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

$$y - 9x = 13$$
$$5x = 2y$$

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

$$y = -\frac{1}{5}x$$
$$y = \frac{1}{7}x$$

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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

$$x + 3 = -2y + 5$$
$$x - 3 = 2y + 7$$

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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

$$3y = 4x + 17$$
$$-3y = 9x - 23$$

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

$$y = -\frac{1}{9}x$$
$$y = \frac{1}{2}x$$

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

ID: 43f4e0a1

$$x + 3y = 29$$
$$3y = 11$$

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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

$$8x + y = 5$$
$$y = 9x + 1$$

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

$$y = -2x$$
$$3x + y = 40$$

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

$$y = 3x$$
$$2x + y = 12$$

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

$$x + 2y = 6$$
$$x - 2y = 4$$

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

$$y = 3x + 9$$
$$3y = 8x - 6$$

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
SAT	Math	Algebra	Systems of two linear equations in two variables	Medium

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