

1. Find the equation of the line described below. Write the linear equation as  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Perpendicular to  $4x + 3y = 6$  and passing through the point  $(10, -8)$ .

- A.  $m \in [0.97, 2.36]$   $b \in [-16.5, -14.5]$
  - B.  $m \in [0.07, 0.87]$   $b \in [-16.5, -14.5]$
  - C.  $m \in [0.07, 0.87]$   $b \in [12.5, 17.5]$
  - D.  $m \in [0.07, 0.87]$   $b \in [-20, -17]$
  - E.  $m \in [-1.41, -0.68]$   $b \in [-4.5, 0.5]$
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2. Solve the equation below. Then, choose the interval that contains the solution.

$$-13(-19x + 4) = -15(-12x - 14)$$

- A.  $x \in [2.8, 5.9]$
  - B.  $x \in [2.1, 2.6]$
  - C.  $x \in [-3.4, -2.1]$
  - D.  $x \in [-0.8, 0.8]$
  - E. There are no real solutions.
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3. Solve the equation below. Then, choose the interval that contains the solution.

$$-10(8x - 11) = -14(15x - 16)$$

- A.  $x \in [1.11, 1.46]$
  - B.  $x \in [0.75, 1.12]$
  - C.  $x \in [1.95, 3.03]$
  - D.  $x \in [-2.86, -2.24]$
  - E. There are no real solutions.
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4. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{-7x - 5}{4} - \frac{-6x - 9}{8} = \frac{-9x - 6}{5}$$

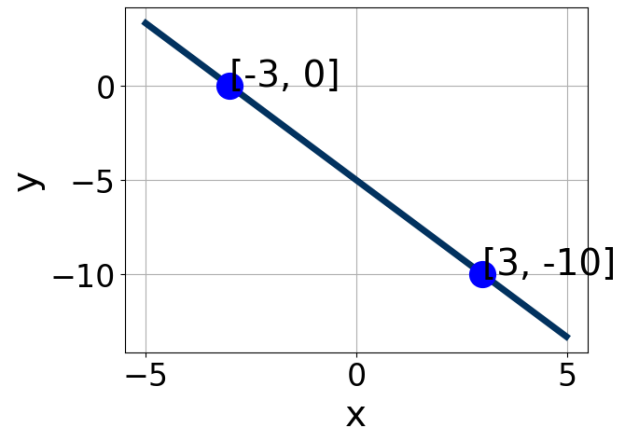
- A.  $x \in [-1.83, -0.52]$
  - B.  $x \in [-13.5, -11.91]$
  - C.  $x \in [1.38, 2.31]$
  - D.  $x \in [-0.48, 0.72]$
  - E. There are no real solutions.
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5. First, find the equation of the line containing the two points below. Then, write the equation as  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$$(-2, -10) \text{ and } (-3, 4)$$

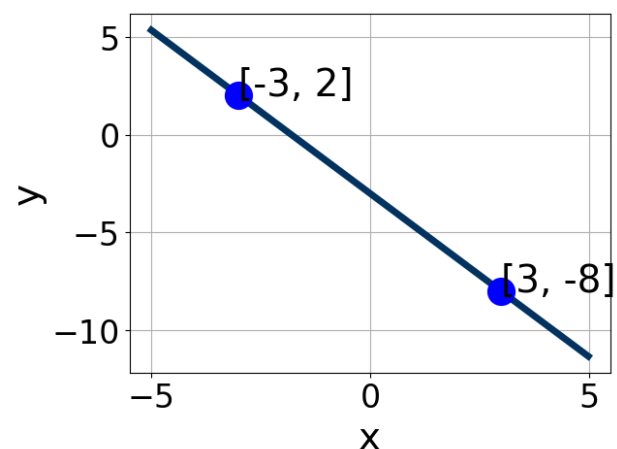
- A.  $m \in [-14, -11]$   $b \in [-40, -32]$
  - B.  $m \in [-14, -11]$   $b \in [34, 40]$
  - C.  $m \in [-14, -11]$   $b \in [-8, -3]$
  - D.  $m \in [14, 16]$   $b \in [39, 48]$
  - E.  $m \in [-14, -11]$   $b \in [3, 12]$
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6. Write the equation of the line in the graph below in Standard form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [3, 6]$ ,  $B \in [2.04, 4]$ , and  $C \in [-19, -12]$
- B.  $A \in [-5, 0]$ ,  $B \in [-3.53, -2.92]$ , and  $C \in [8, 18]$
- C.  $A \in [3, 6]$ ,  $B \in [-3.53, -2.92]$ , and  $C \in [8, 18]$
- D.  $A \in [0.67, 3.67]$ ,  $B \in [-1.47, 0.35]$ , and  $C \in [4, 11]$
- E.  $A \in [0.67, 3.67]$ ,  $B \in [0.37, 1.26]$ , and  $C \in [-5, -3]$

7. Write the equation of the line in the graph below in Standard form  $Ax + By = C$ . Then, choose the intervals that contain  $A$ ,  $B$ , and  $C$ .



- A.  $A \in [-6.5, -3.5]$ ,  $B \in [-4.44, -2.94]$ , and  $C \in [8, 16]$
- B.  $A \in [-2.2, 3.6]$ ,  $B \in [-1.79, -0.02]$ , and  $C \in [0, 4]$
- C.  $A \in [-2.2, 3.6]$ ,  $B \in [-0.43, 1.96]$ , and  $C \in [-6, -2]$
- D.  $A \in [2.6, 6.8]$ ,  $B \in [-4.44, -2.94]$ , and  $C \in [8, 16]$

E.  $A \in [2.6, 6.8]$ ,  $B \in [2.62, 4.5]$ , and  $C \in [-12, -8]$

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8. First, find the equation of the line containing the two points below. Then, write the equation as  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

$(9, -6)$  and  $(-11, -5)$

- A.  $m \in [-0.06, -0.05]$   $b \in [5.15, 5.76]$   
 B.  $m \in [-0.06, -0.05]$   $b \in [-15.53, -14.69]$   
 C.  $m \in [-0.06, -0.05]$   $b \in [-5.63, -5.32]$   
 D.  $m \in [-0.04, 0.14]$   $b \in [-4.92, -4.38]$   
 E.  $m \in [-0.06, -0.05]$   $b \in [5.91, 6.37]$

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9. Find the equation of the line described below. Write the linear equation as  $y = mx + b$  and choose the intervals that contain  $m$  and  $b$ .

Parallel to  $8x + 5y = 12$  and passing through the point  $(-5, 2)$ .

- A.  $m \in [-2.52, -1.58]$   $b \in [4.6, 6.4]$   
 B.  $m \in [0.6, 2.35]$   $b \in [9, 10.2]$   
 C.  $m \in [-2.52, -1.58]$   $b \in [6.4, 8]$   
 D.  $m \in [-2.52, -1.58]$   $b \in [-6.1, -3.3]$   
 E.  $m \in [-0.84, 0.09]$   $b \in [-6.1, -3.3]$

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10. Solve the linear equation below. Then, choose the interval that contains the solution.

$$\frac{9x + 8}{4} - \frac{4x + 3}{3} = \frac{9x - 5}{5}$$

- A.  $x \in [-0.6, 1.3]$   
 B.  $x \in [11, 11.4]$   
 C.  $x \in [1.3, 2.9]$

D.  $x \in [3.8, 5.8]$

E. There are no real solutions.

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