Geometry in the Coordinate Plane

Name: _____ Date: _____

Writing Equations of Lines: y = mx + b

Writing an equation of a line <u>given m and b</u>.

A. Substitute slope for m and y-intercept for b.
B. Simplify the equation.

1. Slope is -5 and y-intercept is 2.

2. Slope is -1/2 and y-intercept is -2.

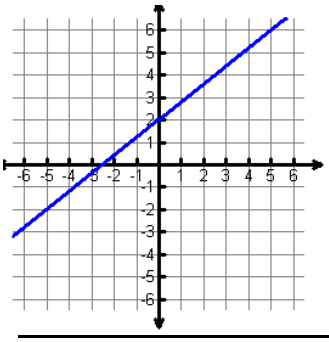
3. Slope is 0 and y-intercept is 3.

4. Slope is 1/3 and y-intercept is 0.

Writing an equation of a line <u>given a graph</u>.

A. Use any 2 "good" points on the graph to find the slope, m.
B. Find the y-intercept on the graph, b.
C. Substitute slope for m and y-intercept for b into the equation y = mx + b.

5.



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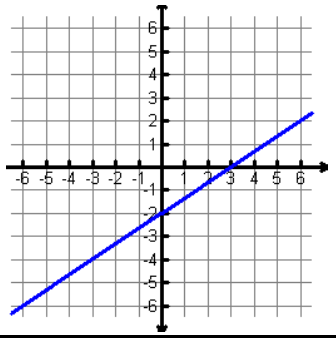

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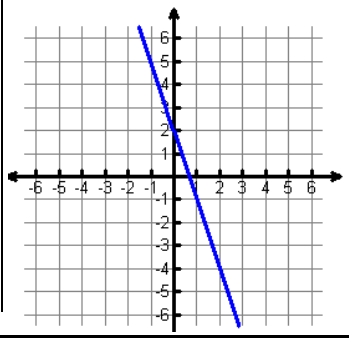

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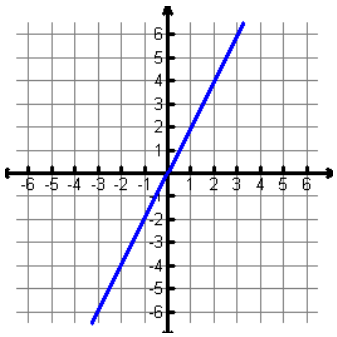

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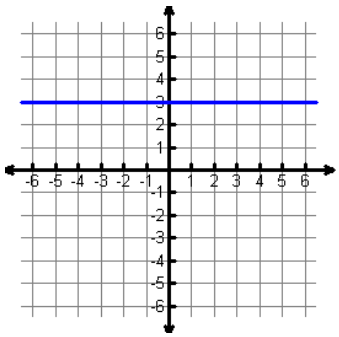

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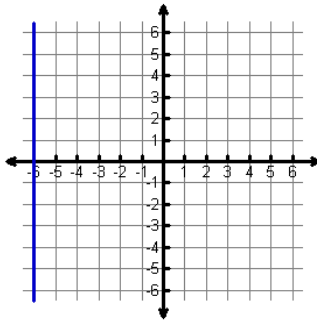

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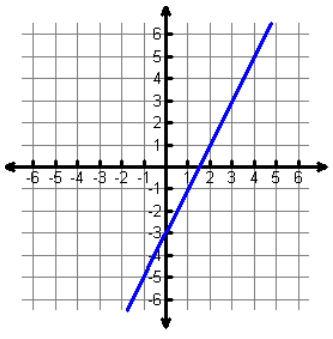

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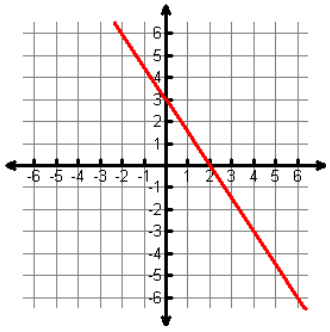

Writing an equation of a line <u>given m and a point</u>.

A. Substitute slope for m and the point (x, y) into y=mx+b and solve for b.
B. Substitute m and b back into the equation.

13. m = 2 and Point: (2, 3)

14. m = 1/2 and Point: (4, -3)

15. m - -2 and Point: (-5, 3)

16. m = 4 and Point (1, 4)

17. m = ½ and Point: (-1, -2)

18. m = 2 and Point (0, 3)

19. m =3 and Point: (3, 0)

20. m = undefined and Point (3, 6)

Writing an equation of a line <u>given TWO points</u>.

A. Use the slope formula to find m.
B. Pick one point, substitute slope for m, the point (x, y) and then solve for b.
C. Substitute m and b back into the equation.

21. (2, 3) and (4, 5)

22. (2, 3) and (-4, 15)

23. (2, 2) and (0, 4)

24. (2, 3) and (1, 4)

25. (4, 5) and (5, 2)