A.2C Write Linear Equations Given a Table, Graph, or Verbal Description

GO ON

1 The table represents some points on the graph of a linear function.

x	−3.5	−1	0	2.5	4	6.5
y	−30	−17.5	−12.5	0	7.5	20

Which function represents the same relationship?

A $m(x) = \frac{1}{5}x - 12.5$

B $m(x) = -5x + 2.5$

C $m(x) = -\frac{1}{5}x + 2.5$

D $m(x) = 5x - 12.5$

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2 The data in the table below satisfies a linear equation.

n	c
−7	−16
−6	−13
3	14
5	20
9	32

Which of the following equations *best* represents the data in the table?

F $c = n + 15$

G $c = 4n - 4$

H $c = 2n - 1$

J $c = 3n + 5$

GO ON

3 Jackie is creating a spreadsheet to keep a record of amounts she has collected from customers for candy boxes she has sold to them. She must write a linear equation in two variables to represent the amount collected in terms of number of boxes sold. She has been using the table below to determine the amount to charge.

Number of Boxes of Candy	Amount Charged ($)
1	12.25
3	25.75
4	32.50
7	52.75
10	73.00

Which linear equation in two variables can Jackie used to represent the amount collected in terms of number of boxes sold in her spreadsheet?

A $y = 13.5x - 1.25$

B $y = 13.5x + 12.25$

C $y = 5.5x + 6.75$

D $y = 6.75x + 5.5$

4 The table represents some points on the graph of a linear function.

x	y
−20	−268
−14	−196
−8	−124
−1	−40

Which equation represents the same relationship?

F $y + 268 = \frac{1}{12}(x + 20)$

G $y + 20 = \frac{1}{12}(x + 268)$

H $y + 268 = 12(x + 20)$

J $y + 20 = 12(x + 268)$

GO ON

5 A linear equation in two variables is shown below.

$$2x + 3y = 12?$$

Which table of values represents the same relationship?

A

x	y
−2	$\frac{16}{3}$
0	4
1	$\frac{14}{3}$
6	0

B

x	y
−1	$\frac{14}{3}$
0	4
1	$\frac{10}{3}$
2	2

C

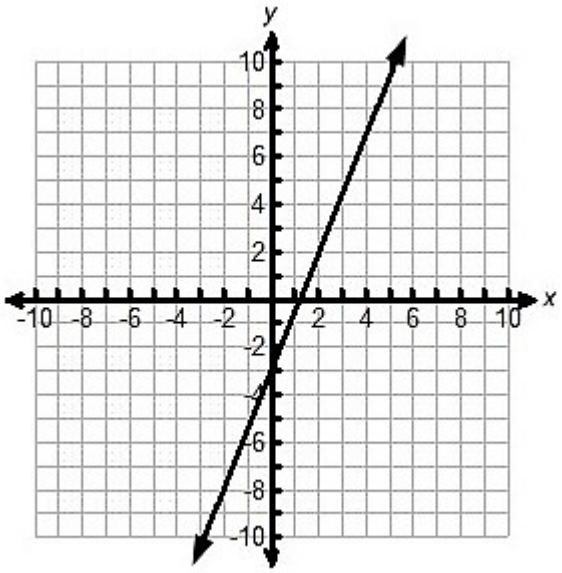
x	y
6	−3
4	0
2	3
0	6

D

x	y
−3	6
0	4
3	2
6	0

GO ON

6 A representation of a linear equation in two variables is graphed on the coordinate plane below.



Which linear equation in two variables can be used to represent the line?

F $y = \frac{5}{2}x - 3$

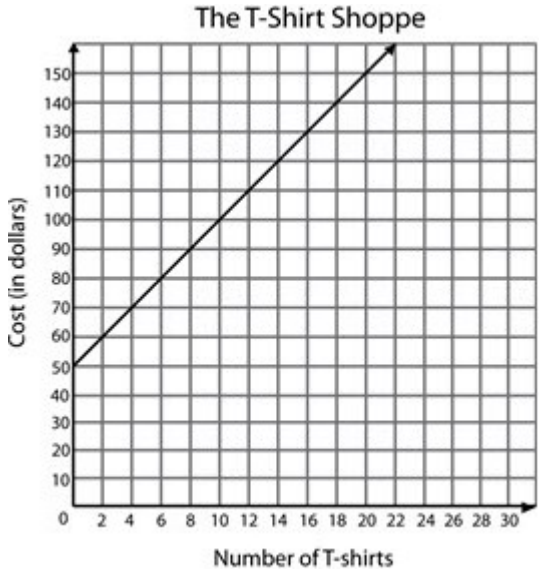
G $y = \frac{2}{5}x + 1$

H $y = \frac{2}{5}x - 3$

J $5x - 2y = -6$

GO ON

7 The graph below represents the cost, in dollars, for printing T-shirts at the T-Shirt Shoppe.



Which linear equation can be used to represent the cost, y, for printing, x, T-shirts?

A $y = 5x + 50$

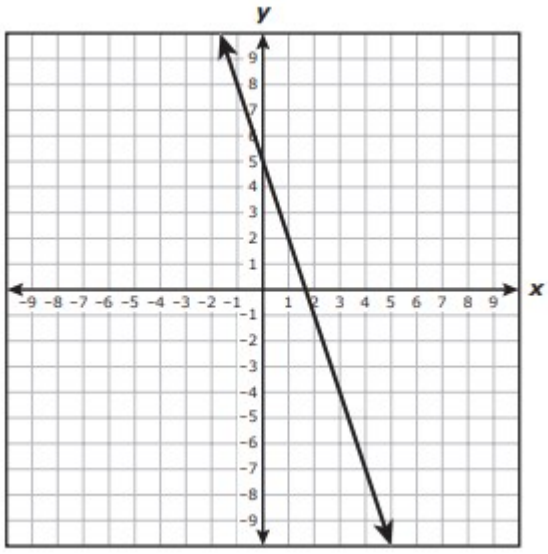
B $y = x + 50$

C $y = 10x + 50$

D $y = 50x + 5$

GO ON

8 The graph of a linear function is shown on the grid.



Which equation is best represented by this graph?

F $y + 7 = -3(x - 4)$

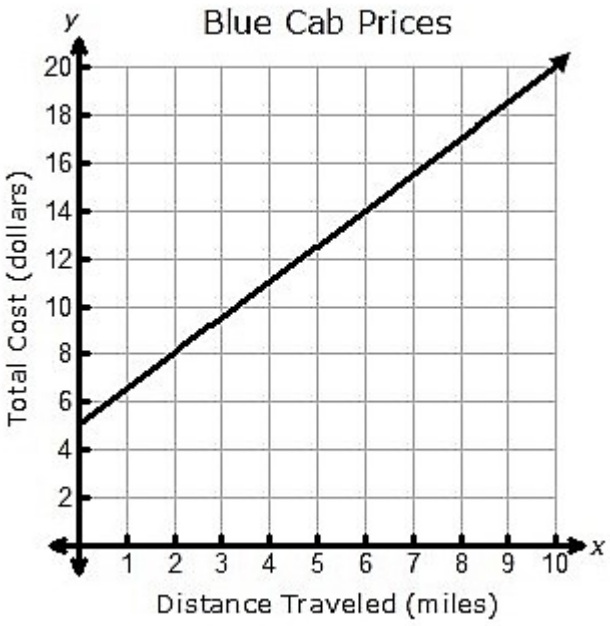
G $y + 1 = -3(x + 2)$

H $y - 4 = 3(x + 7)$

J $y - 2 = 3(x - 1)$

GO ON

9 The cost for renting a cab at the Blue Cab Company is represented in the graph below.



If x represents the distance the cab travels in miles and y represents the total cost, which equation models the total cost for renting a cab from the Blue Cab Company?

A $3x - 2y = -10$

B $3x - 4y = -20$

C $3x - 2y = -5$

D $3x - 4y = -5$

10 An organization has a monthly budget of x dollars. Every month \$2,070 is spent on salaries. One-fourth of the remaining budget is spent on monthly activities. Which function can be used to find the amount in dollars spent on monthly activities?

F $f(x) = 2{,}070 + \frac{x}{4}$

G $f(x) = 2{,}070 - \frac{x}{4}$

H $f(x) = \frac{x + 2{,}070}{4}$

J $f(x) = \frac{x - 2{,}070}{4}$

GO ON

11 Each month, Arnold receives $1,050 for working part-time at his uncle's camera store. For each camera that he sells, he earns a $125 bonus. Which equation can be used to find Arnold's total monthly paycheck, *P(x)*, based on the number of cameras that he sells, *x*?

A $P(x) = 1{,}050x + 125$

B $P(x) = 125x + 1{,}050$

C $P(x) = \frac{1}{125}x + 1{,}050$

D $P(x) = 125x$

12 Researchers in Antarctica discovered a warm sea current under a glacier that is causing the glacier to melt. The ice shelf of the glacier had a thickness of approximately 450 m when it was first discovered. The thickness of the ice shelf is decreasing at an average rate of 0.06 m per day.

Which function can be used to find the thickness of the ice shelf in meters x days since the discovery?

F t(x) = 450 - 0.06x

G t(x) = -0.06(x + 450)

H t(x) = 450 + 0.06x

J t(x) = 0.06(x + 450)

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON YOUR ANSWER DOCUMENT

STOP