Topic: Graphing linear equations

Question: What is the y-intercept of the line?

$$y + 4 = -5(x - 2)$$

Answer choices:

A -5

B -2

C 10

D 6

Solution: D

The linear equation isn't already in slope-intercept form, so we need to first convert the equation.
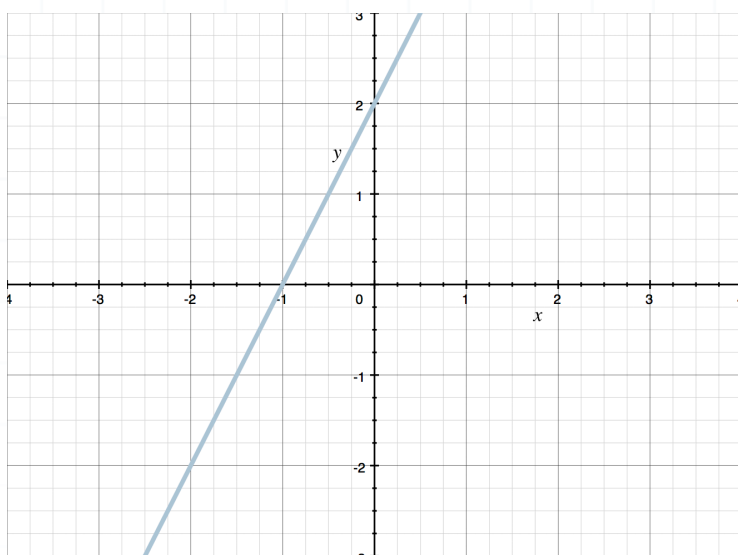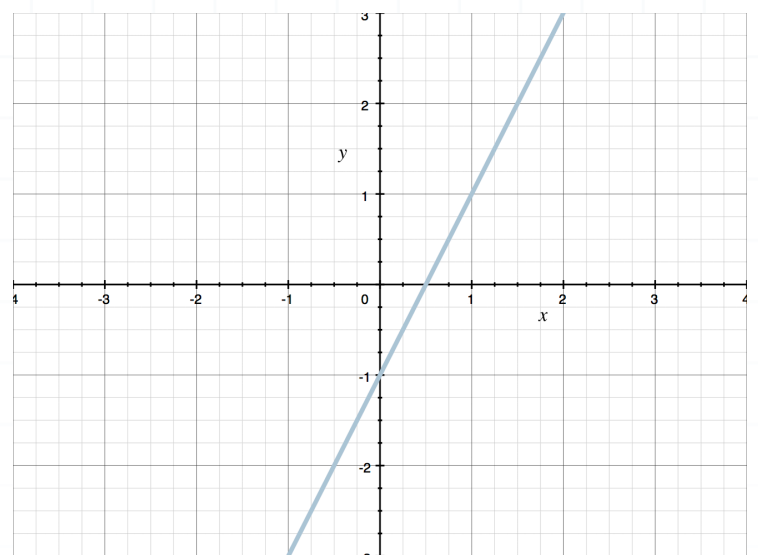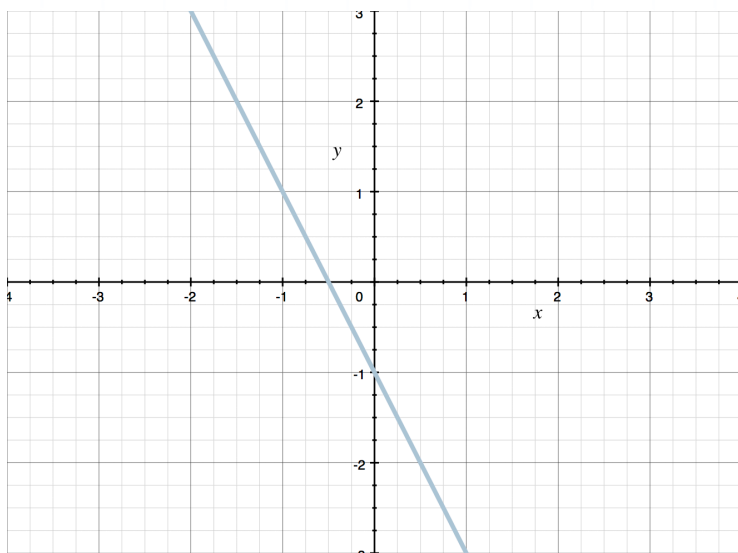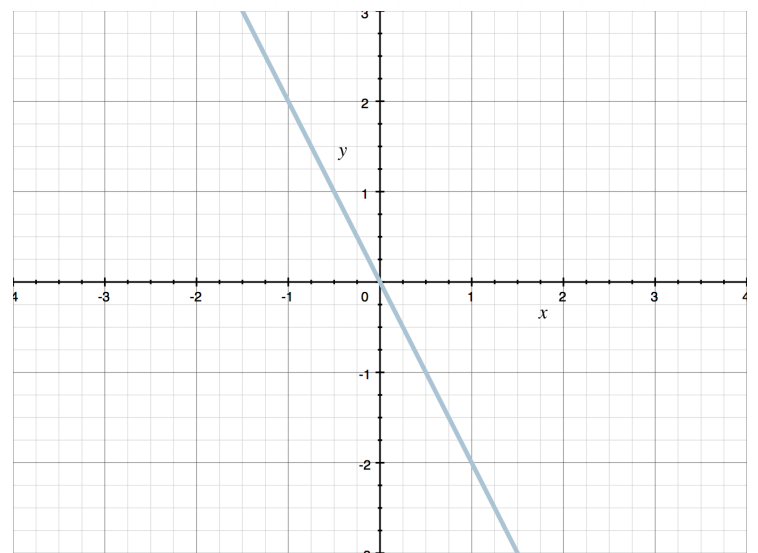
$$y + 4 = -5(x - 2)$$

$$y + 4 = -5x + 10$$

$$y = -5x + 6$$

With the equation now in slope-intercept form, we can identify that the slope is $m = -5$ and the y-intercept is $b = 6$.
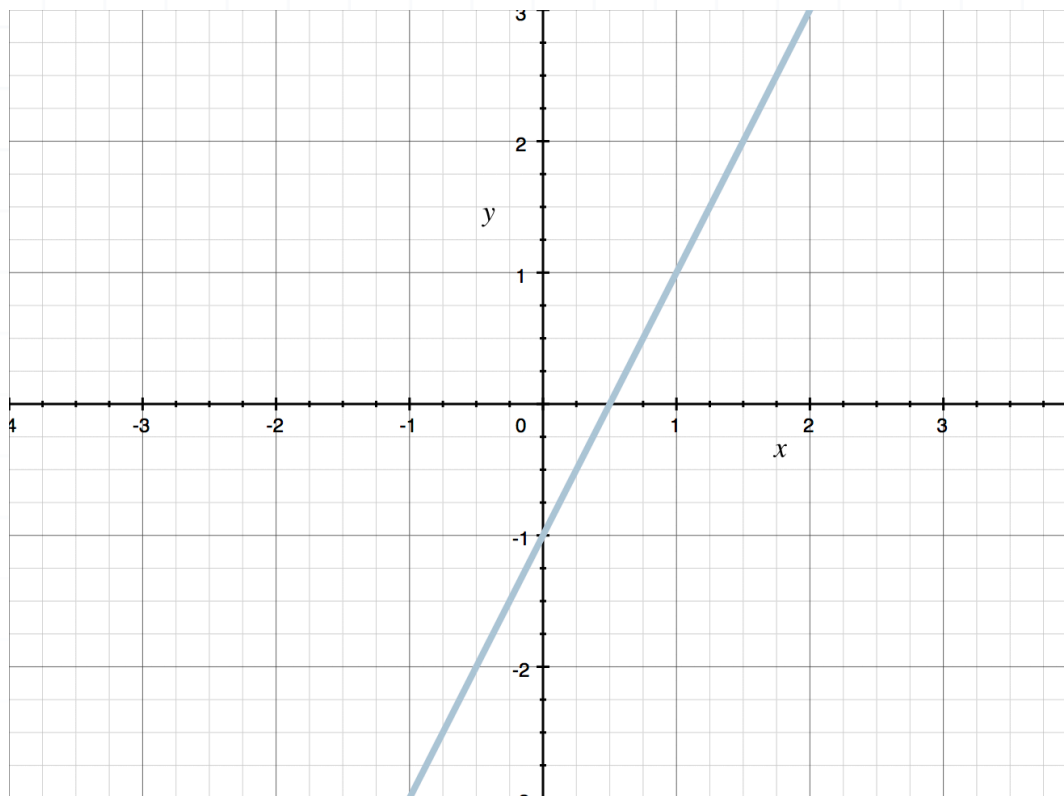
Topic: Graphing linear equations

Question: Which graph is the sketch of $y = 2x - 1$?

Answer choices:

A

B

C

D

Solution: B

The linear equation is already in slope-intercept form, so we can see that the slope is $m = 2$ and the y-intercept is $b = -1$.

Since the slope is positive, we know that the line will lean to the right, with a rise of 2 and a run of 1, crossing the vertical axis at $y = -1$.

Topic: Graphing linear equations

Question: Which graph is the sketch of $y = -x + 2$?

Answer choices:

A
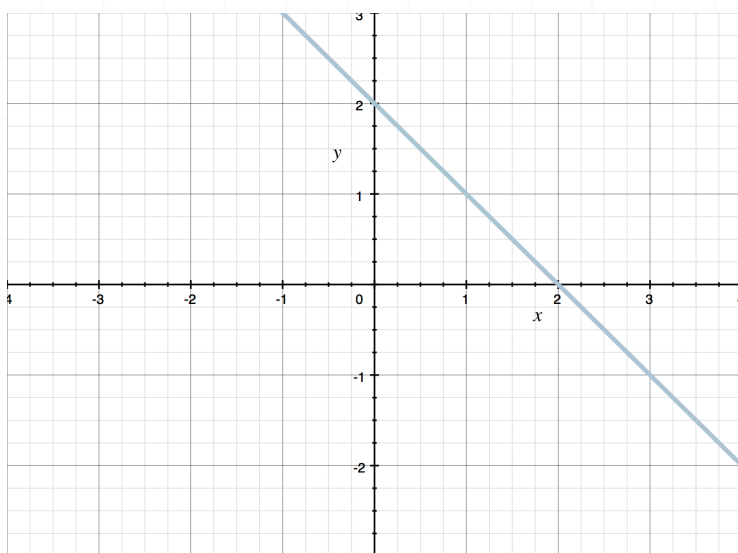
B
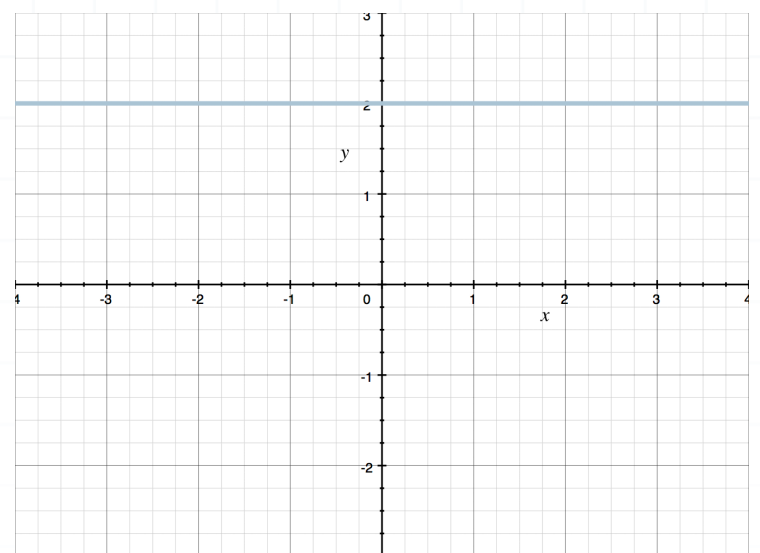
C
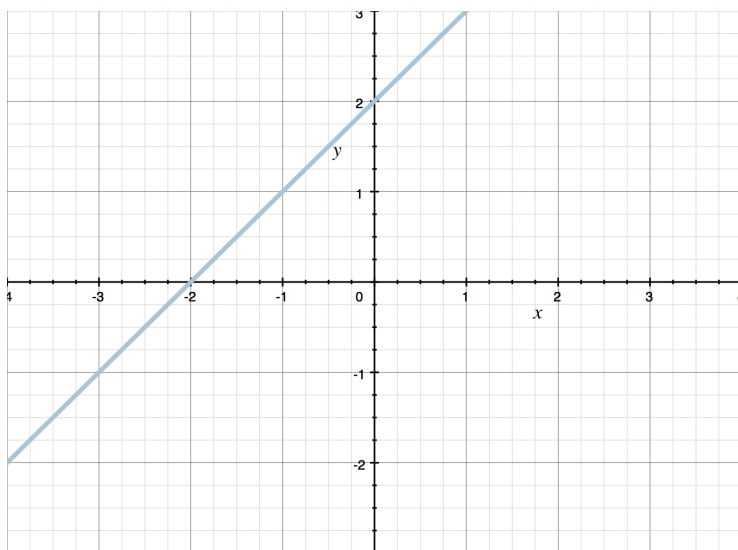
D
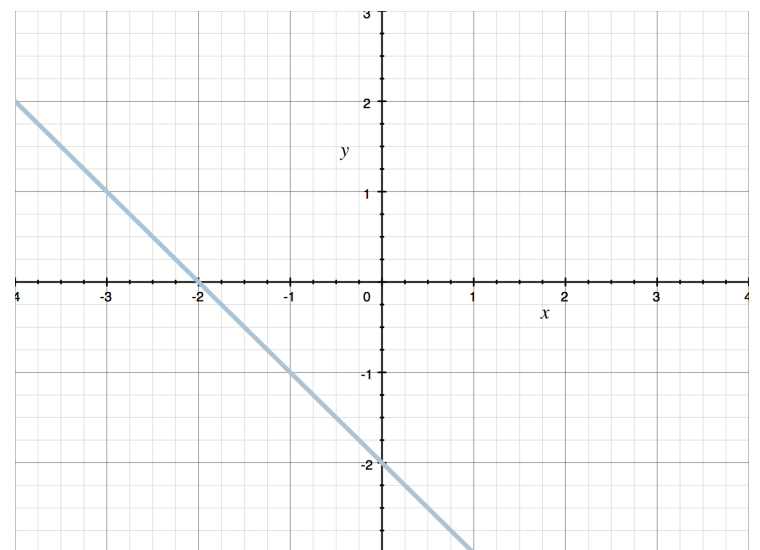
Solution: A

The linear equation is already in slope-intercept form, so we can see that the slope is $m = -1$ and the y-intercept is $b = 2$.

Since the slope is negative, we know that the line will lean to the left, with a rise of -1 and a run of 1, crossing the vertical axis at $y = 2$.