

Question ID 6ee5222e

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

ID: 6ee5222e

$$\frac{3}{5}x + \frac{3}{4}y = 7$$

Which table gives three values of x and their corresponding values of y for the given equation?

A.

x	y
1	$\frac{113}{20}$
2	$\frac{101}{20}$
4	$\frac{77}{20}$

B.

x	y
1	$\frac{47}{5}$
2	$\frac{44}{5}$
4	$\frac{38}{5}$

C.

x	y
1	$\frac{148}{15}$
2	$\frac{136}{15}$
4	$\frac{112}{15}$

D.

x	y
1	$\frac{128}{15}$
2	$\frac{116}{15}$
4	$\frac{92}{15}$

Question ID 252d6b8a

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

ID: 252d6b8a

$$\begin{aligned}5x + 7y &= 1 \\ ax + by &= 1\end{aligned}$$

In the given pair of equations, a and b are constants. The graph of this pair of equations in the xy -plane is a pair of perpendicular lines. Which of the following pairs of equations also represents a pair of perpendicular lines?

- A. $\begin{aligned}10x + 7y &= 1 \\ ax - 2by &= 1\end{aligned}$
- B. $\begin{aligned}10x + 7y &= 1 \\ ax + 2by &= 1\end{aligned}$
- C. $\begin{aligned}10x + 7y &= 1 \\ 2ax + by &= 1\end{aligned}$
- D. $\begin{aligned}5x - 7y &= 1 \\ ax + by &= 1\end{aligned}$

Question ID 900234f1

Assessment	Test	Domain	Skill	Difficulty
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ID: 900234f1

$$5G + 45R = 380$$

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?

Question ID e40b7bdc

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

ID: e40b7bdc

Keenan made **32** cups of vegetable broth. Keenan then filled **x** small jars and **y** large jars with all the vegetable broth he made. The equation **$3x + 5y = 32$** represents this situation. Which is the best interpretation of **$5y$** in this context?

- A. The number of large jars Keenan filled
- B. The number of small jars Keenan filled
- C. The total number of cups of vegetable broth in the large jars
- D. The total number of cups of vegetable broth in the small jars

Question ID dcdceeae

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

ID: dcdceeae

In the xy -plane, line p has a slope of $-\frac{5}{3}$ and an x -intercept of $(-6, 0)$. What is the y -coordinate of the y -intercept of line p ?

Question ID 1cc52a1f

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

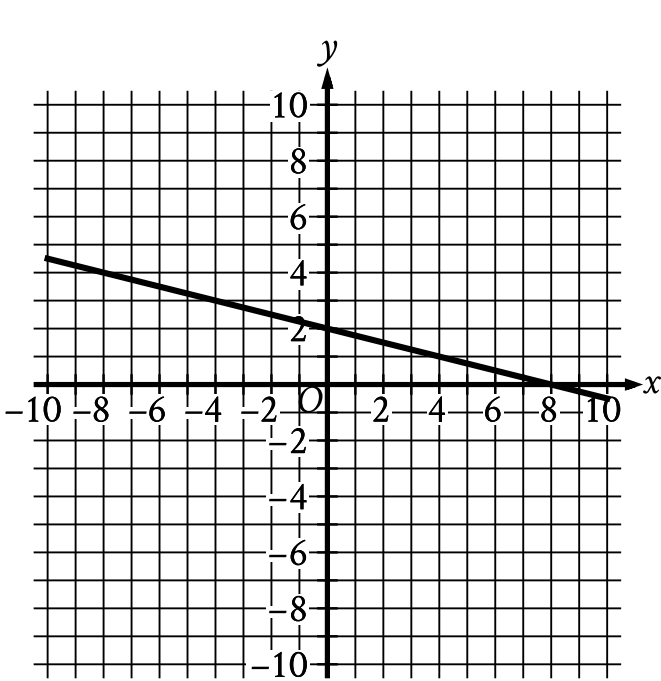
ID: 1cc52a1f

A certain apprentice has enrolled in **85** hours of training courses. The equation **$10x + 15y = 85$** represents this situation, where **x** is the number of on-site training courses and **y** is the number of online training courses this apprentice has enrolled in. How many more hours does each online training course take than each on-site training course?

Question ID a8e43ae3

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

ID: a8e43ae3



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 beb54560

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

ID: beb54560

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 c73c84cc

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

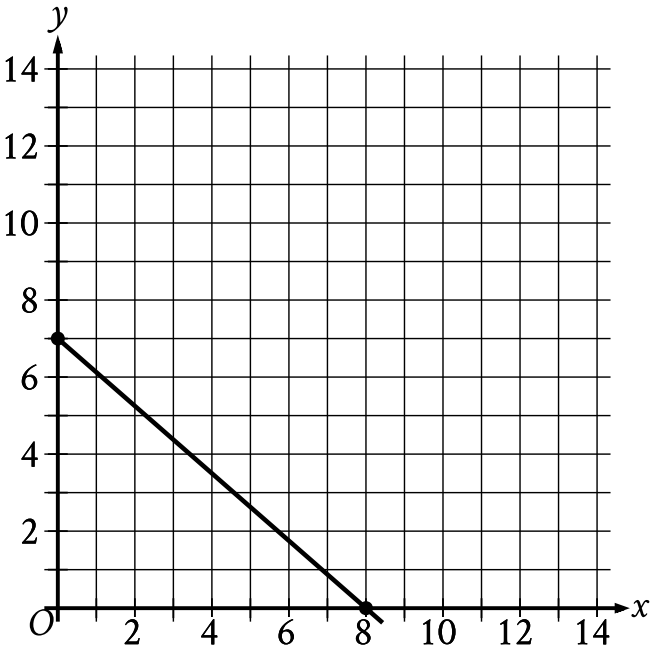
ID: c73c84cc

The graph of $9x - 10y = 19$ is translated down 4 units in the xy -plane. What is the x -coordinate of the x -intercept of the resulting graph?

Question ID 35978b89

Assessment	Test	Domain	Skill	Difficulty
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ID: 35978b89



The point with coordinates $(d, 4)$ lies on the line shown. What is the value of d ?

- A. $\frac{7}{2}$
- B. $\frac{26}{7}$
- C. $\frac{24}{7}$
- D. $\frac{27}{8}$

Question ID 9a67367f

Assessment	Test	Domain	Skill	Difficulty
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ID: 9a67367f

x	y
k	13
$k + 7$	-15



The table gives the coordinates of two points on a line in the xy -plane. The y -intercept of the line is $(k - 5, b)$, where k and b are constants. What is the value of b ?

Question ID 95cc0b50

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

ID: 95cc0b50

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 e4db4454

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

ID: e4db4454

Line h is defined by $\frac{1}{5}x + \frac{1}{7}y - 70 = 0$. Line j is perpendicular to line h in the xy -plane. What is the slope of line j ?

- A. $-\frac{7}{5}$
- B. $-\frac{5}{7}$
- C. $\frac{7}{5}$
- D. $\frac{5}{7}$

Question ID 0e1dbc1d

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

ID: 0e1dbc1d

Line ℓ is defined by $3y + 12x = 5$. Line n is perpendicular to line ℓ in the xy -plane. What is the slope of line n ?

Question ID 1ad71c23

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

ID: 1ad71c23

x	y
-18	-48
7	52

The table shows two values of x and their corresponding values of y . In the xy -plane, the graph of the linear equation representing this relationship passes through the point $(\frac{1}{7}, a)$. What is the value of a ?

- A. $-\frac{4}{11}$
- B. $-\frac{4}{77}$
- C. $\frac{4}{7}$
- D. $\frac{172}{7}$

Question ID 8d7fb037

Assessment	Test	Domain	Skill	Difficulty
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ID: 8d7fb037

x	y
18	130
23	160
26	178



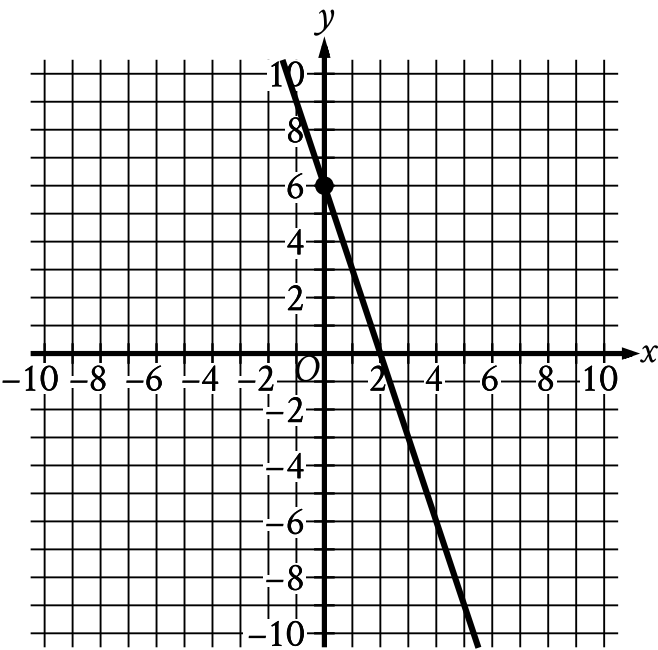
For line h , the table shows three values of x and their corresponding values of y . Line k is the result of translating line h down 5 units in the xy -plane. What is the x -intercept of line k ?

- A. $(-\frac{26}{3}, 0)$
- B. $(-\frac{9}{2}, 0)$
- C. $(-\frac{11}{3}, 0)$
- D. $(-\frac{17}{6}, 0)$

Question ID 8a1fb433

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

ID: 8a1fb433



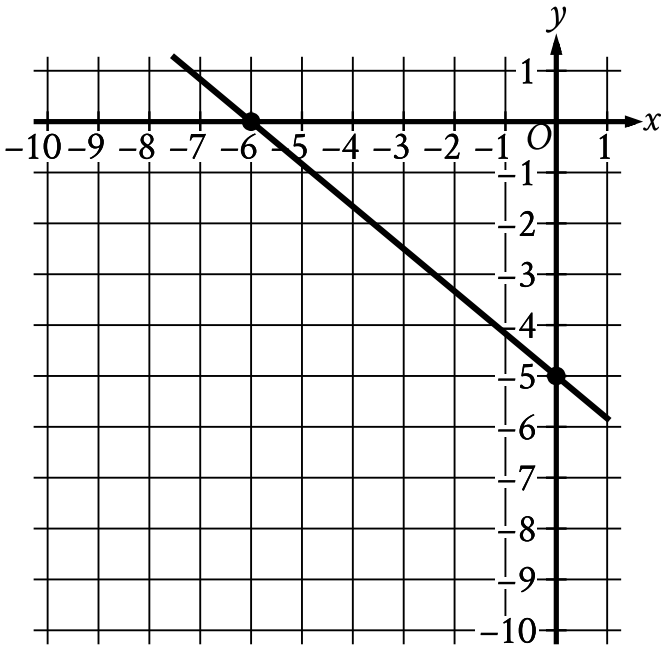
The graph shows a linear relationship between x and y . Which equation represents this relationship, where R is a positive constant?

- A. $Rx + 18y = 36$
- B. $Rx - 18y = -36$
- C. $18x + Ry = 36$
- D. $18x - Ry = -36$

Question ID 3dcde9ed

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

ID: 3dcde9ed



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 ec0fe2b2

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

ID: ec0fe2b2

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 228bd68a

Assessment	Test	Domain	Skill	Difficulty
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ID: 228bd68a

What is the y -coordinate of the y -intercept of the graph of $\frac{3x}{7} = -\frac{5y}{9} + 21$ in the xy -plane?

Question ID a83cf688

Assessment	Test	Domain	Skill	Difficulty
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ID: a83cf688

x	y
$-2s$	24
$-s$	21
s	15

The table shows three values of x and their corresponding values of y , where s is a constant. There is a linear relationship between x and y . Which of the following equations represents this relationship?

- A. $sx + 3y = 18s$
- B. $3x + sy = 18s$
- C. $3x + sy = 18$
- D. $sx + 3y = 18$