

Question ID 7eea65e3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 7eea65e3

Which of the following systems of linear equations has no solution?

A. $y = 6x + 3$
 $y = 6x + 9$

B. $y = 10$
 $y = 10x + 10$

C. $y = 14x + 14$
 $y = 10x + 14$

D. $x = 3$
 $y = 10$

Question ID cdcfc854

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: cdcfc854

$$\begin{aligned}y - 9x &= 13 \\ 5x &= 2y\end{aligned}$$

What is the solution (x, y) to the given system of equations?

- A. $(\frac{5}{2}, 1)$
- B. $(1, \frac{2}{5})$
- C. $(-2, -5)$
- D. $(-5, -2)$

Question ID e13b9cac

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: e13b9cac

$$6x + 7y = 28$$

$$2x + 2y = 10$$

The solution to the given system of equations is (x, y) . What is the value of y ?

- A. -2
- B. 7
- C. 14
- D. 18

Question ID c751fef8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: c751fef8

$$\begin{aligned}y &= -\frac{1}{5}x \\ y &= \frac{1}{7}x\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of x ?

- A. -5
- B. 0
- C. 2
- D. 7

Question ID 66b488d2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 66b488d2

$$y = 2x + 10$$
$$y = 2x - 1$$

At how many points do the graphs of the given equations intersect in the xy -plane?

- A. Zero
- B. Exactly one
- C. Exactly two
- D. Infinitely many

Question ID 89ad6f07

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 89ad6f07

$$3x + 6 = 4y$$

$$3x + 4 = 2y$$

The solution to the given system of equations is (x, y) . What is the value of y ?

Question ID 8d876c45

Assessment	Test	Domain	Skill	Difficulty
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ID: 8d876c45

$$2a + 8b = 198$$

$$2a + 4b = 98$$

The solution to the given system of equations is (a, b) . What is the value of b ?

Question ID 518befa8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 518befa8

Which of the following systems of linear equations has no solution?

- A. $x = 3$
 $y = 5$
- B. $y = 6x + 6$
 $y = 5x + 6$
- C. $y = 16x + 3$
 $y = 16x + 19$
- D. $y = 5$
 $y = 5x + 5$

Question ID 6c050229

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 6c050229

$$\begin{aligned}x + 3 &= -2y + 5 \\ x - 3 &= 2y + 7\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of $2x$?

- A. -2
- B. 6
- C. 12
- D. 24

Question ID 89cf1784

Assessment	Test	Domain	Skill	Difficulty
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ID: 89cf1784

$$y = 6x + 16$$

$$-7x - y = 36$$

What is the solution (x, y) to the given system of equations?

- A. $(-4, -8)$
- B. $(-\frac{20}{13}, -\frac{80}{13})$
- C. $(4, 40)$
- D. $(20, 136)$

Question ID 9843892f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 9843892f

$$\begin{aligned} 3y &= 4x + 17 \\ -3y &= 9x - 23 \end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of $39x$?

- A. -18
- B. -6
- C. 6
- D. 18

Question ID ebbc00fb

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: ebbc00fb

$$\begin{aligned}y &= -\frac{1}{9}x \\ y &= \frac{1}{2}x\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of x ?

- A. -9
- B. -7
- C. 0
- D. 2

Question ID b2c1a14d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: b2c1a14d

$$y = \frac{2}{7}x + 3$$

One of the two equations in a system of linear equations is given. The system has infinitely many solutions. If the second equation in the system is $y = mx + b$, where m and b are constants, what is the value of b ?

- A. -3
- B. $-\frac{1}{3}$
- C. $\frac{1}{3}$
- D. 3

Question ID d79caaad

Assessment	Test	Domain	Skill	Difficulty
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ID: d79caaad

The combined original price for a mirror and a vase is **\$60**. After a **25%** discount to the mirror and a **45%** discount to the vase are applied, the combined sale price for the two items is **\$39**. Which system of equations gives the original price m , in dollars, of the mirror and the original price v , in dollars, of the vase?

- A. $m + v = 60$
 $0.55m + 0.75v = 39$
- B. $m + v = 60$
 $0.45m + 0.25v = 39$
- C. $m + v = 60$
 $0.75m + 0.55v = 39$
- D. $m + v = 60$
 $0.25m + 0.45v = 39$

Question ID 81c05538

Assessment	Test	Domain	Skill	Difficulty
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ID: 81c05538

$$-15x + 25y = 65$$

One of the two equations in a system of linear equations is given. The system has infinitely many solutions. Which of the following could be the second equation in the system?

- A. $12x + 20y = 52$
- B. $12x + 20y = -52$
- C. $-12x + 20y = 52$
- D. $-12x + 20y = -52$

Question ID 43f4e0a1

Assessment	Test	Domain	Skill	Difficulty
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ID: 43f4e0a1

$$\begin{aligned}x + 3y &= 29 \\ 3y &= 11\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of x ?

Question ID 16fe36f6

Assessment	Test	Domain	Skill	Difficulty
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ID: 16fe36f6

$$y = \frac{1}{3}x - 14$$
$$y = -x + 18$$

The solution to the given system of equations is (x, y) . What is the value of x ?

Question ID 7addd737

Assessment	Test	Domain	Skill	Difficulty
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ID: 7addd737

$$y = 9x + 12$$

$$x + 7y = 20$$

The solution to the given system of equations is (x, y) . What is the value of y ?

Question ID 670da52f

Assessment	Test	Domain	Skill	Difficulty
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ID: 670da52f

$y = 6x + 3$

One of the two equations in a system of linear equations is given. The system has infinitely many solutions. Which equation could be the second equation in this system?

- A. $y = 2(6x) + 3$
- B. $y = 2(6x + 3)$
- C. $2(y) = 2(6x) + 3$
- D. $2(y) = 2(6x + 3)$

Question ID f637b1a9

Assessment	Test	Domain	Skill	Difficulty
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ID: f637b1a9

A bus traveled on the highway and on local roads to complete a trip of **160 miles**. The trip took **4 hours**. The bus traveled at an average speed of **55 miles per hour (mph)** on the highway and an average speed of **25 mph** on local roads. If ***x*** is the time, in hours, the bus traveled on the highway and ***y*** is the time, in hours, it traveled on local roads, which system of equations represents this situation?

- A. $55x + 25y = 4$
 $x + y = 160$
- B. $55x + 25y = 160$
 $x + y = 4$
- C. $25x + 55y = 4$
 $x + y = 160$
- D. $25x + 55y = 160$
 $x + y = 4$

Question ID 96164aab

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 96164aab

$$\begin{aligned}8x + y &= 5 \\ y &= 9x + 1\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of x ?

- A. -6
- B. $\frac{4}{17}$
- C. $\frac{6}{17}$
- D. 4

Question ID 9be24954

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 9be24954

$$\begin{aligned}y &= -2x \\ 3x + y &= 40\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of x ?

Question ID dcd58812

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: dcd58812

Two customers purchased the same kind of bread and eggs at a store. The first customer paid **12.45** dollars for **1** loaf of bread and **2** dozen eggs. The second customer paid **19.42** dollars for **4** loaves of bread and **1** dozen eggs. What is the cost, in dollars, of **1** dozen eggs?

- A. **3.77**
- B. **3.88**
- C. **4.15**
- D. **4.34**

Question ID 37036956

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 37036956

A proposal for a new library was included on an election ballot. A radio show stated that **3** times as many people voted in favor of the proposal as people who voted against it. A social media post reported that **15,000** more people voted in favor of the proposal than voted against it. Based on these data, how many people voted against the proposal?

- A. **7,500**
- B. **15,000**
- C. **22,500**
- D. **45,000**

Question ID ea0720d1

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: ea0720d1

A company that provides whale-watching tours takes groups of **21** people at a time. The company’s revenue is **80** dollars per adult and **60** dollars per child. If the company’s revenue for one group consisting of adults and children was **1,440** dollars, how many people in the group were children?

- A. **3**
- B. **9**
- C. **12**
- D. **18**

Question ID b944bec6

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: b944bec6

At how many points do the graphs of the equations $y = x + 20$ and $y = 8x$ intersect in the xy -plane?

- A. 0
- B. 1
- C. 2
- D. 8

Question ID 8422756b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 8422756b

A wire with a length of **106** inches is cut into two parts. One part has a length of x inches, and the other part has a length of y inches. The value of x is **6** more than **4** times the value of y . What is the value of x ?

- A. **25**
- B. **28**
- C. **56**
- D. **86**

Question ID b8f0032a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: b8f0032a

$$\begin{aligned}y &= 3x \\ 2x + y &= 12\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of $5x$?

- A. 24
- B. 15
- C. 12
- D. 5

Question ID d874224b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: d874224b

$$\begin{aligned}x + 2y &= 6 \\ x - 2y &= 4\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of x ?

- A. 2.5
- B. 5
- C. 6
- D. 10

Question ID 1615e831

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 1615e831

$$\begin{aligned}y &= 3x + 9 \\ 3y &= 8x - 6\end{aligned}$$

The solution to the given system of equations is (x, y) . What is the value of $x - y$?

- A. -123
- B. -33
- C. 3
- D. 57

Question ID 3a519c76

Assessment	Test	Domain	Skill	Difficulty
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ID: 3a519c76

The sum of a number x and 7 is twice as large as a number y . The number y is 3 less than the number x . Which system of equations describes this situation?

A. $x + 7 = 2y$
 $y = x - 3$

B. $x + 7 = 2y$
 $y = 3 - x$

C. $2(x + 7) = y$
 $y = x - 3$

D. $2(x + 7) = y$
 $y = 3 - x$