Name _____ Class _____ Date _____

Reteaching 2-2

Linear Equations

OBJECTIVE: Using the slope-intercept form to write equations of lines

MATERIALS: None

- The slope-intercept formula is $y = mx + b$, where m represents the slope of the line, and b represents its y-intercept. The y-intercept is the point at which the line crosses the y-axis.
- The slope of a horizontal line is always zero, and the slope of a vertical line is always undefined.

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Example

Find the equation of the line that contains the point $(3, -1)$ and has a slope of $-\frac{4}{3}$.

$-1 = \left(-\frac{4}{3}\right)(3) + b$ ← **To find b, substitute the values $-\frac{4}{3}$ for m, 3 for x, and -1 for y into the slope-intercept formula.**

$-1 = -4 + b$

$3 = b$

$y = -\frac{4}{3}x + 3$ ← **Substitute $-\frac{4}{3}$ for m and 3 for b into the slope-intercept formula.**

Exercises

Write the equation of each line.

1. $m = 4$; contains $(3, 2)$

2. $m = -2$; contains $(4, 7)$

3. $m = 0$; contains $(3, 0)$

4. $m = -1$; contains $(-5, -2)$

5. $m = 3$; contains $(-2, -4)$

6. $m = 0$; contains $(0, -7)$

7. $m = 8$; contains $(5, 0)$

8. $m = -1$; contains $(0, 7)$

9. $m = 0$; contains $(3, 8)$

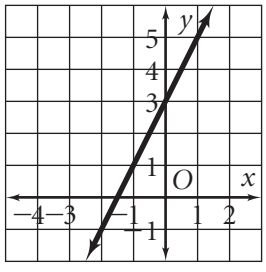
10. $m = 4$; contains $(2, 5)$

11. $m = 7$; contains $(3, 2)$

12. $m = -1$; contains $(2, -6)$

Write the equation of each line.

13.



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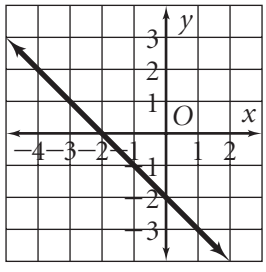

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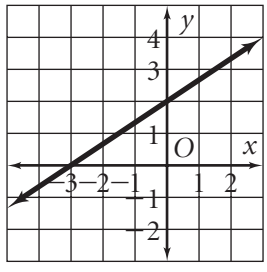

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