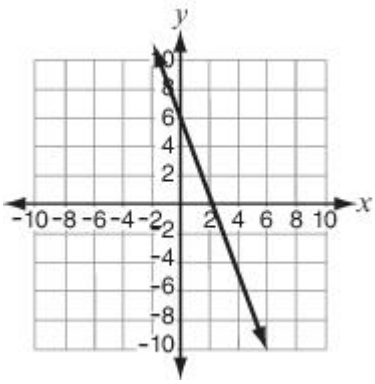
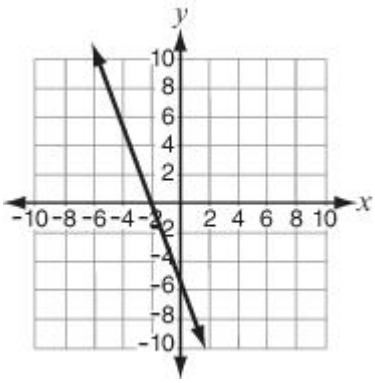
Directions: Please choose the best answer choice for each of the following questions.

1. Which graph represents the equation $y = -3x + 6$?

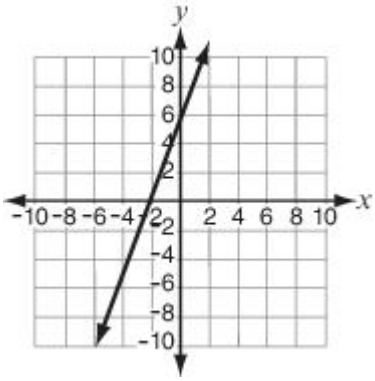
A.



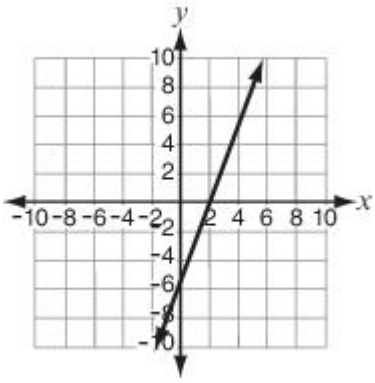
B.



C.



D.



Answer Choice Rationale

A. Correct answer

B. Has an incorrect y-intercept

C. Has a correct y-intercept, but a positive slope versus a negative slope.

D. Has an incorrect y-intercept and slope.

ItemID A2K.1013535
Correct A
Standard(s) MA.9-12.MA.912.A.3.8

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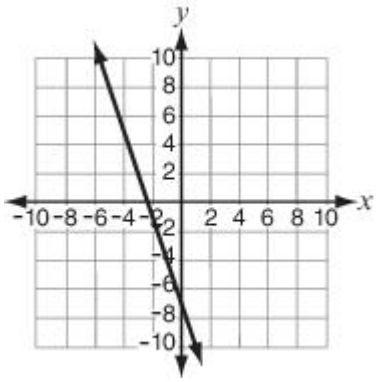
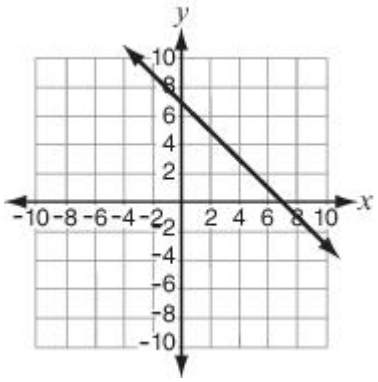
2. Which graph BEST represents a line with a slope of -3 that passes through $(2, -3)$?

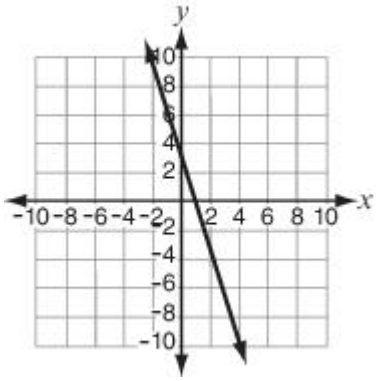
A.



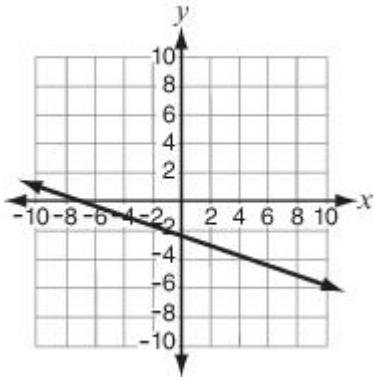
B.



C.



D.



Answer Choice Rationale

A. The student reverses the point's coordinates.

B. The student fails to take into account that the slope is different, and the line does not pass through the correct point.

C. Correct answer.

D. Although the line passes through the correct point, the student uses a slope of $-\frac{1}{3}$.

ItemID A2K.1196583
Correct C
Standard(s) MA.9-12.MA.912.A.3.8

3. Anthony graphs the line with equation $y = 2x - 6$. Which of the following equations has a graph that is the greatest distance from Anthony's line?

A. $y = 2x$

B. $y = 2x + 6$

C. $y = 2x - 10$

D. $y = 2x - 12$

Answer Choice Rationale

A. This graph is 6 units from Anthony's graph because the difference between –6 and 0 is 6 units.

B. Correct answer.

C. This graph is 4 units from Anthony's graph because the difference between –6 and –10 is 4 units.

D. This graph is 6 units from Anthony's graph because the difference between –6 and –12 is 6 units.

ItemID A2K.1045812
Correct B
Standard(s) MA.9-12.MA.912.A.3.8

4. Which of the following lies on the graph of the equation $y = 4x + -2$?

A. $(-2, 0)$

B. $(1, 6)$

C. $(-1, 6)$

D. $(2, 6)$

Answer Choice Rationale

A. No rationale available

B. No rationale available

C. No rationale available

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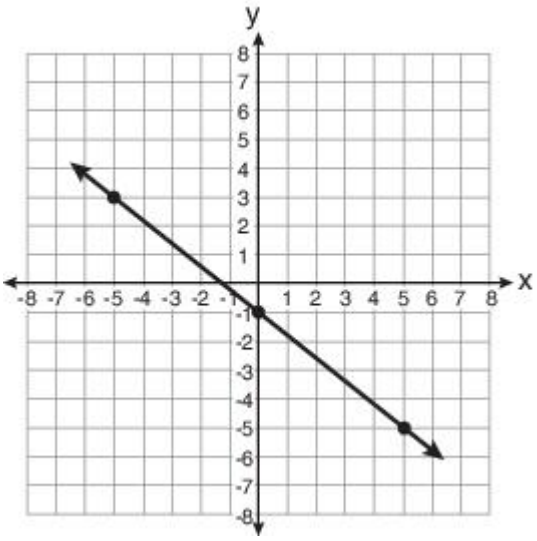
D. Correct

ItemID A2KC.1112880
Correct D
Standard(s) MA.9-12.MA.912.A.3.8

5. Use the graph below.



Which table of values can be used to graph $y = -\frac{4}{5}x - 1$?

A.

x	–10	–5	0	5
y	7	3	–1	–5

B.

x	–10	–5	0	5
y	–7	–3	1	5

C.

x	–10	–5	0	5
y	3	–1	–5	–7

D.

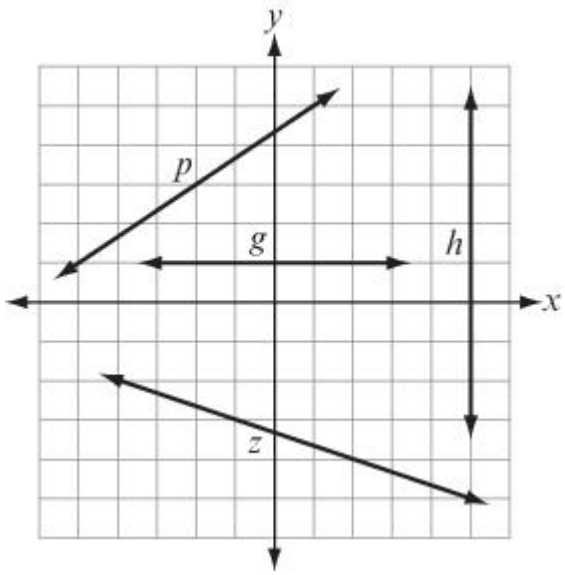
x	–10	–5	0	5
y	–5	–3	1	7

Answer Choice Rationale

A. Correct answer.
B. This answer reverses the signs of the *y* values.
C. This answer does not identify the corresponding *x* and *y* values, and reverses the sign of the *y* value 7.
D. This answer does not identify the corresponding *x* and *y* values, and reverses the signs of the *y* values 3 and –1.

ItemID A2K.1048447
Correct A
Standard(s) MA.9-12.MA.912.A.3.8

6. Lines g, h, p, and z are drawn on this coordinate plane.



Which line has an undefined slope?

A. g
B. h
C. p
D. z

Answer Choice Rationale

A. This answer mistakes a horizontal line as having an undefined slope instead of a vertical line.
B. Correct answer.
C. This line has a positive slope.
D. This line has a negative slope.

ItemID A2K.1048364
Correct B
Standard(s) MA.9-12.MA.912.A.3.9

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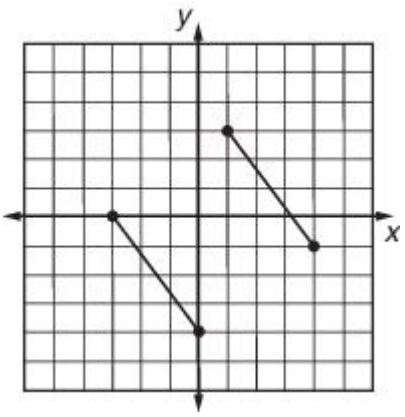
7. Maura draws two sides of a square picture frame on this coordinate graph.



If she knows that the other sides are perpendicular to the sides she drew, what will be the slopes of the other sides of the frame?

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

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

C. $-\frac{4}{3}$

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

Answer Choice Rationale

A. This answer mistakes the slopes of perpendicular lines as being reciprocals instead of negative reciprocals.

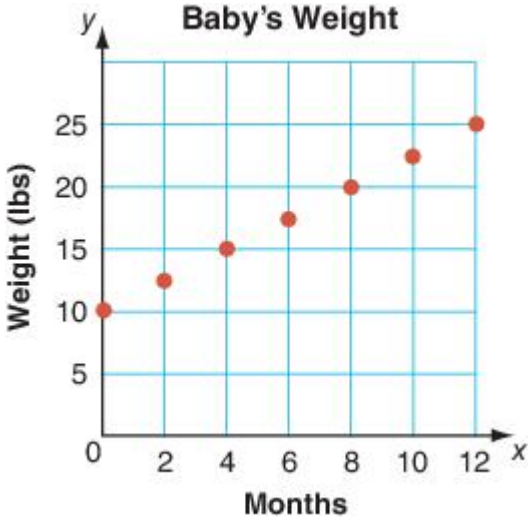
B. Correct answer.

C. This is the slope of the sides already drawn.

D. This answer mistakes the slopes of perpendicular lines as being negatives of each other instead of negative reciprocals.

ItemID A2K.1011584
Correct B
Standard(s) MA.9-12.MA.912.A.3.9

8. The weight of a newborn baby increased steadily during his first year, as shown in the graph below.



What BEST describes the rate of increase in the baby's weight?

A. 5 lbs every 2 months

B. 5 lbs every 4 months

C. 10 lbs every 2 months

D. 25 lbs every 12 months

Answer Choice Rationale

A. This answer mistakes the rate as 5 pounds every 2 months instead of 5 pounds every 4 months.

B. Correct answer.

C. This answer mistakes the rate as 10 pounds every 2 months instead of 10 pounds every 8 months.

D. This answer mistakes the rate as 25 pounds every 12 months because the weight after 12 months was 25 pounds.

ItemID A2K.1048922
Correct B
Standard(s) MA.9-12.MA.912.A.3.9

9. For the graph of the linear function $y = 2x - 4$, where would the line intercept the *y*-axis?

A. $(0, -4)$

B. $(-4, 0)$

C. $(0, 2)$

D. $(2, 0)$

Answer Choice Rationale

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A. Correct answer.
B. This answer reverses the *x* and *y* coordinates.
C. This answer finds the *x*-intercept instead of the *y*-intercept, and reverses the *x* and *y* coordinates.
D. This answer finds the *x*-intercept instead of the *y*-intercept.

ItemID A2K.1013647
Correct A
Standard(s) MA.9-12.MA.912.A.3.9

10. A line contains points $(4, 7)$ and $(-3, 2)$. What is the slope of the line?

A. 9
B. $\frac{5}{7}$
C. $\frac{7}{5}$
D. $\frac{1}{5}$

Answer Choice Rationale

A. This answer adds the two *y* values and the two *x* values instead of subtracting one *y* value from the other and subtracting one *x* value from the other.
B. Correct answer.
C. This answer reverses the slope.
D. This answer reverses the slope and uses the value *x* = 3 for the second value of *x* instead of *x* = – 3.

ItemID A2K.1071706
Correct B
Standard(s) MA.9-12.MA.912.A.3.9

Stop! You have finished this exam.