Name _____ Class _____ Date _____

Reteaching 5-2

Slope-Intercept Form

OBJECTIVE: Using the slope and y-intercept to draw graphs and write equations

MATERIALS: Graph paper, counters, ten index cards

Write these numbers on the index cards, one number to a card: $1, -1, 2, -2, \frac{1}{2}, -\frac{1}{2}, 3, -3, \frac{1}{3}, -\frac{1}{3}$.

These numbers represent different slopes.

- Draw a coordinate plane on the graph paper.
- Put a counter at any integer on the y-axis. Choose one of the index cards.
- Use the y-intercept shown by the counter and the slope shown on the card to write the equation of a line.
- Draw the graph of that line.

Example

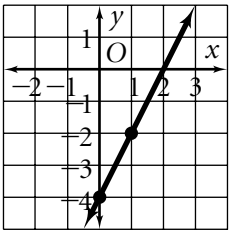
Place the counter at -4. Choose the index card with the number 2.

$y = mx + b$ ← **Write the slope-intercept form of the equation of a straight line. The counter shows that $b = -4$. The first card gives a slope of 2, so $m = 2$.**

$y = 2x + (-4)$ ← **Substitute the values shown by the counter and the card.**

$y = 2x - 4$ ← **Write the equation of the line in simplified form.**

← **Slope $= \frac{\text{vertical change}}{\text{horizontal change}}$, so rewrite 2 as $\frac{2}{1}$. Starting at the counter, move 2 units up and 1 unit to the right and place a second counter. Draw a straight line joining the two points for the graph of $y = 2x - 4$.**



Exercises

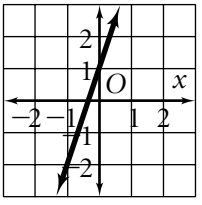
Place the counter. Then choose an index card.

1. Write the equation of the line.

2. Draw the graph.

Write an equation for each line.

3.



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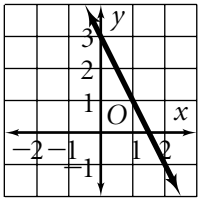

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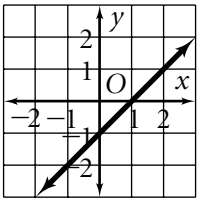

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