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Warm up: $y = mx + b$

Write the functions with the given slope and y-intercept.

1) slope = 5, y-intercept = -2 $y = 5x - 2$

2) slope = 1, y-intercept = 1 $y = x + 1$

3) slope = -5/6, y-intercept = 0 $y = -\frac{5}{6}x$

4) slope = -1, y-intercept = 10 $y = -x + 10$

5) slope = 0, y-intercept = 3 $y = 3$

Write an equation for the line with slope 4 and y-intercept -2.

$y = 4x - 2$

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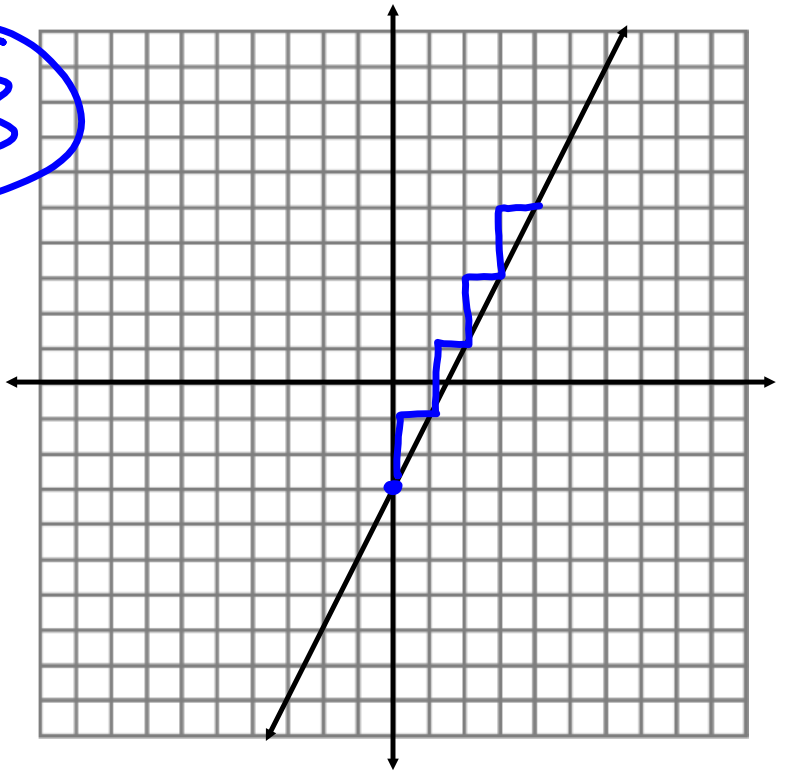
$y = 2x - 3$



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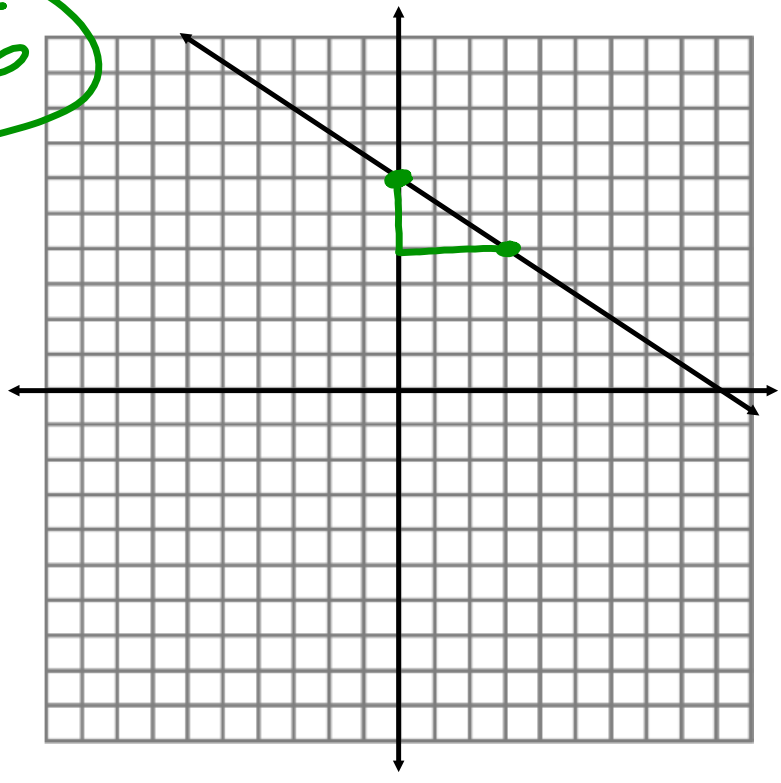
$y = -\frac{2}{3}x + 6$



Write the function for the line with slope 4 that goes through (2, 5).

$y = mx + b$

$y = 4x + b$

$5 = 4(2) + b$

$5 = 8 + b$

$-8 \quad -8$

$-3 = b$

$y = 4x - 3$

Write the function for the line with slope -2/3 that goes through (-6, 8).

$y = -\frac{2}{3}x + b$ (x, y)

$8 = -\frac{2}{3}(-6) + b$

$8 = 4 + b$

$-4 \quad -4$

$4 = b$

$y = -\frac{2}{3}x + 4$

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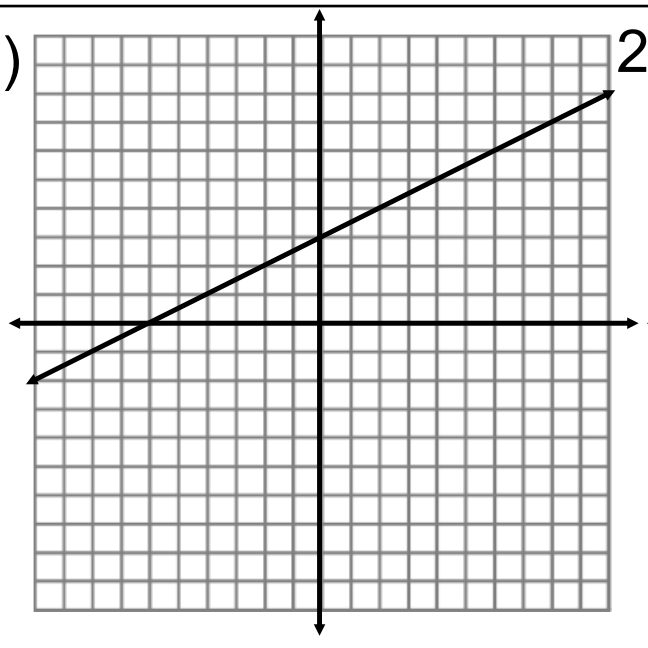
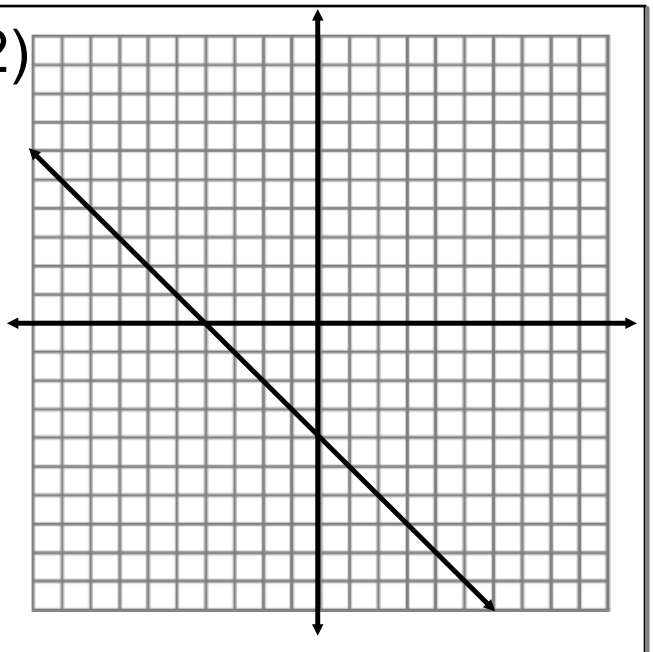
1)



2)



3) slope 5, through (4, 2)

4) slope -3/4, through (-8, 5)

5) slope -2, though (5, 9)

6) slope -1, through (6, 7)

7) slope 5/3, through (4, 10)

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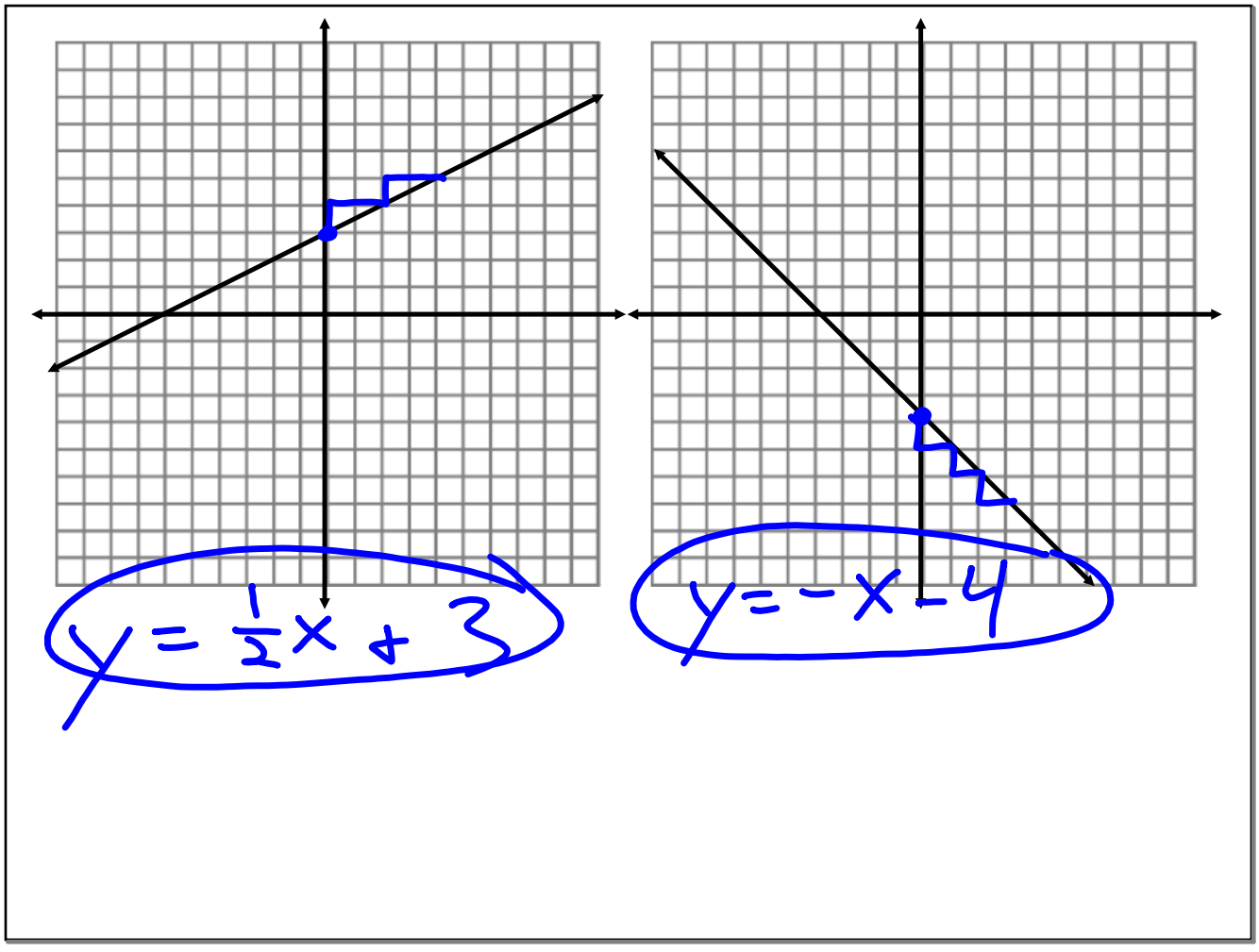

3) slope 5, through (4, 2)

$y = 5x + b$

$2 = 5(4) + b$

$2 = 20 + b$

$-20 \quad -20$

$-18 = b$

$y = 5x - 18$

5) slope -2, though (5, 9)

$y = -2x + b$

$9 = -2(5) + b$

$9 = -10 + b$

$+10 \quad +10$

$19 = b$

$y = -2x + 19$

4) slope -3/4, through (-8, 5)

$y = -\frac{3}{4}x + b$

$5 = -\frac{3}{4}(-8) + b$

$5 = 6 + b$

$-6 \quad -6$

$-1 = b$

$y = -\frac{3}{4}x - 1$

6) slope -1, through (6, 7)

$y = -x + b$

$7 = -1(6) + b$

$7 = -6 + b$

$+6 \quad +6$

$13 = b$

$y = -x + 13$

7) slope 5/3, through (4, 10)

$y = \frac{5}{3}x + b$

$10 = \frac{5}{3}(4) + b$

$\frac{30}{3} = 10 = \frac{20}{3} + b$

$-\frac{20}{3} \quad -\frac{20}{3}$

$\frac{10}{3} = b$

$y = \frac{5}{3}x + \frac{10}{3}$