Question ID ac472881

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: ac472881

$$\frac{12x+28}{4} - \frac{s}{13} = r(x-8)$$

In the given equation, s and r are constants, and $s > 0$. If the equation has infinitely many solutions, what is the value of s?

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Question ID d1b66ae6

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

ID: d1b66ae6

$$-x+y=-3.5$$
$$x+3y=9.5$$

If (x, y) satisfies the system of equations above, what is the value of y ?

Question ID d1b66ae6

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

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

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Question ID 3cdbf026

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 3cdbf026

The graph of the equation $ax + ky = 6$ is a line in the *xy*-plane, where *a* and *k* are constants. If the line contains the points $(-2, -6)$ and $(0, -3)$, what is the value of *k*?

A. -2

B. -1

C. 2

D. 3

Question ID 3cdbf026

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

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Question ID ff501705

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

ID: ff501705

$$\frac{3}{2}y - \frac{1}{4}x = \frac{2}{3} - \frac{3}{2}y$$
$$\frac{1}{2}x + \frac{3}{2} = py + \frac{9}{2}$$

In the given system of equations, p is a constant. If the system has no solution, what is the value of p?

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

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Question ID 2937ef4f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: 2937ef4f

Hector used a tool called an auger to remove corn from a storage bin at a constant rate. The bin contained 24,000 bushels of corn when Hector began to use the auger. After 5 hours of using the auger, 19,350 bushels of corn remained in the bin. If the auger continues to remove corn at this rate, what is the total number of hours Hector will have been using the auger when 12,840 bushels of corn remain in the bin?

A. 3

B. 7

C. 8

D. 12

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Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

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Question ID 9bbce683

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 9bbce683

x	y
18	130
23	160
26	178

For line h, the table shows three values of x and their corresponding values of y. Line k is the result of translating line h down 5 units in the *xy*-plane. What is the *x*-intercept of line k?

A. $\left(-\frac{26}{3}, 0\right)$

B. $\left(-\frac{9}{2}, 0\right)$

C. $\left(-\frac{11}{3}, 0\right)$

D. $\left(-\frac{17}{6}, 0\right)$

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Question ID 2b15d65f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: 2b15d65f

An economist modeled the demand Q for a certain product as a linear function of the selling price P. The demand was 20,000 units when the selling price was $40 per unit, and the demand was 15,000 units when the selling price was $60 per unit. Based on the model, what is the demand, in units, when the selling price is $55 per unit?

A. 16,250

B. 16,500

C. 16,750

D. 17,500

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SAT	Math	Algebra	Linear functions	■■■

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Question ID e25f0807

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: e25f0807

x	y
-12	-45
6	45

The table shows two values of x and their corresponding values of y. The graph of the linear equation representing this relationship passes through the point $\left(\frac{1}{4},\ a\right)$. What is the value of a?

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SAT	Math	Algebra	Linear functions	■■■

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Question ID be9cb6a2

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: be9cb6a2

The cost of renting a backhoe for up to 10 days is $\$270$ for the first day and $\$135$ for each additional day. Which of the following equations gives the cost y, in dollars, of renting the backhoe for x days, where x is a positive integer and $x \leq 10$?

A. $y = 270x - 135$

B. $y = 270x + 135$

C. $y = 135x + 270$

D. $y = 135x + 135$

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Question ID db422e7f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: db422e7f

Line p is defined by $4y + 8x = 6$. Line r is perpendicular to line p in the *xy*-plane. What is the slope of line r?

Question ID db422e7f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

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SAT	Math	Algebra	Linear equations in two variables	■■■

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Question ID 45cfb9de

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 45cfb9de

Adam's school is a 20-minute walk or a 5-minute bus ride away from his house. The bus runs once every 30 minutes, and the number of minutes, w, that Adam waits for the bus varies between 0 and 30. Which of the following inequalities gives the values of w for which it would be faster for Adam to walk to school?

A. $w - 5 < 20$

B. $w - 5 > 20$

C. $w + 5 < 20$

D. $w + 5 > 20$

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Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

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D. $w + 5 > 20$

Question ID f14484a5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: f14484a5

A manufacturing plant makes 10-inch, 9-inch, and 7-inch frying pans. During a certain day, the number of 10-inch frying pans that the manufacturing plant makes is 4 times the number n of 9-inch frying pans it makes, and the number of 7-inch frying pans it makes is 10. During this day, the manufacturing plant makes 100 frying pans total. Which equation represents this situation?

A. $10(4n) + 9n + 7(10) = 100$

B. $10n + 9n + 7n = 100$

C. $4n + 10 = 100$

D. $5n + 10 = 100$

Question ID f14484a5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: f14484a5

A manufacturing plant makes 10-inch, 9-inch, and 7-inch frying pans. During a certain day, the number of 10-inch frying pans that the manufacturing plant makes is 4 times the number n of 9-inch frying pans it makes, and the number of 7-inch frying pans it makes is 10. During this day, the manufacturing plant makes 100 frying pans total. Which equation represents this situation?

A. $10(4n) + 9n + 7(10) = 100$

B. $10n + 9n + 7n = 100$

C. $4n + 10 = 100$

D. $5n + 10 = 100$

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Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

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Question ID b7e6394d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: b7e6394d

Alan drives an average of 100 miles each week. His car can travel an average of 25 miles per gallon of gasoline. Alan would like to reduce his weekly expenditure on gasoline by $5. Assuming gasoline costs $4 per gallon, which equation can Alan use to determine how many fewer average miles, m, he should drive each week?

A. $\frac{25}{4}m = 95$

B. $\frac{25}{4}m = 5$

C. $\frac{4}{25}m = 95$

D. $\frac{4}{25}m = 5$

Question ID b7e6394d

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SAT	Math	Algebra	Linear equations in one variable	■■■

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Question ID ee2f611f

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: ee2f611f

A local transit company sells a monthly pass for $95 that allows an unlimited number of trips of any length. Tickets for individual trips cost $1.50, $2.50, or $3.50, depending on the length of the trip. What is the minimum number of trips per month for which a monthly pass could cost less than purchasing individual tickets for trips?

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Question ID 25e1cfed

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: 25e1cfed

How many solutions does the equation $10(15x - 9) = -15(6 - 10x)$ have?

A. Exactly one

B. Exactly two

C. Infinitely many

D. Zero

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Question ID fdee0fbf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: fdee0fbf

In the *xy*-plane, line *k* intersects the *y*-axis at the point $(0, -6)$ and passes through the point $(2, 2)$. If the point $(20, w)$ lies on line *k*, what is the value of *w* ?

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SAT	Math	Algebra	Linear equations in two variables	■■■

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Question ID f75bd744

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

ID: f75bd744

$$4x - 6y = 10y + 2$$
$$ty = \frac{1}{2} + 2x$$

In the given system of equations, t is a constant. If the system has no solution, what is the value of t?

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Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: b3abf40f

$$F(x) = \frac{9}{5}(x - 273.15) + 32$$

The function F gives the temperature, in degrees Fahrenheit, that corresponds to a temperature of x kelvins. If a temperature increased by 9.10 kelvins, by how much did the temperature increase, in degrees Fahrenheit?

A. 16.38

B. 48.38

C. 475.29

D. 507.29

Question ID b3abf40f

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SAT	Math	Algebra	Linear functions	■■■

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Question ID e6cb2402

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: e6cb2402

$$3(kx+13)=\frac{48}{17}x+36$$

In the given equation, k is a constant. The equation has no solution. What is the value of k?

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Question ID b988eeec

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: b988eeec

The functions f and g are defined as $f(x) = \frac{1}{4}x - 9$ and $g(x) = \frac{3}{4}x + 21$. If the function h is defined as $h(x) = f(x) + g(x)$, what is the *x*-coordinate of the *x*-intercept of the graph of $y = h(x)$ in the *xy*-plane?

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Question ID 70feb725

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

ID: 70feb725

During a month, Morgan ran *r* miles at 5 miles per hour and biked *b* miles at 10 miles per hour. She ran and biked a total of 200 miles that month, and she biked for twice as many hours as she ran. What is the total number of miles that Morgan biked during the month?

A. 80

B. 100

C. 120

D. 160

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

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Question ID 1a621af4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 1a621af4

A number x is at most 2 less than 3 times the value of y. If the value of y is -4, what is the greatest possible value of x?

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SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

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Question ID af2ba762

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: af2ba762

According to data provided by the US Department of Energy, the average price per gallon of regular gasoline in the United States from September 1, 2014, to December 1, 2014, is modeled by the function F defined below, where $F(x)$ is the average price per gallon x months after September 1.

$F(x) = 2.74 - 0.19(x - 3)$

The constant 2.74 in this function estimates which of the following?

A. The average monthly decrease in the price per gallon

B. The difference in the average price per gallon from September 1, 2014, to December 1, 2014

C. The average price per gallon on September 1, 2014

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Question ID af2ba762

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SAT	Math	Algebra	Linear functions	■■■

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B. The difference in the average price per gallon from September 1, 2014, to December 1, 2014

C. The average price per gallon on September 1, 2014

D. The average price per gallon on December 1, 2014

Question ID b9835972

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: b9835972

In the *xy*-plane, line ℓ passes through the point $(0, 0)$ and is parallel to the line represented by the equation $y = 8x + 2$. If line ℓ also passes through the point $(3, d)$, what is the value of d?

Question ID b9835972

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Question ID e1248a5c

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

ID: e1248a5c

In the system of equations below, *a* and *c* are constants.

$\frac{1}{2}x+\frac{1}{3}y=\frac{1}{6}$

$ax+y=c$

If the system of equations has an infinite number of solutions (x,y), what is the value of *a* ?

A. $-\frac{1}{2}$

B. 0

C. $\frac{1}{2}$

D. $\frac{3}{2}$

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

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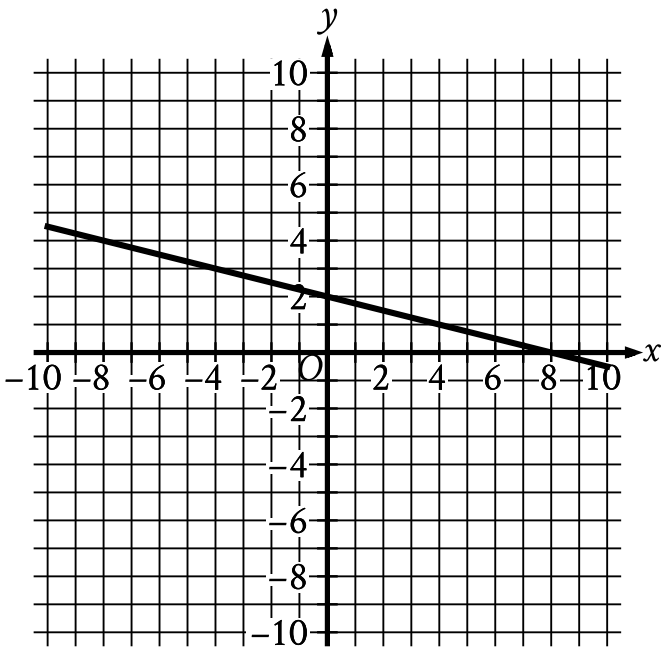
Question ID 05bb1af9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 05bb1af9



The graph of $y = f(x) + 14$ is shown. Which equation defines function f?

A. $f(x) = -\frac{1}{4}x - 12$

B. $f(x) = -\frac{1}{4}x + 16$

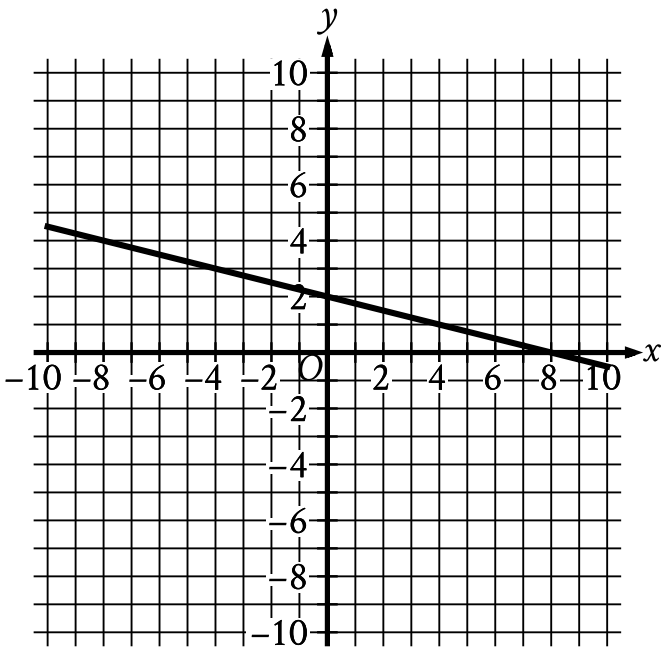
C. $f(x) = -\frac{1}{4}x + 2$

D. $f(x) = -\frac{1}{4}x - 14$

Question ID 05bb1af9

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 05bb1af9



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SAT	Math	Algebra	Linear equations in two variables	■■■

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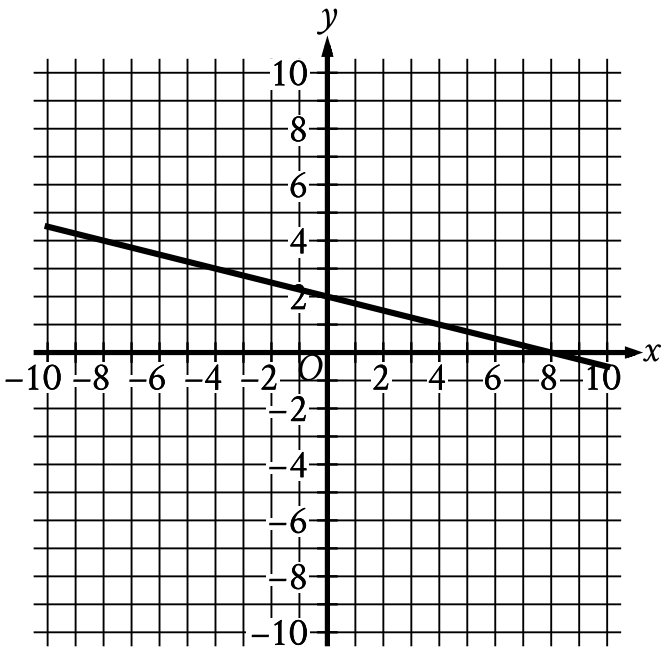

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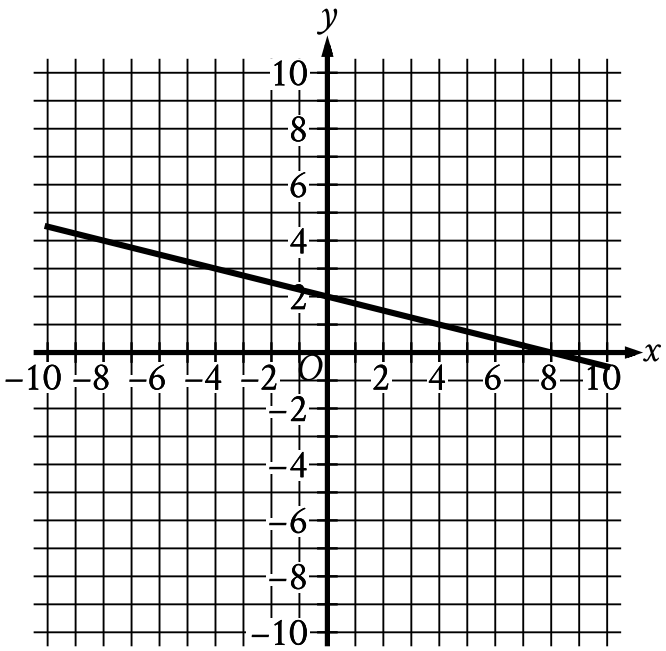

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SAT	Math	Algebra	Linear equations in two variables	■■■

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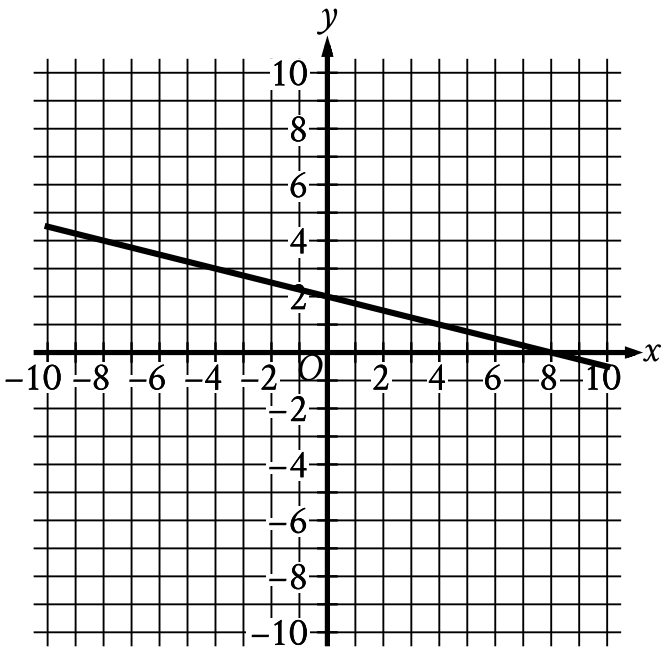

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Question ID 52cb8ea4

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

ID: 52cb8ea4

$$7x - 5y = 4$$
$$4x - 8y = 9$$

If (x, y) is the solution to the system of equations above, what is the value of $3x + 3y$?

A. -13

B. -5

C. 5

D. 13

Question ID 52cb8ea4

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

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Question ID 0b46bad5

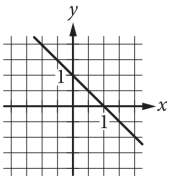
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 0b46bad5

$ax + by = b$

In the equation above, *a* and *b* are constants and $0 < a < b$. Which of the following could represent the graph of the equation in the *xy*-plane?

A.



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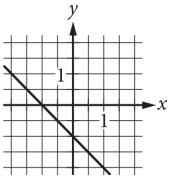

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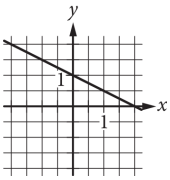

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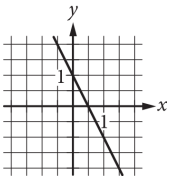

Question ID 0b46bad5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

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In the equation above, *a* and *b* are constants and $0 < a < b$. Which of the following could represent the graph of the equation in the *xy*-plane?

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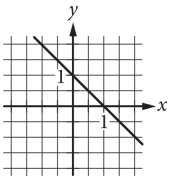

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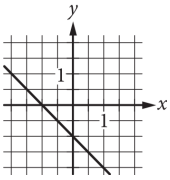

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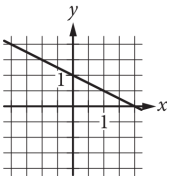

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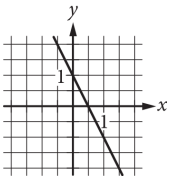

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SAT	Math	Algebra	Linear equations in two variables	■■■

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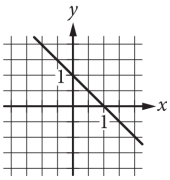

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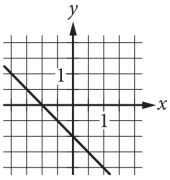

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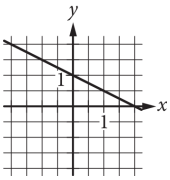

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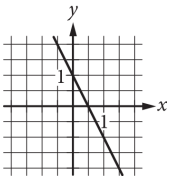

Question ID 0b46bad5

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SAT	Math	Algebra	Linear equations in two variables	■■■

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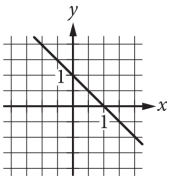

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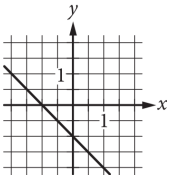

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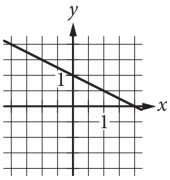

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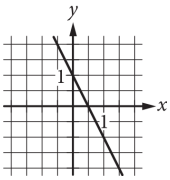

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SAT	Math	Algebra	Linear equations in two variables	■■■

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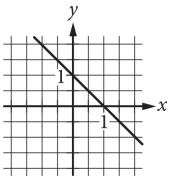

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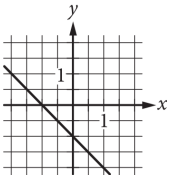

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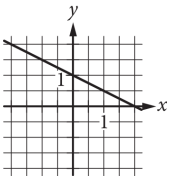

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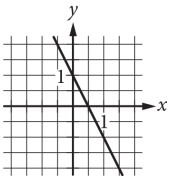
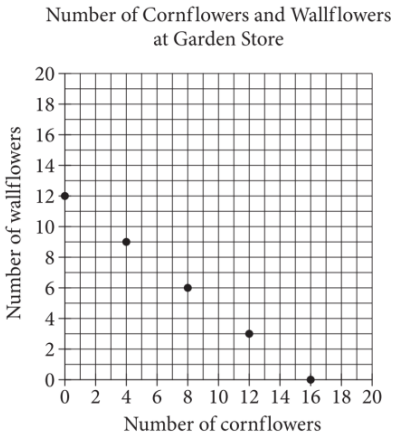


Question ID c362c210

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: c362c210

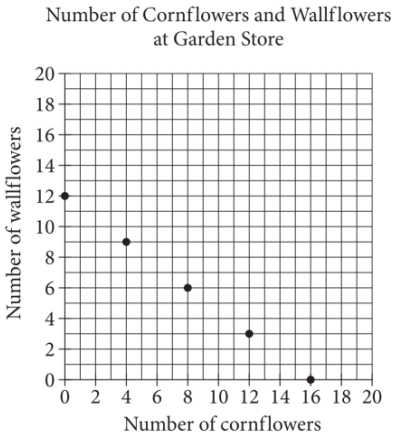


The points plotted in the coordinate plane above represent the possible numbers of wallflowers and cornflowers that someone can buy at the Garden Store in order to spend exactly $24.00 total on the two types of flowers. The price of each wallflower is the same and the price of each cornflower is the same. What is the price, in dollars, of 1 cornflower?

Question ID c362c210

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: c362c210



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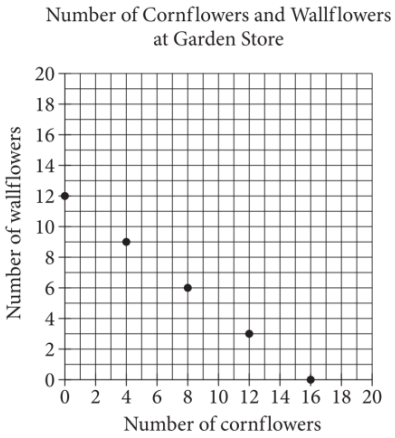
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: c362c210



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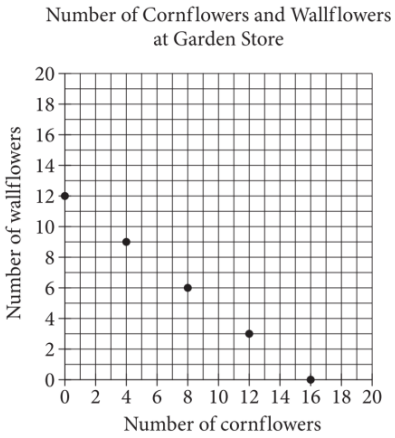

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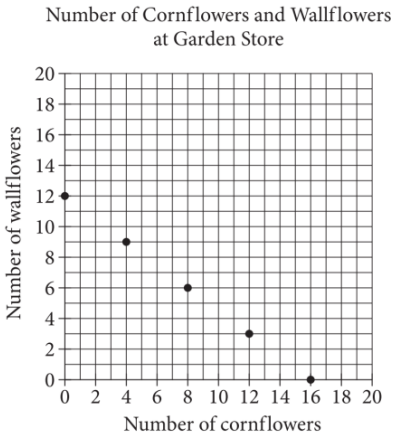
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: c362c210



The points plotted in the coordinate plane above represent the possible numbers of wallflowers and cornflowers that someone can buy at the Garden Store in order to spend exactly $24.00 total on the two types of flowers. The price of each wallflower is the same and the price of each cornflower is the same. What is the price, in dollars, of 1 cornflower?

Question ID 94b48cbf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 94b48cbf

The graph of $7x + 2y = -31$ in the xy-plane has an x-intercept at $(a, 0)$ and a y-intercept at $(0, b)$, where a and b are constants. What is the value of $\frac{b}{a}$?

A. $-\frac{7}{2}$

B. $-\frac{2}{7}$

C. $\frac{2}{7}$

D. $\frac{7}{2}$

Question ID 94b48cbf

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

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Question ID 50f4cb9c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: 50f4cb9c

x	$f(x)$
1	-64
2	0
3	64

For the linear function f, the table shows three values of x and their corresponding values of $f(x)$. Function f is defined by $f(x) = ax + b$, where a and b are constants. What is the value of $a - b$?

A. -64

B. 62

C. 128

D. 192

Question ID 50f4cb9c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

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Question ID 16889ef3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: 16889ef3

Oil and gas production in a certain area dropped from 4 million barrels in 2000 to 1.9 million barrels in 2013. Assuming that the oil and gas production decreased at a constant rate, which of the following linear functions *f* best models the production, in millions of barrels, *t* years after the year 2000?

A. $f(t) = \frac{21}{130}t + 4$

B. $f(t) = \frac{19}{130}t + 4$

C. $f(t) = -\frac{21}{130}t + 4$

D. $f(t) = -\frac{19}{130}t + 4$

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Question ID d7bf55e1

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

ID: d7bf55e1

A movie theater sells two types of tickets, adult tickets for $12 and child tickets for $8. If the theater sold 30 tickets for a total of $300, how much, in dollars, was spent on adult tickets? (Disregard the $ sign when gridding your answer.)

Question ID d7bf55e1

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

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

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Question ID 771bd0ca

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: 771bd0ca

$$5(t+3)-7(t+3)=38$$

What value of t is the solution to the given equation?

Question ID 771bd0ca

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

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SAT	Math	Algebra	Linear equations in one variable	■■■

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Question ID a309803e

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: a309803e

One gallon of paint will cover 220 square feet of a surface. A room has a total wall area of w square feet. Which equation represents the total amount of paint P, in gallons, needed to paint the walls of the room twice?

A. $P = \frac{w}{110}$

B. $P = 440w$

C. $P = \frac{w}{220}$

D. $P = 220w$

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Question ID 55ea82f3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 55ea82f3

A team hosting an event to raise money for new uniforms plans to sell at least 140 tickets before this event and at least 220 tickets during this event to raise a total of at least $\$5{,}820$ from all tickets sold. The price of a ticket during this event is $\$3$ less than the price of a ticket before this event. Which inequality represents this situation, where x is the price, in dollars, of a ticket sold during this event?

A. $140(x+3)+220x \leq 5{,}820$

B. $140(x+3)+220x \geq 5{,}820$

C. $140(x-3)+220x \leq 5{,}820$

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Question ID 98d3393a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 98d3393a

Line ℓ in the *xy*-plane is perpendicular to the line with equation $x = 2$. What is the slope of line ℓ?

A. 0

B. $-\frac{1}{2}$

C. -2

D. The slope of line ℓ is undefined.

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Question ID 0b0fa68b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: 0b0fa68b

For the function f, $f(cx) = x - 8$ for all values of x, where c is a positive constant. If $f(2) = 35$, what is the value of c?

Question ID 0b0fa68b

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

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Question ID 6989c80a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: 6989c80a

$$F(x) = \frac{9}{5}(x - 273.15) + 32$$

The function F gives the temperature, in degrees Fahrenheit, that corresponds to a temperature of x kelvins. If a temperature increased by 2.10 kelvins, by how much did the temperature increase, in degrees Fahrenheit?

A. 3.78

B. 35.78

C. 487.89

D. 519.89

Question ID 6989c80a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

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Question ID e8f9e117

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: e8f9e117

$$I = \frac{V}{R}$$

The formula above is Ohm's law for an electric circuit with current I, in amperes, potential difference V, in volts, and resistance R, in ohms. A circuit has a resistance of 500 ohms, and its potential difference will be generated by n six-volt batteries that produce a total potential difference of $6n$ volts. If the circuit is to have a current of no more than 0.25 ampere, what is the greatest number, n, of six-volt batteries that can be used?

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The formula above is Ohm's law for an electric circuit with current I, in amperes, potential difference V, in volts, and resistance R, in ohms. A circuit has a resistance of 500 ohms, and its potential difference will be generated by n six-volt batteries that produce a total potential difference of $6n$ volts. If the circuit is to have a current of no more than 0.25 ampere, what is the greatest number, n, of six-volt batteries that can be used?

Question ID e8f9e117

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

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Question ID a7e2859a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

ID: a7e2859a

The cost of renting a large canopy tent for up to 10 days is $\$430$ for the first day and $\$215$ for each additional day. Which of the following equations gives the cost y, in dollars, of renting the tent for x days, where x is a positive integer and $x \leq 10$?

A. $y = 215x + 215$

B. $y = 430x - 215$

C. $y = 430x + 215$

D. $y = 215x + 430$

Question ID a7e2859a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

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B. $y = 430x - 215$

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Question ID a7e2859a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear functions	■■■

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SAT	Math	Algebra	Linear functions	■■■

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SAT	Math	Algebra	Linear functions	■■■

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Question ID f718c9cf

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

ID: f718c9cf

$$5x + 14y = 45$$
$$10x + 7y = 27$$

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

Question ID f718c9cf

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

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

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

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Question ID 466b87e3

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

ID: 466b87e3

$$y = \frac{1}{2}x + 8$$

$$y = cx + 10$$

In the system of equations above, c is a constant. If the system has no solution, what is the value of c ?

Question ID 466b87e3

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

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

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

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Question ID aee9fd2d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

ID: aee9fd2d

If $\frac{x+6}{3} = \frac{x+6}{13}$, the value of $x + 6$ is between which of the following pairs of values?

A. -7 and -3

B. -2 and 2

C. 2 and 7

D. 8 and 13

Question ID aee9fd2d

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in one variable	■■■

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Question ID 0366d965

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 0366d965

x	y
3	7
k	11
12	n

The table above shows the coordinates of three points on a line in the xy-plane, where k and n are constants. If the slope of the line is 2, what is the value of $k+n$?

Question ID 0366d965

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

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SAT	Math	Algebra	Linear equations in two variables	■■■

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SAT	Math	Algebra	Linear equations in two variables	■■■

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SAT	Math	Algebra	Linear equations in two variables	■■■

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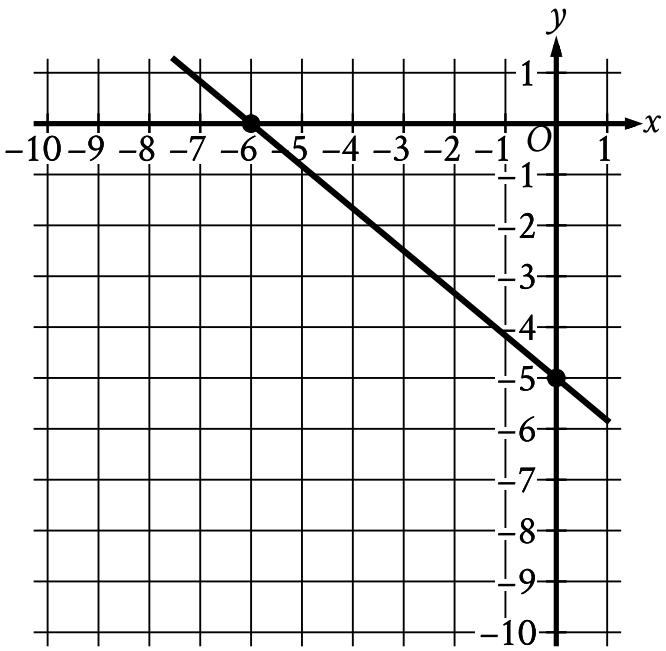
Question ID 6d8ad460

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 6d8ad460



Line k is shown in the *xy*-plane. Line j (not shown) is perpendicular to line k. What is the slope of line j?

Question ID 6d8ad460

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

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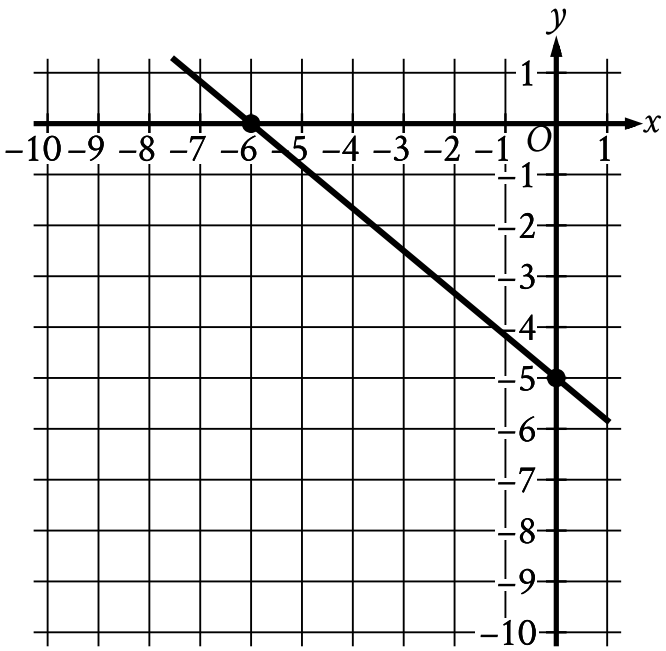

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SAT	Math	Algebra	Linear equations in two variables	■■■

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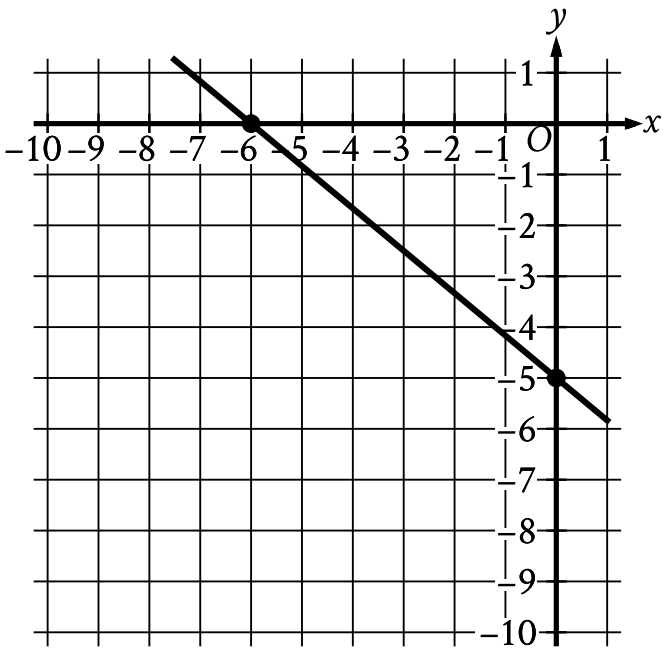

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SAT	Math	Algebra	Linear equations in two variables	■■■

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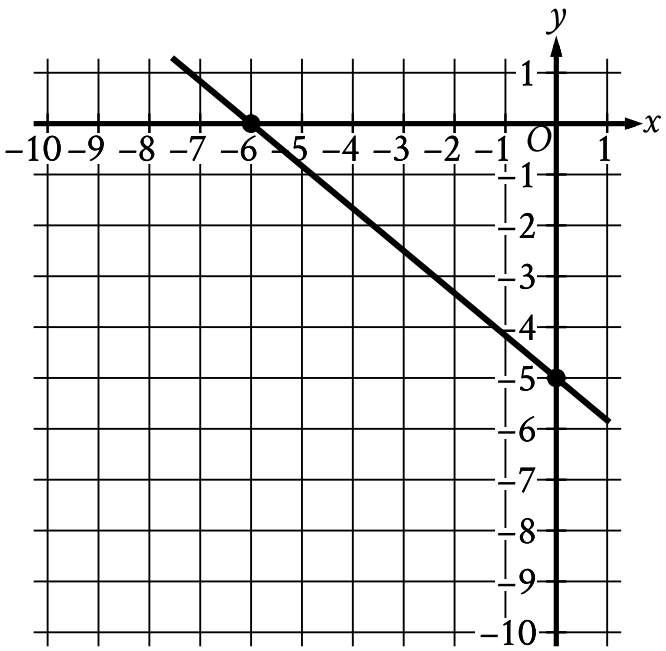

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SAT	Math	Algebra	Linear equations in two variables	■■■

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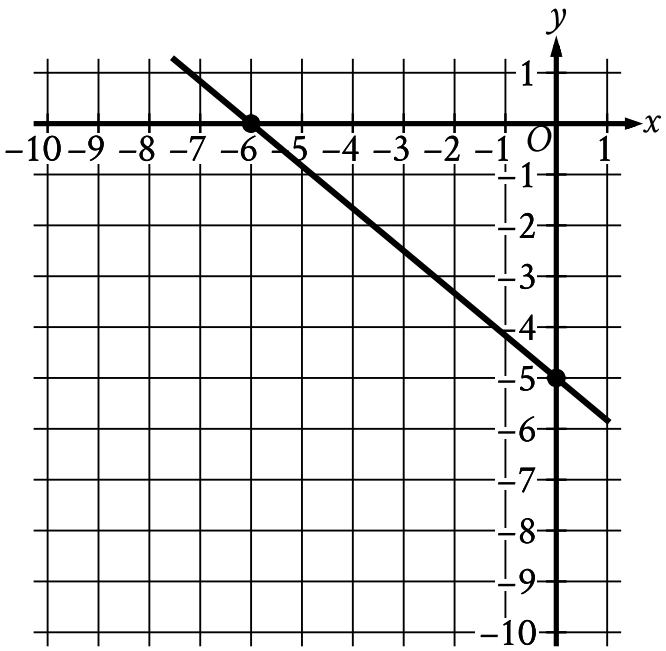

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Question ID 963da34c

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear inequalities in one or two variables	■■■

ID: 963da34c

A shipping service restricts the dimensions of the boxes it will ship for a certain type of service. The restriction states that for boxes shaped like rectangular prisms, the sum of the perimeter of the base of the box and the height of the box cannot exceed 130 inches. The perimeter of the base is determined using the width and length of the box. If a box has a height of 60 inches and its length is 2.5 times the width, which inequality shows the allowable width x, in inches, of the box?

A. $0 < x \leq 10$

B. $0 < x \leq 11\frac{2}{3}$

C. $0 < x \leq 17\frac{1}{2}$

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Question ID e2e3942f

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

ID: e2e3942f

$y = 2x + 1$

$y = ax - 8$

In the system of equations above, a is a constant. If the system of equations has no solution, what is the value of a ?

A. $-\frac{1}{2}$

B. 0

C. 1

D. 2

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

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Question ID 2d54c272

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 2d54c272

$$5G + 45R = 380$$

At a school fair, students can win colored tokens that are worth a different number of points depending on the color. One student won G green tokens and R red tokens worth a total of 380 points. The given equation represents this situation. How many more points is a red token worth than a green token?

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SAT	Math	Algebra	Linear equations in two variables	■■■

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SAT	Math	Algebra	Linear equations in two variables	■■■

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SAT	Math	Algebra	Linear equations in two variables	■■■

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Question ID 1e0a46e4

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

ID: 1e0a46e4

Which system of linear equations has no solution?

A. $-2x + 3y = -9$
$2x - 3y = 9$

B. $2x - 3y = 9$
$3x + 4y = 10$

C. $2x - 3y = 9$
$-6x + 9y = -27$

D. $-2x + 3y = 9$
$4x - 6y = 18$

Question ID 1e0a46e4

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

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

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

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

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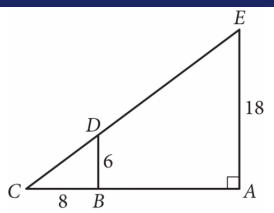
Question ID dba6a25a

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■■■

ID: dba6a25a



In the figure above, $\overline{BD}$ is parallel to $\overline{AE}$.

What is the length of $\overline{CE}$?

Question ID c984f1a5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	■■■

ID: c984f1a5

A hemisphere is half of a sphere. If a hemisphere has a radius of 27 inches, which of the following is closest to the volume, in cubic inches, of this hemisphere?

A. $1{,}500$

B. $6{,}100$

C. $30{,}900$

D. $41{,}200$

Question ID acd30391

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Circles	■■■

ID: acd30391

A circle in the *xy*-plane has equation $(x+3)^2+(y-1)^2=25$. Which of the following points does NOT lie in the interior of the circle?

A. $(-7, 3)$

B. $(-3, 1)$

C. $(0, 0)$

D. $(3, 2)$

Question ID 14e7c1f4

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■■■

ID: 14e7c1f4

For two acute angles, $\angle Q$ and $\angle R$, $\cos(Q) = \sin(R)$. The measures, in degrees, of $\angle Q$ and $\angle R$ are $x + 61$ and $4x + 4$, respectively. What is the value of x?

A. 5

B. 19

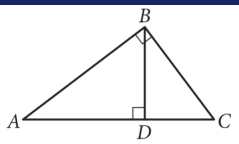
C. 23

D. 29

Question ID 6a3fbec3

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Lines, angles, and triangles	■■■

ID: 6a3fbec3



Note: Figure not drawn to scale.

In the figure above, $BD = 6$ and $AD = 8$.

What is the length of $\overline{DC}$?

Question ID 25da87f8

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Right triangles and trigonometry	■■■

ID: 25da87f8

A triangle with angle measures 30°, 60°, and 90° has a perimeter of $18+6\sqrt{3}$.

What is the length of the longest side of the triangle?

Question ID 459dd6c5

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	■■■

ID: 459dd6c5

Triangles ABC and DEF are similar. Each side length of triangle ABC is 4 times the corresponding side length of triangle DEF. The area of triangle ABC is 270 square inches. What is the area, in square inches, of triangle DEF?

Question ID 310c87fe

Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Geometry and Trigonometry	Area and volume	■■■

ID: 310c87fe

A cube has a surface area of 54 square meters. What is the volume, in cubic meters, of the cube?

A. 18

B. 27

C. 36

D. 81