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

1.  Bob wants to write the equation of a line perpendicular to a given equation. Which change should he make to the given equation to create such an effect?

    A.  make the slope negative

    B.  make the slope its negative reciprocal

    C.  change the *y*-intercept to its reciprocal

    D.  change the *x*-intercept to its reciprocal

**Answer Choice Rationale**

A.  No rationale available

B.  Correct

C.  No rationale available

D.  No rationale available

ItemID A2K.1012143
Correct B
Standard(s) MA.9-12.MA.912.A.3.10

2.  Which function is shown in the graph below?
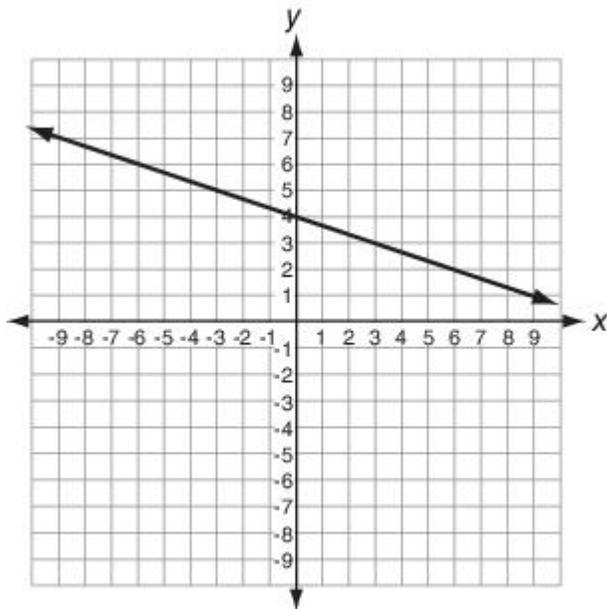


A.  $f(x) = -\frac{1}{3}x + 4$

B.  $f(x) = -3x + 4$

C.  $f(x) = \frac{1}{3}x + 4$

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

**Answer Choice Rationale**

A.  Correct answer

B.  The equation uses a slope that is the reciprocal of the correct slope.

C.  The equation uses the slope with the correct numbers but the wrong sign.

D.  The equation uses the wrong slope (both a sign error and the reciprocal of the correct slope).

ItemID A2K.1021400
Correct A
Standard(s) MA.9-12.MA.912.A.3.10

3.  Mrs. Martin graphed a line on this coordinate plane.
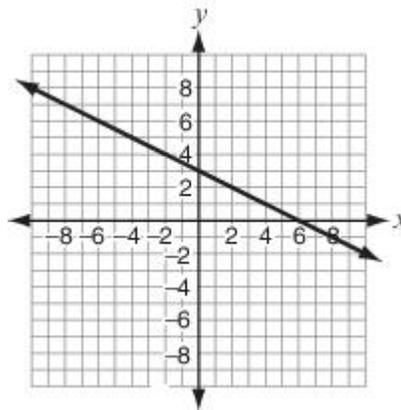


    She asked her students to write an equation for a line that would be parallel to her line. Which student response is correct?

    A.  $y = -\frac{1}{2}x - 3$

    B.  $y = -2x - 3$

    C.  $y = \frac{1}{2}x - 3$

    D.  $y = 2x - 3$

**Answer Choice Rationale**

A.  Correct answer.

B.  This shows the correct *y*-intercept, but includes the inverse of the slope.

C.  This shows the correct *y*-intercept, and the correct numbers for the slope, but the slope should be negative rather than positive.

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D.  This is the correct *y*-intercept, but the inverse of the slope. Also, the slope should be negative rather than positive.

D.  No rationale available

4.  Which linear equation passes through the point $(-5, 3)$ and has a slope of $2$ ?

A.  $y = 2x - 7$

B.  $y = 2x - 8$

C.  $y = 2x + 10$

D.  $y = 2x + 13$

**Answer Choice Rationale**

A.  This equation has the correct slope but does not pass through the point (–5, 3) because the equation equals –17 instead of 3 when *x* equals –5.

B.  This equation has the correct slope but does not pass through the point (–5, 3) because the equation equals –18 instead of 3 when *x* equals –5.

C.  This equation has the correct slope but does not pass through the point (–5, 3) because the equation equals 0 instead of 3 when *x* equals –5.

D.  Correct answer.

5.  What is the equation of the line with intercepts $(0, 3)$ and $(-3, 0)$ ?

A.  $y = x + 3$

B.  $y = x - 3$

C.  $y = 3x + 1$

D.  $y = 3x - 1$

**Answer Choice Rationale**

A.  Correct

B.  No rationale available

C.  No rationale available