



## Solve systems of linear equations algebraically

**1**

Solve for the variable by substituting the second equation into the first

$$11y - c = 34$$

$$c = 10$$

$$y = ?$$

A

$$y = 6$$

B

$$y = 7$$

C

$$y = 2$$

D

$$y = 3$$

E

$$y = 4$$

F

$$y = 5$$

**2**

Solve for the variable by adding or subtracting multiples of the second equation to the first

$$\begin{array}{r} 8y + 2c = 26 \\ -8y + 6c = 14 \\ \hline c = ? \end{array}$$

A

$$c = 8$$

B

$$c = 8$$

C

$$c = 4$$

D

$$c = 5$$

E

$$c = 14$$

F

$$c = 40$$

**3**

Is  $(x, y) = (-1, 1)$  a solution to this system of linear equations?

$$x + 2y = 1$$

$$4x + 3y = -1$$

A

No

B

Yes

**4**

Substitute the second equation into the first equation to form a single solvable equation

$$\begin{array}{r} 11p + 5c = 134 \\ c = 2p + 10 \\ \hline p = ? \end{array}$$

A

$$11p + 10p + 50 = 134$$

B

$$11p + 50p = 134$$

C

$$10p + 2p + 2 = 134$$

D

$$50p + 2p + 10 = 134$$

E

$$11p - 50p = 134$$

F

$$11p + 2p + 3 = 10$$

**5**

Solve for the variable by substituting the second equation into the first

$$\begin{array}{r} 55c - 10x = 60 \\ x = 5c - 5 \\ \hline c = ? \end{array}$$

A

$$c = 1$$

B

$$c = 0$$

C

$$c = 2$$

D

$$c = 50$$

E

$$c = 50$$

F

$$c = 5$$

**6**

Solve for the variable by substituting the second equation into the first

$$\begin{array}{r} w = 7x + 9 \\ w = 11x + 1 \\ \hline x = ? \end{array}$$

A

$$x = 5$$

B

$$x = 0$$

C

$$x = 4$$

D

$$x = 2$$

E

$$x = 1$$

F

$$x = 3$$

**7**

How many solutions does this system of linear equations have?

$$2x + 2y = 3$$

$$2x + 2y = 1$$

A One solution

B Zero solutions

C Infinitely many solutions

**8**

One solution

A

$$3x + 4y = 7$$

$$2x + 2y = 3$$

B

$$4x + 2y = 6$$

$$4x + 2y = 10$$



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**9**How would you check whether  $(x, y) = (4, 2)$  is a solution to this system of linear equations?

$$3x + y = 14$$

$$2x + 2y = 12$$

A

$$\begin{aligned} 3(4) + (2) &= 14 \\ 2x + 2y &= 12 \end{aligned}$$

B

$$\begin{aligned} 3(2) + (4) &= 14 \\ 2(2) + 2(4) &= 12 \end{aligned}$$

C

$$\begin{aligned} 3(5) + (2) &= 14 \\ 2(5) + 2(2) &= 12 \end{aligned}$$

D

$$\begin{aligned} 3(4) + (2) &= 14 \\ 2(4) + 2(2) &= 12 \end{aligned}$$

**10**

Find the intersection point of these two lines

$$y = 8x + 1$$

$$y = 5x - 6$$

A  $(-6.33, -16.67)$

B  $(-2.33, -17.67)$

C  $(-7.33, -22.67)$

D  $(-7.33, -20.67)$

E  $(-4.33, -14.67)$

F  $(-4.33, -20.67)$

**11**

Find the intersection point of these two lines

$$y = -4x + 3$$

$$y = -1x + 6$$

A  $(-1, 5)$

B  $(2, 11)$

C  $(-3, 4)$

D  $(-1, 7)$

E  $(0, 11)$

F  $(-4, 6)$

**12**

How many solutions does this system of linear equations have?

$$4x + 3y = 8$$

$$4x + 3y = 5$$

A One solution

B Zero solutions

C Infinitely many solutions