Equations Maze

Directions: Solve each system of equations using the elimination method. Use your solutions to navigate through the maze. Staple all work to this paper!

**Start!**

$\begin{cases} x - y = -6 \\ x + y = -8 \end{cases}$  (7, -1)
  $\begin{cases} 2x - 3y = -19 \\ 4x + 3y = 7 \end{cases}$  (-2, 5)
  $\begin{cases} 2x - y = 14 \\ 2x + y = -2 \end{cases}$  (-3, -8)
  $\begin{cases} x - y = -13 \\ 6x - y = -45 \end{cases}$  (-8, 3)

$\begin{cases} x - 4y = -14 \\ x + 5y = 13 \end{cases}$  (-2, 3)
  $\begin{cases} 3x + 2y = 30 \\ 7x + 2y = 46 \end{cases}$  (-4, -9)
  $\begin{cases} 5x + 2y = -13 \\ 7x - y = -3 \end{cases}$  (4, -9)
  $\begin{cases} x + 2y = 6 \\ 3x - 4y = 18 \end{cases}$  (6, 0)

$\begin{cases} 2x + 5y = -3 \\ 9x - 4y = 13 \end{cases}$  (-3, 4)
  $\begin{cases} 3x + 7y = 19 \\ 2x + 5y = 14 \end{cases}$  (8, 5)
  $\begin{cases} 2x - 8y = -24 \\ 6x + 4y = 68 \end{cases}$  (8, -5)
  $\begin{cases} 3x - 2y = 26 \\ 5x - 4y = 48 \end{cases}$  (8, -5)

$\begin{cases} 7x - 2y = -26 \\ 2x - 3y = -22 \end{cases}$  (1, -1)
  $\begin{cases} x - 3y = 7 \\ 3x - 9y = 21 \end{cases}$  (-1, -1)
  $\begin{cases} 2x = 7y + 33 \\ 5x - 3y = -19 \end{cases}$  (8, -7)
 **End!** 😊

Version 3: Elimination Method © Gina Wilson (All Things Algebra), 2016

## Systems Word Problems Maze

Directions: Read each system of equations for each word problem, then solve by substitution or elimination. Use your solutions to navigate through the maze. Staple all work to this paper!

**Start!**

At the movie theatre, the Cavilan family bought 4 fountain drinks and 3 bags of popcorn and paid \$22.50. The Harkis family bought 5 fountain drinks and 2 bags of popcorn and paid \$23.75. How much is a fountain drink? **\$2.50**

At the gym, Cara burns 12 calories per minute on the elliptical and 10 calories per minute on the treadmill. If she worked out for one hour and burned 676 calories, how many minutes did she spend on the elliptical? **38**

Angela has a collection of nickels and quarters worth \$8.80. If she has 68 total nickels and quarters, how many quarters does she have? **27**

Ryan works at the donut shop where he makes \$0.25 per hour. He also works part time at the school bookstore where he makes \$8.75 per hour. If he worked 20 total hours last week and made \$198, how many hours did he work at the bookstore? **\$3.75**

In their last game, the basketball team scored a total of 86 points. If they made a total of 39 two-point baskets and three-point shots did the team make? **14**

The marching band is selling poinsettias and wreaths to raise money for new uniforms. Trey sold 7 poinsettias and 3 wreaths and raised \$201. Molly sold 4 poinsettias and 6 wreaths and raised \$252. How much is a poinsettia? **\$32**

At the baseball stadium, two burgers and a two hot dogs cost \$5.56. At the same prices, three burgers and five hot dogs cost \$29.92. What is the price of a burger? **\$3.29**

Ben and Landon took turns driving on their recent 820 mile road trip. Ben averaged 60 miles per hour while Landon averaged 56 miles per hour. If the trip took them H hours, how many hours did Landon drive? **16**

The length of a rectangle is one inch less than three times its width. If the perimeter of the rectangle is 54 inches, and the length is **7**

The admission fee to the carnival is \$4.50 for children and \$7.25 for adults. If a large group purchased 28 tickets and paid \$59, how many adult tickets did they purchase? **\$4.49**

Aniana's English test has two types of questions: multiple choice worth 2 points each and short response worth 3 points each. If there are 43 total questions and the test is worth 100 points, how many short response questions are there? **14**

**End!** 😊

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