ID: 84664a7c

The front of a roller-coaster car is at the bottom of a hill and is 15 feet above the ground. If the front of the roller-coaster car rises at a constant rate of 8 feet per second, which of the following equations gives the height h, in feet, of the front of the roller-coaster car s seconds after it starts up the hill?

A. $h = 8s + 15$

B. $h = 15s + \frac{335}{8}$

C. $h = 8s + \frac{335}{15}$

D. $h = 15s + 8$

ID: 06fc1726

If f is the function defined by $f(x)=\frac{2x-1}{3}$, what is the value of $f(5)$?

A. $\frac{4}{3}$

B. $\frac{7}{3}$

C. 3

D. 9

ID: 6863c7ce

$$d = 16t$$

The given equation represents the distance d, in inches, where t represents the number of seconds since an object started moving. Which of the following is the best interpretation of 16 in this context?

A. The object moved a total of 16 inches.

B. The object moved a total of $16t$ inches.

C. The object is moving at a rate of 16 inches per second.

D. The object is moving at a rate of $\frac{1}{16}$ inches per second.

ID: bf36c815

The function g is defined by $g(x) = -x + 8$.

What is the value of $g(0)$?

A. -8

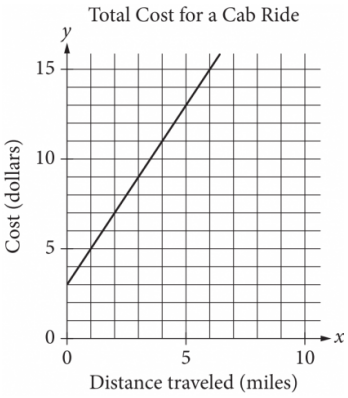
B. 0

C. 4

D. 8

ID: 3f5375d9

The line graphed in the *xy*-plane below models the total cost, in dollars, for a cab ride, *y*, in a certain city during nonpeak hours based on the number of miles traveled, *x*.



According to the graph, what is the cost for each additional mile traveled, in dollars, of a cab ride?

A. $2.00

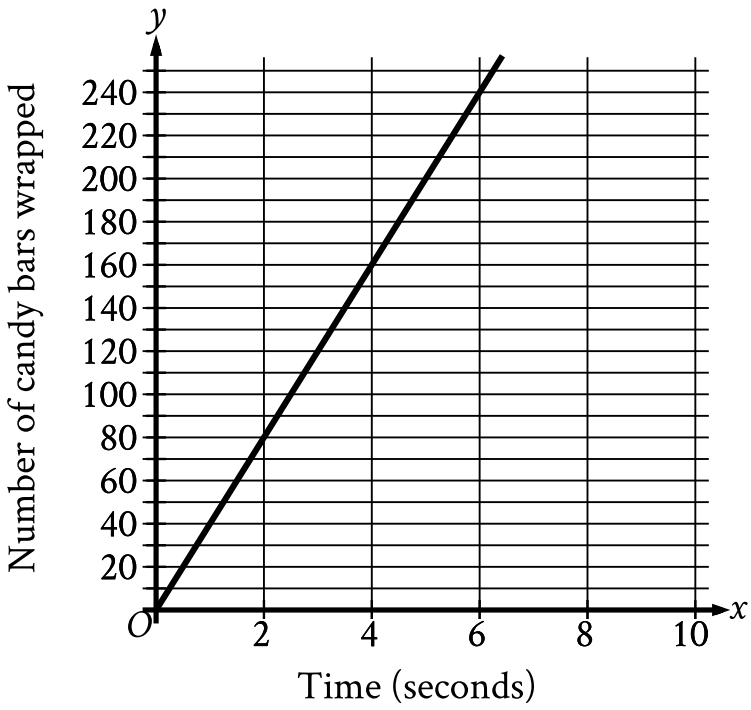
B. $2.60

C. $3.00

D. $5.00

ID: 13294295

The graph shown models the number of candy bars a certain machine wraps with a label in x seconds.



According to the graph, what is the estimated number of candy bars the machine wraps with a label per second?

A. 2

B. 40

C. 78

D. 80

ID: 12983c1e

x	$f(x)$
1	5
3	13
5	21

Some values of the linear function f are shown in the table above.
Which of the following defines f?

A. $f(x)=2x+3$

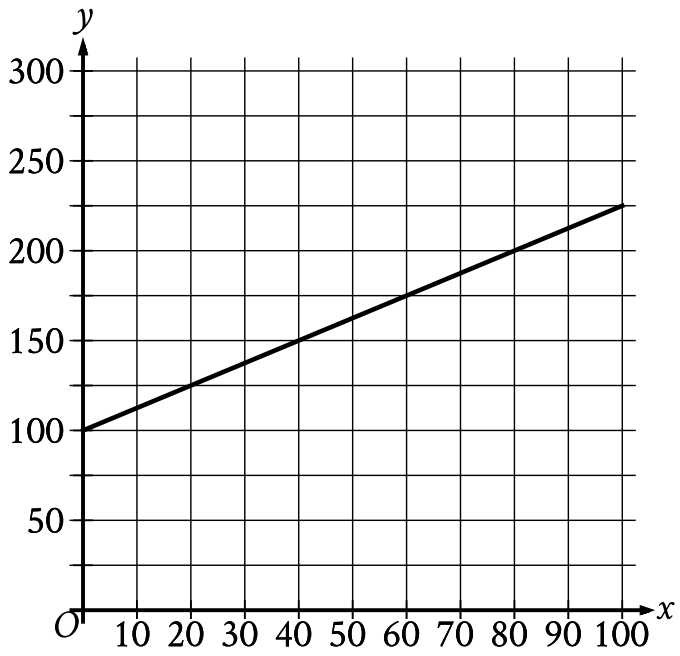
B. $f(x)=3x+2$

C. $f(x)=4x+1$

D. $f(x)=5x$

ID: 720e51ac

The cost y, in dollars, for a manufacturer to make x rings is represented by the line shown.



What is the cost, in dollars, for the manufacturer to make 60 rings?

A. 100

B. 125

C. 175

D. 225

ID: f79fffba

The function h is defined by $h(x) = 3x - 7$. What is the value of $h(-2)$?

A. -13

B. -10

C. 10

D. 13

ID: bf883fde

For the function f, the graph of $y = f(x)$ in the *xy*-plane has a slope of 3 and passes through the point $(0, -8)$. Which equation defines f?

A. $f(x) = 3x$

B. $f(x) = 3x - 8$

C. $f(x) = 3x + 5$

D. $f(x) = 3x + 11$

ID: 3462d850

Marisol drove 3 hours from City A to City B. The equation below estimates the distance d, in miles, Marisol traveled after driving for t hours.

$d = 45t$

Which of the following does 45 represent in the equation?

A. Marisol took 45 trips from City A to City B.

B. The distance between City A and City B is 45 miles.

C. Marisol drove at an average speed of about 45 miles per hour.

D. It took Marisol 45 hours to drive from City A to City B.

ID: c4d49134

$$s = 40 + 3t$$

The equation gives the speed s, in miles per hour, of a certain car t seconds after it began to accelerate. What is the speed, in miles per hour, of the car 5 seconds after it began to accelerate?

A. 40

B. 43

C. 45

D. 55

ID: 255996a6

$T = 1{,}000 + 18h$

In the equation above, T represents Brittany's total take-home pay, in dollars, for her first week of work, where h represents the number of hours she worked that week and 1,000 represents a sign-on bonus. If Brittany's total take-home pay was $1,576, for how many hours was Brittany paid for her first week of work?

A. 16

B. 32

C. 55

D. 88

ID: a1696f3e

The function g is defined as $g(x) = 5x + a$, where a is a constant. If $g(4) = 31$, what is the value of a ?

A. 30

B. 22

C. 11

D. -23

ID: 13909d78

The function f is defined by the equation $f(x) = 100x + 2$. What is the value of $f(x)$ when $x = 9$?

A. 111

B. 118

C. 900

D. 902

ID: de6fe450

On January 1, 2015, a city's minimum hourly wage was $9.25. It will increase by $0.50 on the first day of the year for the next 5 years. Which of the following functions best models the minimum hourly wage, in dollars, *x* years after January 1, 2015, where $x = 1, 2, 3, 4, 5$?

A. $f(x) = 9.25 - 0.50x$

B. $f(x) = 9.25x - 0.50$

C. $f(x) = 9.25 + 0.50x$

D. $f(x) = 9.25x + 0.50$

ID: cee5b352

The length, y, of a white whale was 162 centimeters (cm) when it was born and increased an average of 4.8 cm per month for the first 12 months after it was born. Which equation best represents this situation, where x is the number of months after the whale was born and y is the length, in cm, of the whale?

A. $y = 162x$

B. $y = 162x + 162$

C. $y = 4.8x + 4.8$

D. $y = 4.8x + 162$

ID: aad7e1b9

The function f is defined by $f(x) = \frac{1}{10}x - 2$. What is the *y*-intercept of the graph of $y = f(x)$ in the *xy*-plane?

A. $(-2, 0)$

B. $(0, -2)$

C. $(0, \frac{1}{10})$

D. $(\frac{1}{10}, 0)$

ID: 6efcc0a3

In the linear function h, $h(0) = 41$ and $h(1) = 40$. Which equation defines h?

A. $h(x) = -x + 41$

B. $h(x) = -x$

C. $h(x) = -41x$

D. $h(x) = -41$

ID: 776cfa7c

Hana deposited a fixed amount into her bank account each month. The function $f(t) = 100 + 25t$ gives the amount, in dollars, in Hana's bank account after t monthly deposits. What is the best interpretation of 25 in this context?

A. With each monthly deposit, the amount in Hana's bank account increased by $\$25$.

B. Before Hana made any monthly deposits, the amount in her bank account was $\$25$.

C. After 1 monthly deposit, the amount in Hana's bank account was $\$25$.

D. Hana made a total of 25 monthly deposits.

ID: 73b5f330

The function f is defined by $f(x) = 5x + 8$. For what value of x does $f(x) = 58$?

A. 10

B. 13

C. 50

D. 298

ID: 81390d6c

The function h is defined by $h(x) = x + 200$. What is the value of $h(50)$?

A. 200

B. 250

C. $10{,}000$

D. $50{,}200$

ID: 2eef7e61

The graph of the function f is a line in the xy-plane. If the line has slope $\frac{3}{4}$ and $f(0)=3$, which of the following defines f?

A. $f(x)=\frac{3}{4}x-3$

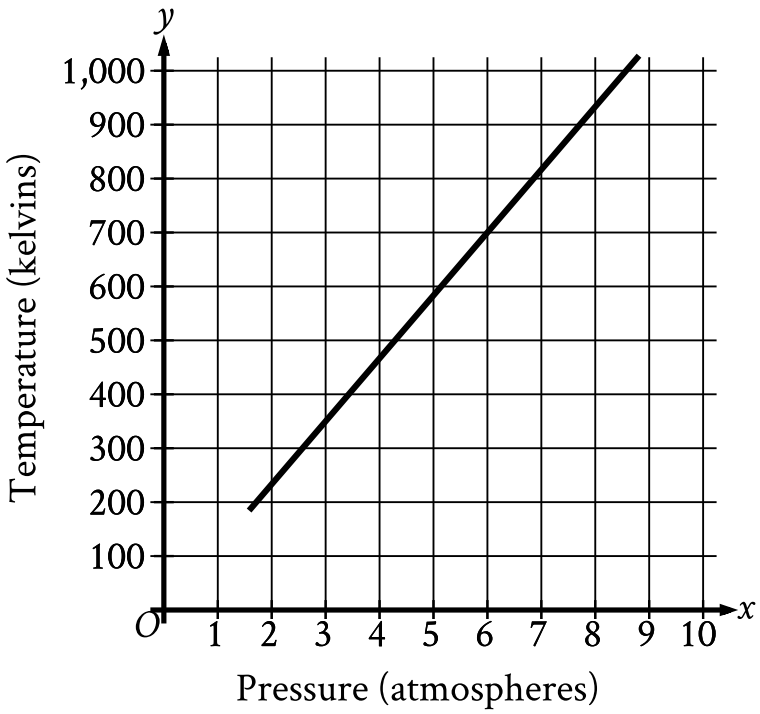
B. $f(x)=\frac{3}{4}x+3$

C. $f(x)=4x-3$

D. $f(x)=4x+3$

ID: 0ea7ef01

Oxygen gas is placed inside a tank with a constant volume. The graph shows the estimated temperature y, in kelvins, of the oxygen gas when its pressure is x atmospheres.



What is the estimated temperature, in kelvins, of the oxygen gas when its pressure is 6 atmospheres?

A. 6

B. 60

C. 700

D. 760

ID: 1ecaa9c0

Robert rented a truck to transport materials he purchased from a hardware store. He was charged an initial fee of $20.00 plus an additional $0.70 per mile driven. If the truck was driven 38 miles, what was the total amount Robert was charged?

A. $46.60

B. $52.90

C. $66.90

D. $86.50

ID: 8643d906

$P(t) = 250 + 10t$

The population of snow leopards in a certain area can be modeled by the function P defined above, where $P(t)$ is the population t years after 1990. Of the following, which is the best interpretation of the equation $P(30) = 550$?

A. The snow leopard population in this area is predicted to be 30 in the year 2020.

B. The snow leopard population in this area is predicted to be 30 in the year 2030.

C. The snow leopard population in this area is predicted to be 550 in the year 2020.

D. The snow leopard population in this area is predicted to be 550 in the year 2030.

ID: 5ad6bc97

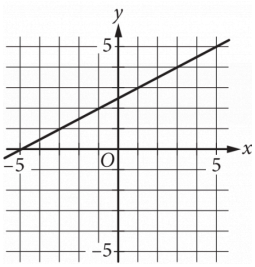
$$f(x) = 7x + 1$$

The function gives the total number of people on a company retreat with x managers. What is the total number of people on a company retreat with 7 managers?

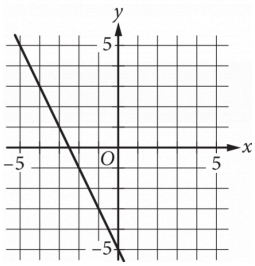
ID: a8e6bd75

Which of the following is the graph of the equation $y = 2x - 5$ in the *xy*-plane?

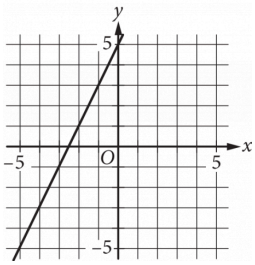
A.



B.



C.



D.