Question ID 3cdbf026

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

ID: 3cdbf026

3.1

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 fdee0fbf

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

ID: fdee0fbf

3.2

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* ?

Question ID 0b46bad5

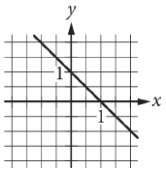
Assessment	Test	Domain	Skill	Difficulty
SAT	Math	Algebra	Linear equations in two variables	■■■

ID: 0b46bad5 3.3

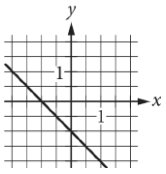
$ax + by = b$

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?

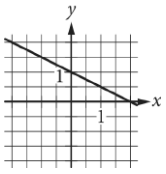
A.



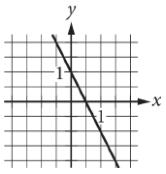
B.



C.



D.

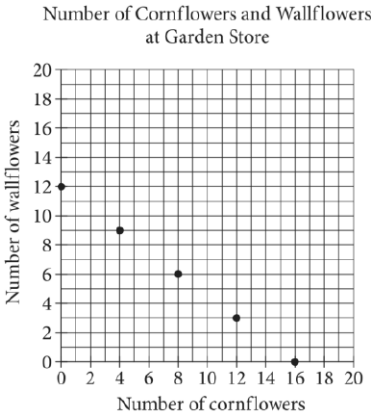


Question ID c362c210

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

ID: c362c210

3.4



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 98d3393a

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

ID: 98d3393a 3.5

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.

Question ID 0366d965

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

ID: 0366d965

3.6

x	y
3	7
k	11
12	n

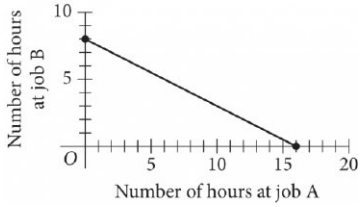
The table above shows the coordinates of three points on a line in the xy-plane, where k and n are constants. If the slope of the line is 2, what is the value of $k+n$?

Question ID c4ea43ef

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

ID: c4ea43ef

3.7



To earn money for college, Avery works two part-time jobs: A and B. She earns $10 per hour working at job A and $20 per hour working at job B. In one week, Avery earned a total of *s* dollars for working at the two part-time jobs. The graph above represents all possible combinations of numbers of hours Avery could have worked at the two jobs to earn *s* dollars. What is the value of *s* ?

A. 128

B. 160

C. 200

D. 320

Question ID cb58833c

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

ID: cb58833c

3.8

The line with the equation $\frac{4}{5}x+\frac{1}{3}y=1$ is graphed in the *xy*-plane. What is the *x*-coordinate of the *x*-intercept of the line?

Question ID a7a14e87

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

ID: a7a14e87

3.9

In the *xy*-plane, line *k* is defined by $x+y=0$. Line *j* is perpendicular to line *k*, and the *y*-intercept of line *j* is $(0,3)$. Which of the following is an equation of line *j* ?

A. $x+y=3$

B. $x+y=-3$

C. $x-y=3$

D. $x-y=-3$

Question ID a1fd2304

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

ID: a1fd2304

3.10

How many liters of a 25% saline solution must be added to 3 liters of a 10% saline solution to obtain a 15% saline solution?

Question ID 49800634

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

ID: 49800634

3.11

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 $\left(\frac{1}{7},\ a\right)$. What is the value of a?

A. $-\frac{4}{11}$

B. $-\frac{4}{77}$

C. $\frac{4}{7}$

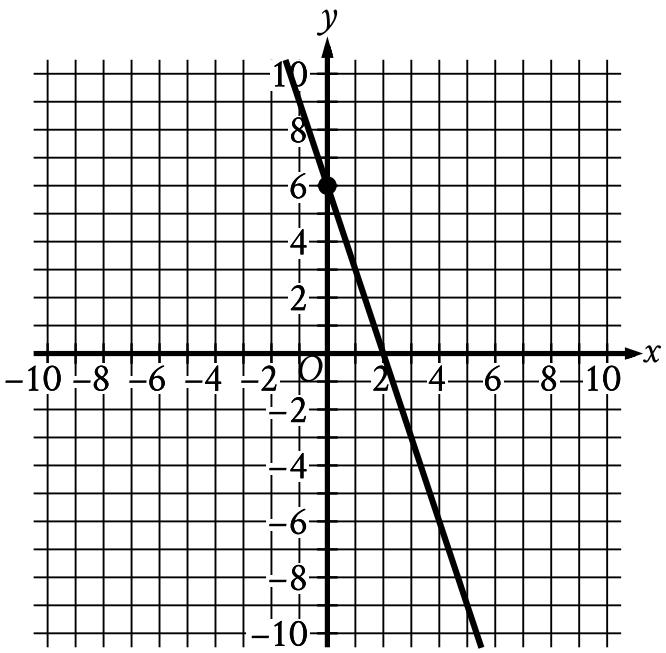
D. $\frac{172}{7}$

Question ID 5b7599a6

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

ID: 5b7599a6

3.12



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 184ce5aa

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

ID: 184ce5aa

3.13

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 d0e614a6

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

ID: d0e614a6

3.14

$\frac{3}{5}x + \frac{3}{4}y = 7$ 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	$\frac{92}{15}$