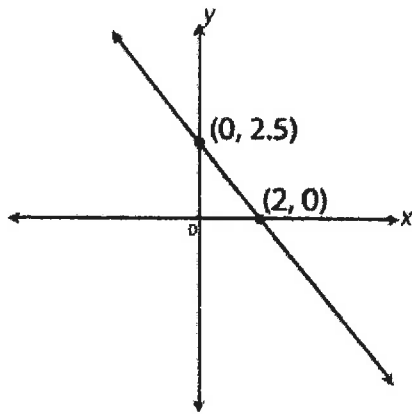


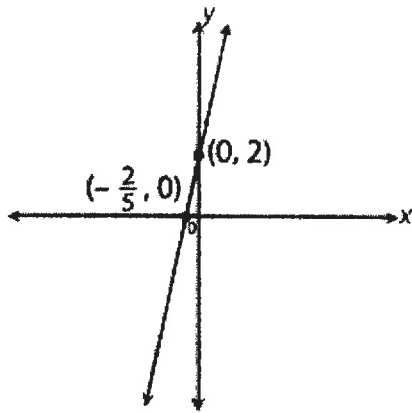
Directions: Answer the following question(s).

1 Consider the function $f(x) = 5x + 2$. Which graph represents this function?

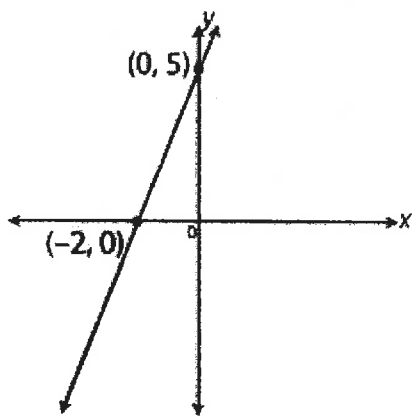
A.



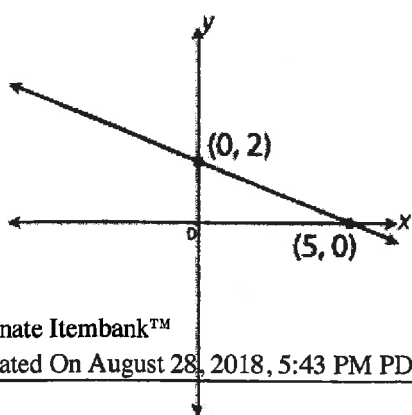
B.



C.

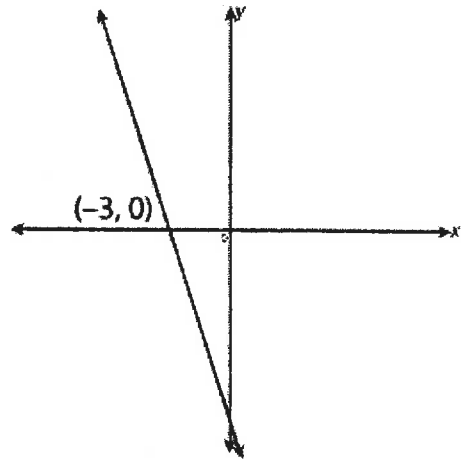


D.

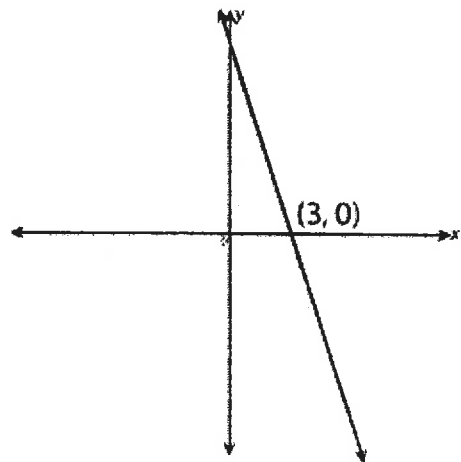


2 Which of these correctly shows the graph of $y = 3x - 9$ with the y-intercept labeled?

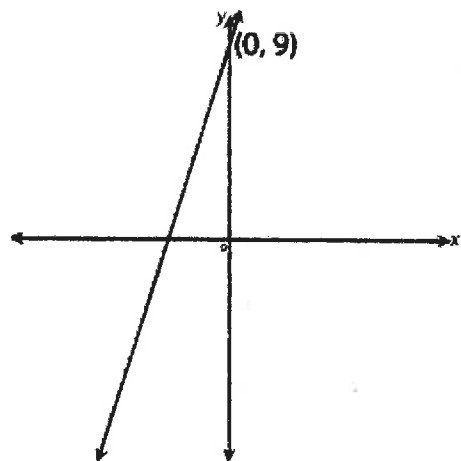
A.



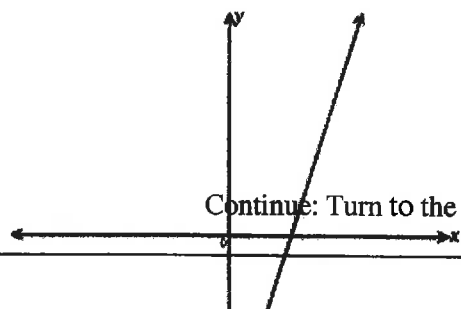
B.



C.



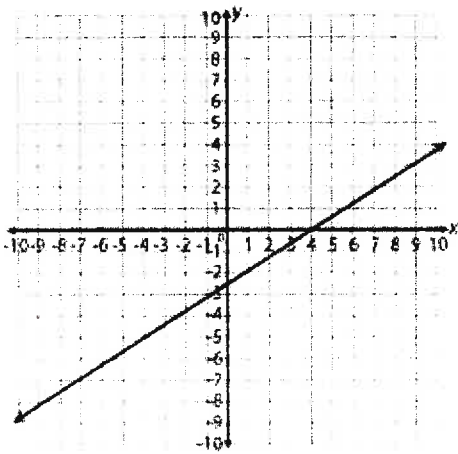
D.



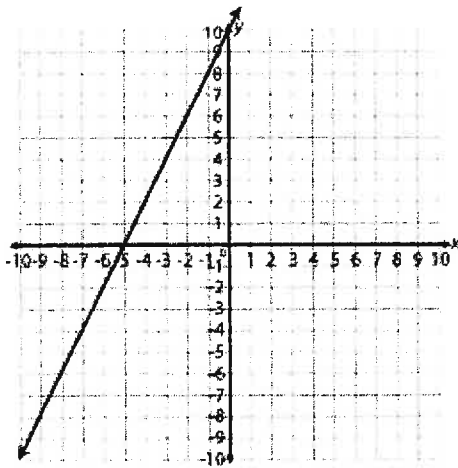
Directions: Answer the following question(s).

3 Which graph represents the function $8x - 5y = -20$?

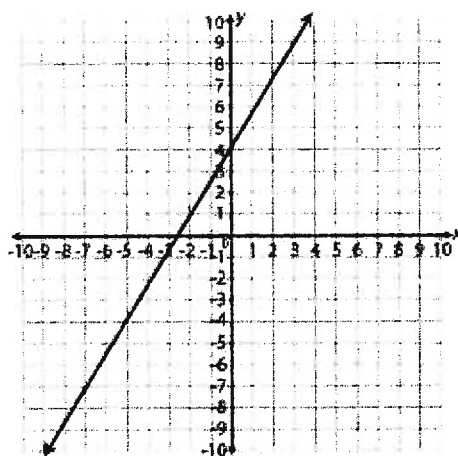
A.



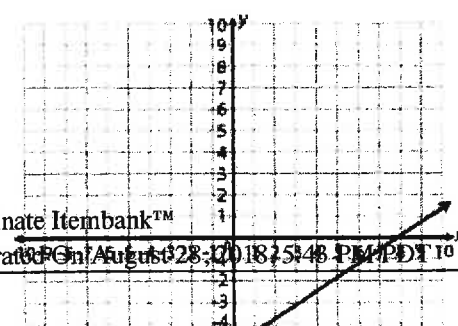
B.



C.



D.

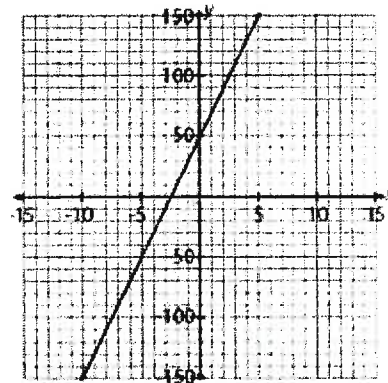


4 Sam deposits \$1,000 in a savings account paying 2% simple interest. The function below models his account balance, in dollars, after x years.

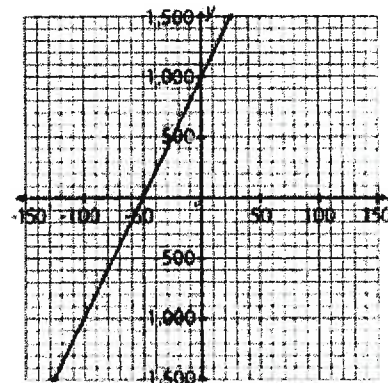
$$f(x) = 20(x + 50)$$

Which of these best represents the graph of $y = f(x)$?

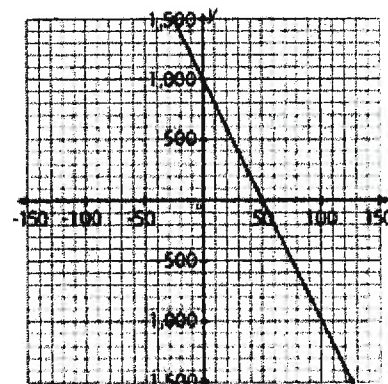
A.



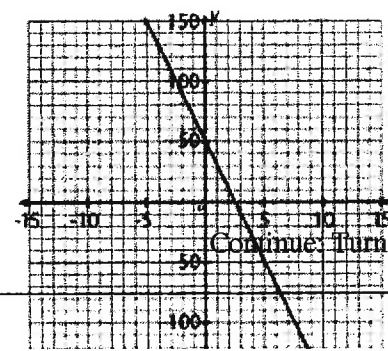
B.



C.



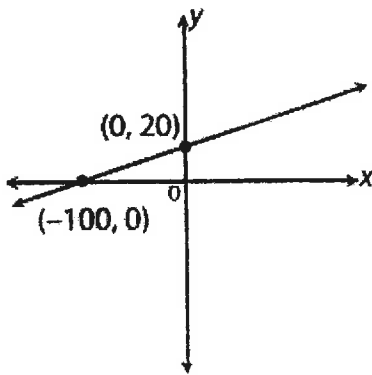
D.



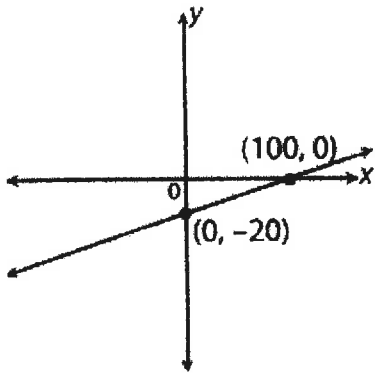
Directions: Answer the following question(s).

5 Which graph represents the function $f(x) = 5x - 20$?

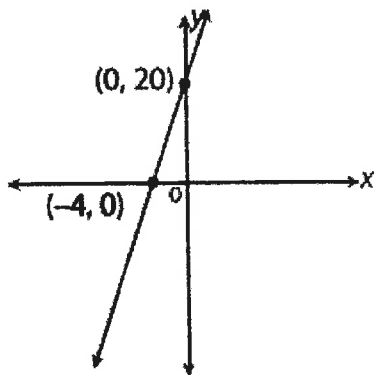
A.



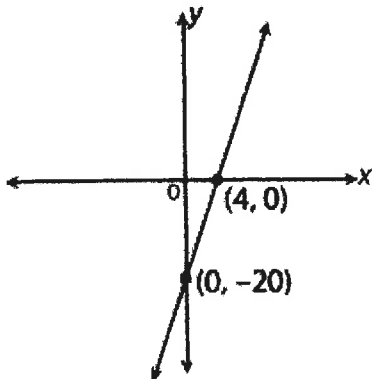
B.



C.

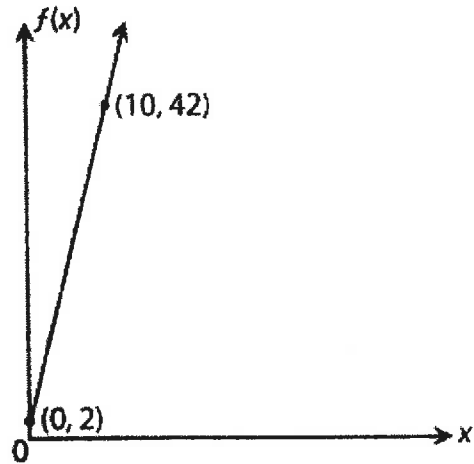


D.

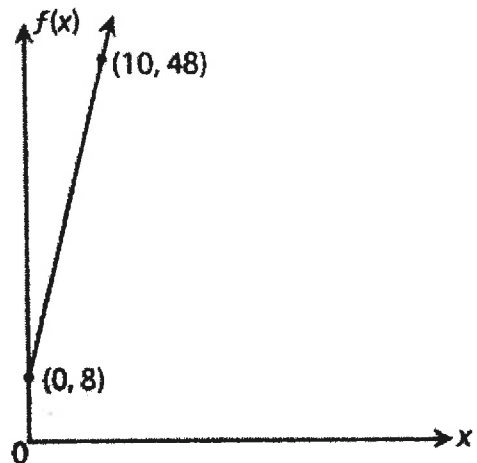


6 A law firm charges a client according to the function $f(x) = 4(x + 2)$, where x represents the number of hours spent on the client's case each week, and $f(x)$ represents the total charge that week in hundreds of dollars. Which graph best represents $f(x)$?

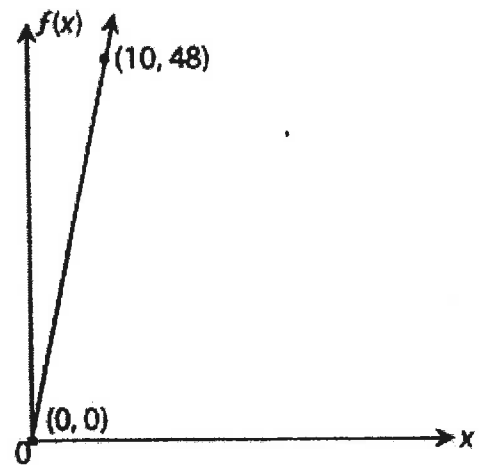
A.



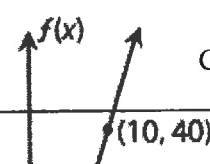
B.



C.



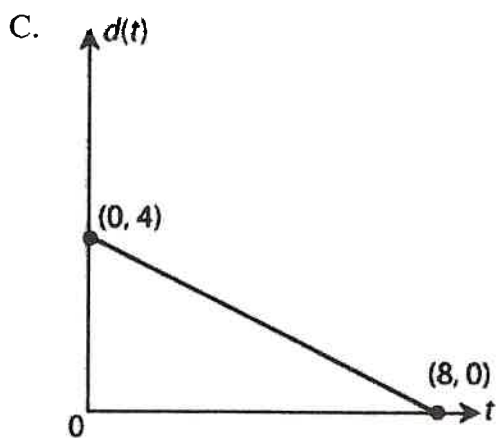
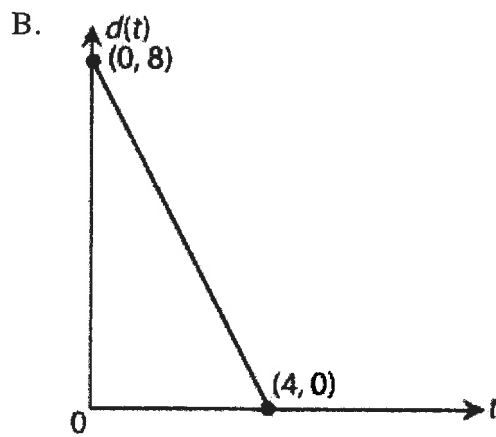
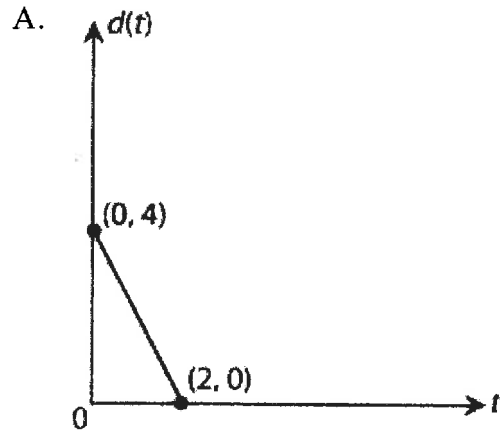
D.



Continue: Turn to the next page.

Directions: Answer the following question(s).

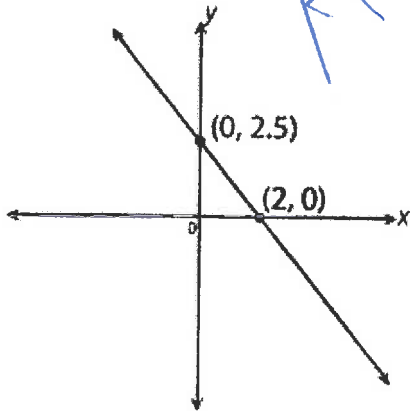
- 7 The snow on Albert's driveway melted on a sunny day. Its depth changed according to the function $d(t) = -0.5t + 4$, where t = the time in hours and $d(t)$ = the depth in inches. Which graph best represents this function?



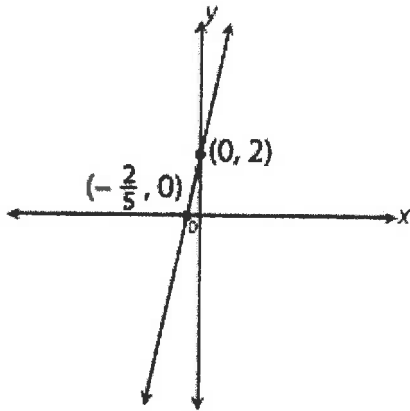
Directions: Answer the following question(s)

- 1 Consider the function $f(x) = 5x + 2$. Which graph represents this function?

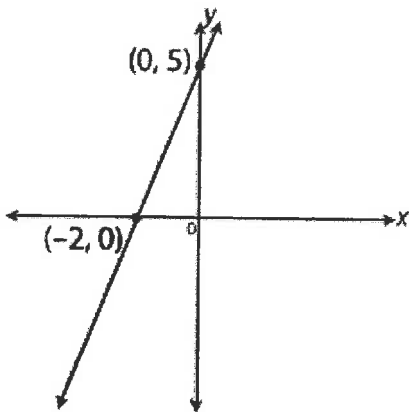
A.



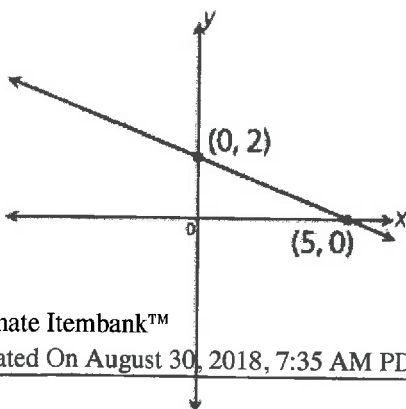
B.



C.



D.



Master ID: 2115525 Revision: 4

Correct: B

Rationale:

- A. This is the result of confusing the x - and y -intercepts and incorrectly solving the equation $0 = 5x + 2$.
- B. The function $f(x)$ has a y -intercept of 2 and an x intercept of $-2/5$. Therefore, this must be the correct graph.
- C. This is the result of incorrectly interpreting the intercepts as the values given in the equation.
- D. This is the result of incorrectly interpreting the slope, 5, as the x -intercept.

Rubric: 1 Point(s)

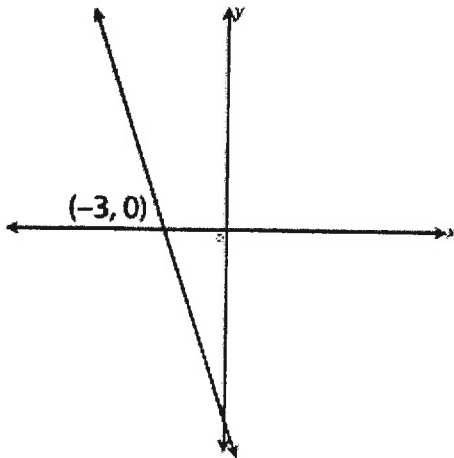
Standards:

CCSS.Math.Content.HSF-IF.C.7.a

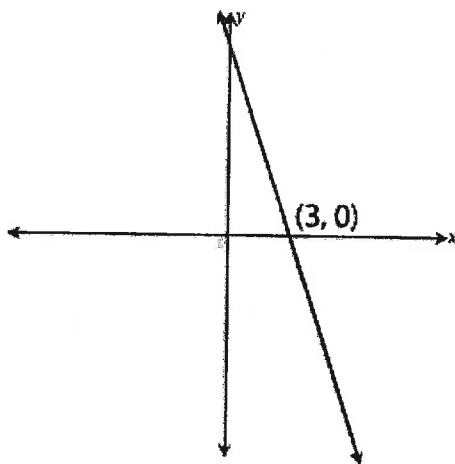
Directions: Answer the following question(s).

- 2 Which of these correctly shows the graph of $y = 3x - 9$ with the y -intercept labeled?

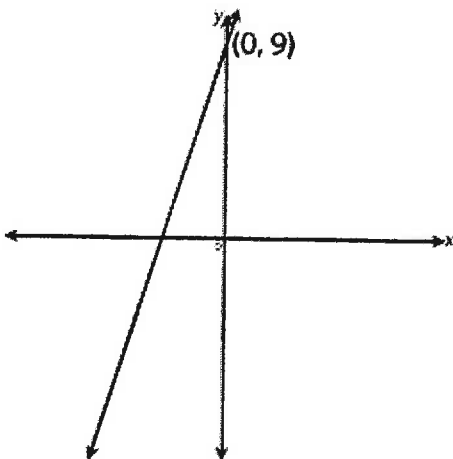
A.



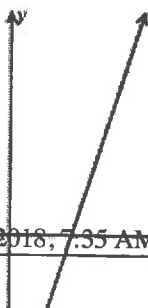
B.



C.



D.



Master ID: 2115524 Revision: 4

Correct: D

Rationale:

- A. This graph has an x -intercept labeled, rather than a y -intercept, and the slope here is negative.
- B. This graph shows the correct x -intercept for the function but shows the unlabeled y -intercept incorrectly placed above the y -axis, resulting in a negatively sloped line.
- C. This graph shows the y -intercept as 9.
- D. The given equation is in $y = mx + b$ form where m is the slope and b is the y -intercept. Therefore, the correct y -intercept is -9 , and the slope is positive.

Rubric: 1 Point(s)

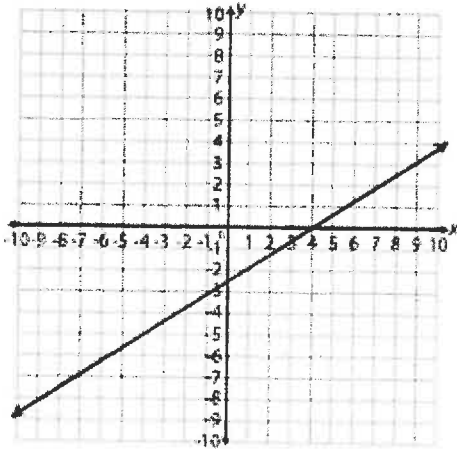
Standards:

CCSS.Math.Content.HSF-IF.C.7.a

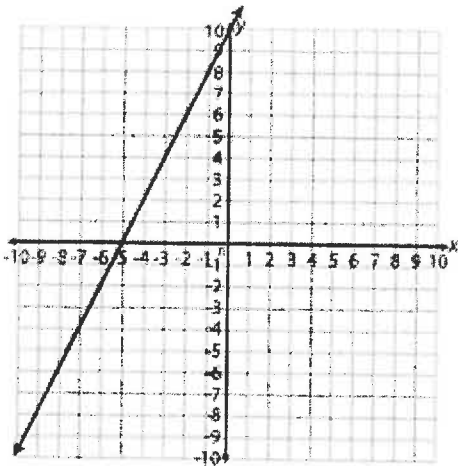
Directions: Answer the following question(s).

3 Which graph represents the function $8x - 5y = -20$?

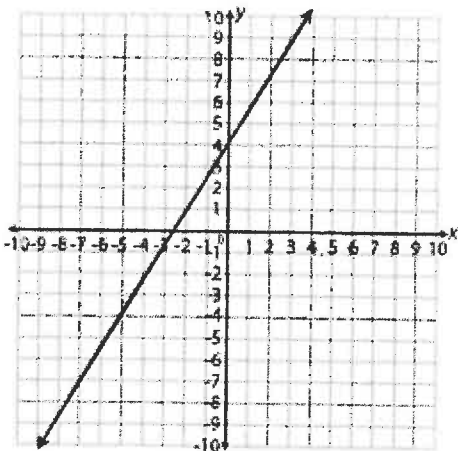
A.



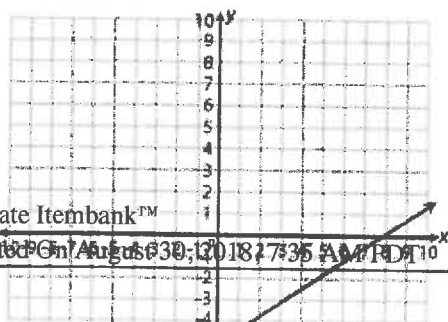
B.



C.



D.



Master ID: 2115523 Revision: 4

Correct: C

Rationale:

- A. This graph has a line that reverses the x- and y-intercepts.
- B. This graph has a line that incorrectly shows the coefficients of x and y (reversed) as the intercepts.
- C. This graph has a line that correctly shows the x- and y-intercepts.
- D. This graph has a line that incorrectly shows the coefficients of x and y as intercepts.

Rubric: 1 Point(s)

Standards: CCSS.Math.Content.HSF-IF.C.7.a

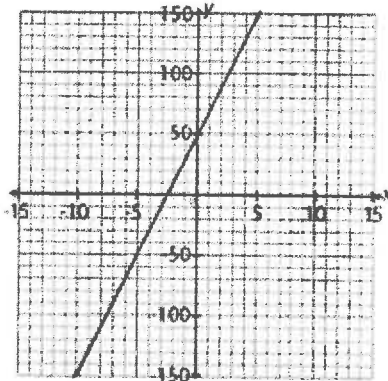
Directions: Answer the following question(s).

- 4 Sam deposits \$1,000 in a savings account paying 2% simple interest. The function below models his account balance, in dollars, after x years.

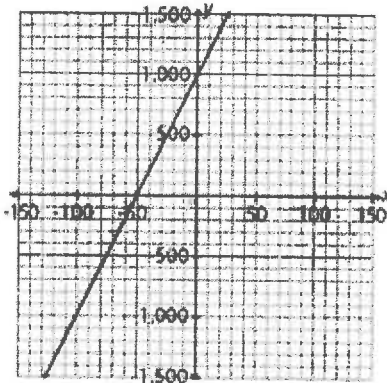
$$f(x) = 20(x + 50)$$

Which of these best represents the graph of $y = f(x)$?

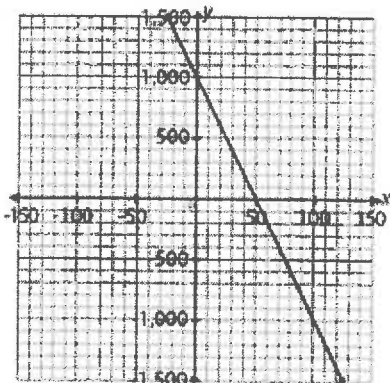
A.



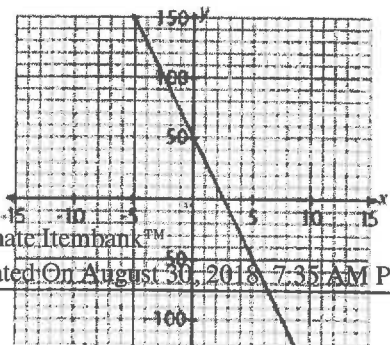
B.



C.



D.



Master ID: 578825 Revision: 4

Correct: B

Rationale:

- A. This is the result of ignoring the parentheses and so misinterpreting the function as $f(x) = 20x + 50$.
- B. This answer is correct: $y = f(x) = 20(x + 50) = 20x + 1,000$, so the y -intercept (which is the constant term) is 1,000, and the x -intercept is -50 because $f(-50) = 0$.
- C. This is the result of graphing $y = -20x + 1,000$.
- D. This is the result of graphing $y = -20x + 50$.

Rubric: 1 Point(s)

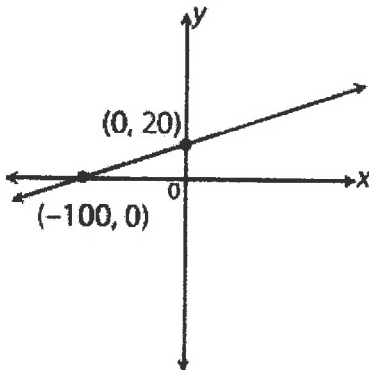
Standards:

CCSS.Math.Content.HSF-IF.C.7.a

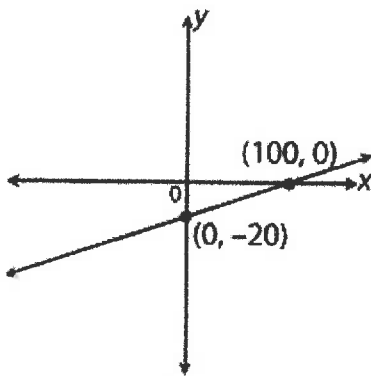
Directions: Answer the following question(s).

- 5 Which graph represents the function $f(x) = 5x - 20$?

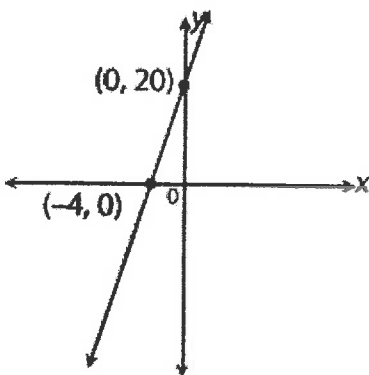
A.



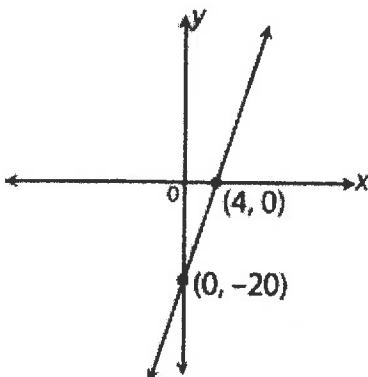
B.



C.



D.



Master ID: 2351457 Revision: 4

Correct: D

Rationale:

- A. This graph has the opposite of the correct y -intercept, and the slope is $1/5$ instead of 5 .
- B. This graph has the correct y -intercept, but the slope is $1/5$ instead of 5 .
- C. This graph has the correct slope, but the intercepts are the opposites of the correct intercepts.
- D. Solve the equation $5x - 20 = 0$ to get the x -intercept, $x = 4$. Note that $f(x) = 5x - 20$ has y -intercept of -20 . The correct graph has x -intercept $(4, 0)$ and y -intercept $(0, -20)$.

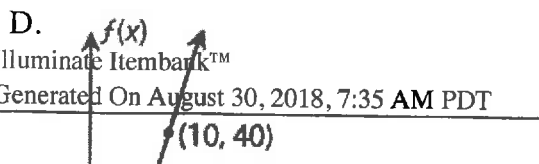
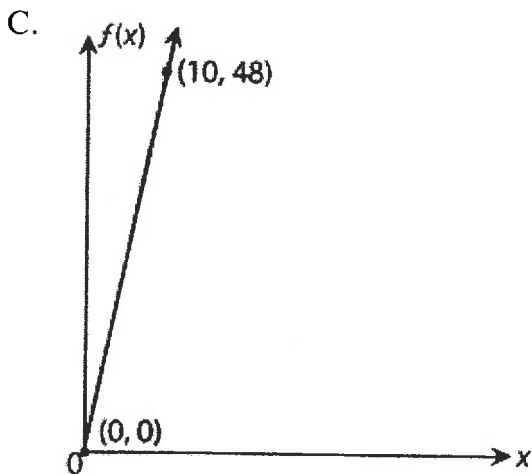
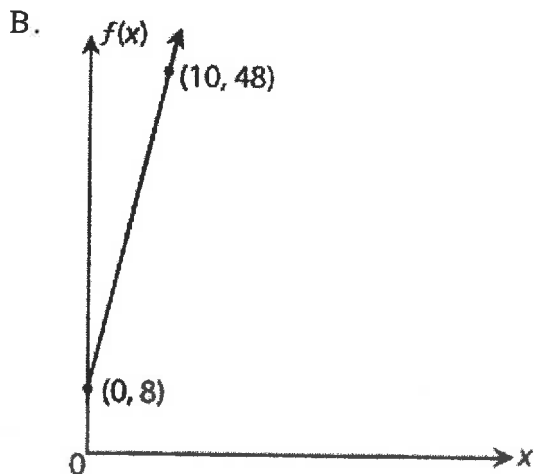
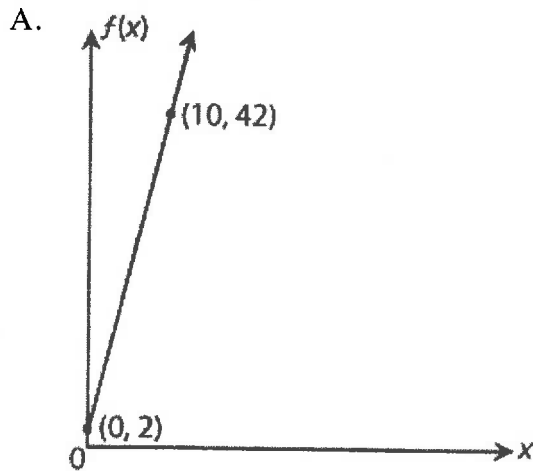
Rubric: 1 Point(s)

Standards:

CCSS.Math.Content.HSF-IF.C.7.a

Directions: Answer the following question(s).

- 6 A law firm charges a client according to the function $f(x) = 4(x + 2)$, where x represents the number of hours spent on the client's case each week, and $f(x)$ represents the total charge that week in hundreds of dollars. Which graph best represents $f(x)$?



Master ID: 2351451 Revision: 4

Correct: B

Rationale:

- A. This is the graph of $f(x) = 4x + 2$ instead of $f(x) = 4(x + 2)$.
- B. When $x = 0$, $f(x) = 4(2) = 8$, and when $x = 10$, $f(x) = 4(12) = 48$, so this is the correct graph.
- C. This graph has the correct y -value when $x = 10$ but an incorrect y -intercept.
- D. This graph has the correct y -intercept but an incorrect y -value when $x = 10$.

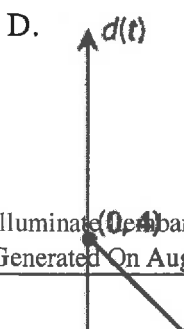
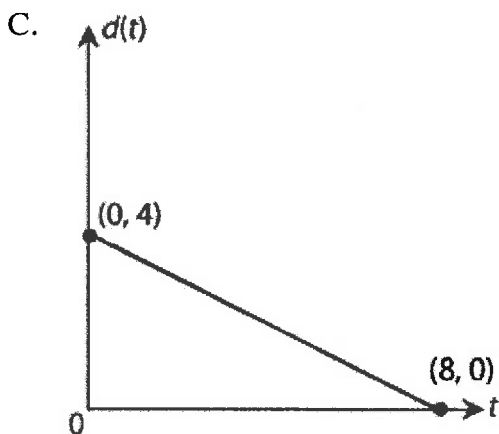
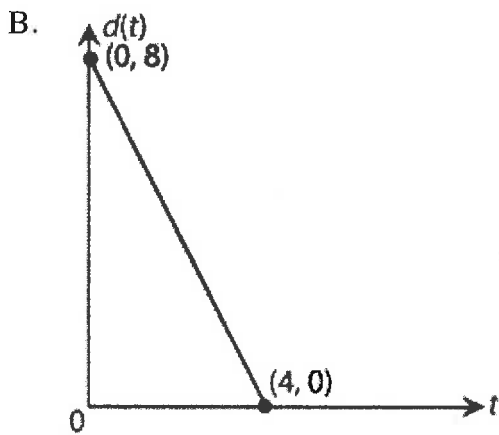
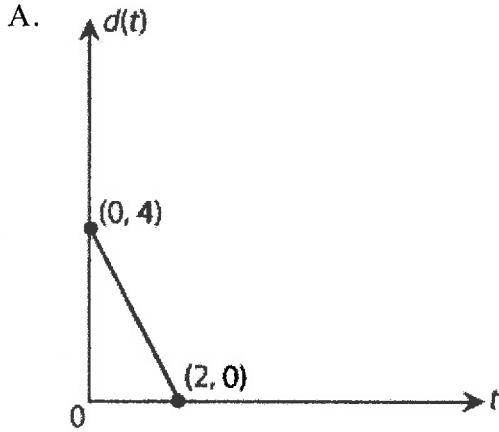
Rubric: 1 Point(s)

Standards:

CCSS.Math.Content.HSF-IF.C.7.a

Directions: Answer the following question(s).

7 The snow on Albert's driveway melted on a sunny day. Its depth changed according to the function $d(t) = -0.5t + 4$, where t = the time in hours and $d(t)$ = the depth in inches. Which graph best represents this function?



Master ID: 2351450 Revision: 4

Correct: C

Rationale:

- A. This graph has the correct y-intercept, but a slope of -2 instead of -0.5 .
- B. This graph switches the correct x- and y-intercepts.
- C. The value of $d(t)$ is 4 when $t = 0$. The value of $d(t)$ is 0 when $t = 8$. The correct graph is the line containing $(0, 4)$ and $(8, 0)$.
- D. This graph has the correct y-intercept, but a slope of -1 instead of -0.5 .

Rubric: 1 Point(s)

Standards:

CCSS.Math.Content.HSF-IF.C.7.a

