A.REI.D.10: Writing Linear Equations 1b

1. What is an equation of the line that passes through the point (4, -6) and has a slope of -3?

2. What is an equation of the line that passes through the point (3, -1) and has a slope of 2?

3. Which equation represents the line that passes through the point (1,5) and has a slope of -2?

4. What is an equation of the line that passes through the point (-2, -8) and has a slope of 3?

5. What is the equation of the line that passes through the point (3, -7) and has a slope of \( \frac{4}{3} \)?

6. If point (-1, 0) is on the line whose equation is \( y = 2x + b \), what is the value of \( b \)?

7. A line having a slope of \( \frac{3}{4} \) passes through the point (-8,4). Write the equation of this line in slope-intercept form.

8. Which equation represents the line that passes through the points (-1, -2) and (3, 10)?

9. What is an equation for the line that passes through the coordinates (2, 0) and (0, 3)?

10. Which equation represents the line that passes through the points (-3, 7) and (3, 3)?

11. Which equation represents the line that passes through the points (1, 1) and (-2, 7)?

12. What is an equation of the line that passes through the points (2, 1) and (6, -5)?

13. What is an equation of the line that passes through (-2, 3) and (6, -1)?
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Answer Section

1 ANS:
y = \(-3x + 6\)
y = \(mx + b\)
\(-6 = (-3)(4) + b\)
\(b = 6\)

REF: 060922ia

2 ANS:
y = \(2x - 7\)
y = \(mx + b\)
\(-1 = (2)(3) + b\)
\(b = -7\)

REF: 080927ia

3 ANS:
y = \(-2x + 7\)
y = \(mx + b\)
\(5 = (-2)(1) + b\)
\(b = 7\)

REF: 081108ia

4 ANS:
y = \(3x - 2\)
y = \(mx + b\)
\(-8 = (3)(-2) + b\)
\(b = -2\)

REF: 011406ia

5 ANS:
y = \(-\frac{4}{3}x - 3\)
y = \(mx + b\)
\(-7 = \left(-\frac{4}{3}\right)(3) + b\)
\(-7 = -4 + b\)
\(b = -3\)

REF: 061419ia
6 ANS:
\[ y = 2x + b \]
\[ 0 = 2(-1) + b \]
\[ b = 2 \]

REF: 060521a

7 ANS:
\[ y = \frac{3}{4}x + 10 \]
\[ y = mx + b \]
\[ 4 = \frac{3}{4}(-8) + b \]
\[ 4 = -6 + b \]
\[ 10 = b \]

REF: 011134ia

8 ANS:
\[ y = 3x + 1 \]
\[ m = \frac{10 - -2}{3 - -1} = \frac{12}{4} = 3 \]
\[ y = mx + b \]
\[ 10 = 3(3) + b \]
\[ 10 = 9 + b \]
\[ 1 = b \]

REF: 061515ia

9 ANS:
\[ y = -\frac{3}{2}x + 3 \]
\[ m = \frac{3 - 0}{0 - 2} = \frac{3}{2} \]
Using the given y-intercept (0,3) to write the equation of the line \[ y = -\frac{3}{2}x + 3 \].

REF: fall0713ia

10 ANS:
\[ y = -\frac{2}{3}x + 5 \]
\[ m = \frac{7 - 3}{-3 - 3} = \frac{4}{-6} = -\frac{2}{3} \]
\[ y = mx + b \]
\[ 3 = -\frac{2}{3}(3) + b \]
\[ 3 = -2 + b \]
\[ 5 = b \]

REF: 011013ia
11 ANS:
\[ y = -2x + 3 \]
\[ m = \frac{1 - 7}{1 - 2} = \frac{-6}{3} = -2 \quad y = mx + b \]
\[ 1 = -2(1) + b \]
\[ 3 = b \]

REF: 081404ia

12 ANS:
\[ y = \frac{3}{2} x + 4 \]
\[ m = \frac{1 - (-5)}{2 - 6} = \frac{6}{-4} = \frac{3}{-2} \quad 1 = \left( \frac{-3}{2} \right)(2) + b \]
\[ 1 = -3 + b \]
\[ 4 = b \]

REF: 011510ia

13 ANS:
\[ y = \frac{1}{2} x + 2 \]
\[ m = \frac{3 - (-1)}{-2 - 6} = \frac{4}{-8} = \frac{1}{-2} \quad 3 = \left( \frac{-1}{2} \right)(-2) + b \]
\[ 3 = 1 + b \]
\[ 2 = b \]

REF: 061606ia