

#1

ID: 3008cfc3

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 ?

#2

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

#3

ID: 00723d16

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 ?

#4

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

#5

ID: 686b7244

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?

#6

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 ?

#7

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 ?

#9

ID: 9aaf7786

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 ?

#8

ID: d0e614a6

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

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	$\frac{92}{15}$

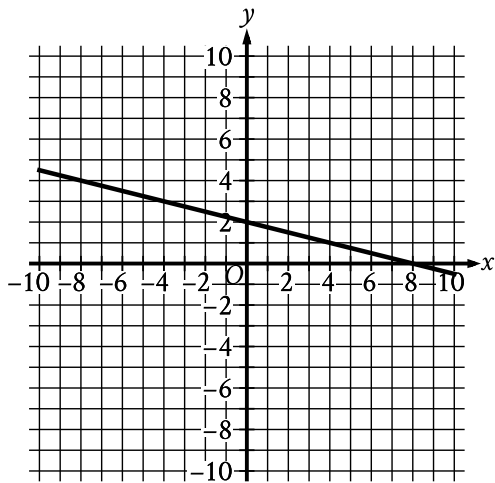
#10

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 ?

#11

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

#12

ID: cc7ffe02

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

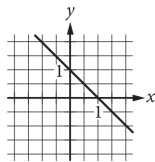
#13

ID: 0b46bad5

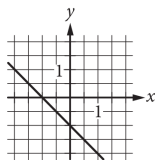
$$ax + by = b$$

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?

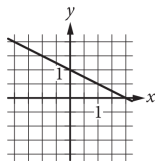
A)



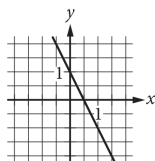
B)



C)



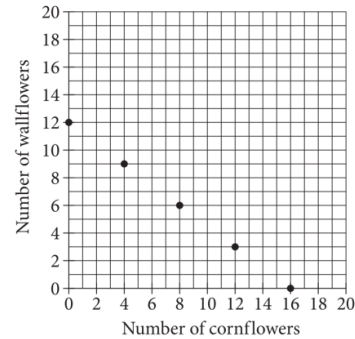
D)



#14

ID: c362c210

Number of Cornflowers and Wallflowers
at Garden Store



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?

#15

ID: 768f3b7c

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) $sx + 3y = 18$

#16

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) $\frac{7}{2}$

#19

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 $k+n$?

#17

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.

#20

ID: 184ce5aa

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) $\frac{5}{7}$

#18

ID: cc3e9528

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?

#21

ID: a35c7164

$$5x + 7y = 1$$

$$ax + by = 1$$

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) $10x + 7y = 1$

$$ax - 2by = 1$$

B) $10x + 7y = 1$

$$ax + 2by = 1$$

C) $10x + 7y = 1$

$$2ax + by = 1$$

D) $5x - 7y = 1$

$$ax + by = 1$$

#22

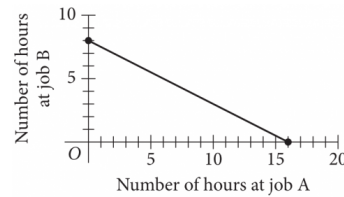
ID: 2d54c272

$$5G + 45R = 380$$

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?

#23

ID: c4ea43ef



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

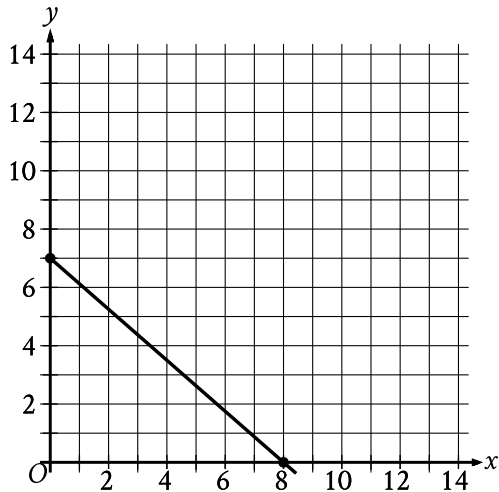
#24

ID: cb58833c

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?

#25

ID: 9d0396d4



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) $\frac{27}{8}$

#26

ID: a7a14e87

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) $x - y = -3$

#27

ID: 9f70fd47

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

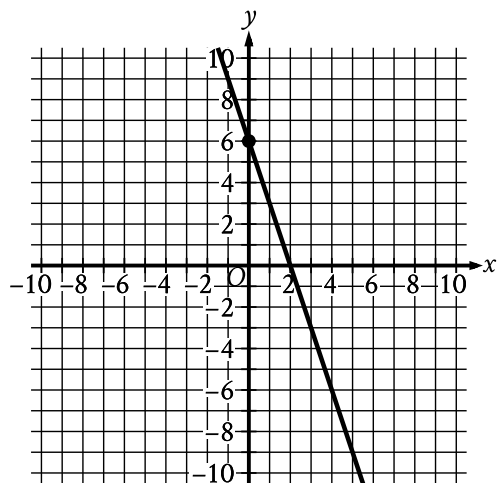
#28

ID: a1fd2304

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?

#29

ID: 5b7599a6



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) $18x - Ry = -36$

#30

ID: 49800634

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) $\frac{172}{7}$