

Algebra I

Notes 5.3, Part 1 The Slope-Intercept Form of an Equation

Objectives: For an equation in the form $y = mx + b$:

identify the y-intercept as $(0, b)$;

graph the equation using the slope and y-intercept; and

write an equation given the slope and y-intercept or from a graph.

Using the linear form $y = mx + b$ (called slope-intercept form),

m (the coefficient of x) represents the _____ of the line; and

b (the constant) represents the _____ of the line.

The point where the line crosses the y-axis is called the _____ and that point is identified by the ordered pair (\quad , \quad) .

Give the coordinates where the line for each equation crosses the y-axis.

1. $y = 3x + 4$

2. $y = -\frac{1}{2}x - 9$

3. $y = 5x$

4. $y = 7 + 8x$

Write the equation of a line given the slope and y-intercept.

5. slope = 2
y-intercept = 9

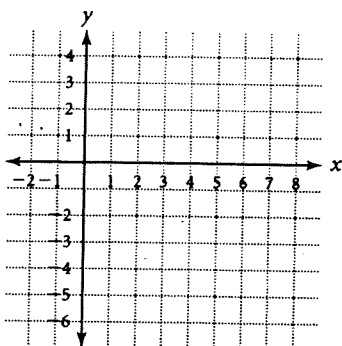
6. slope = -6
y-intercept = -1

7. slope = -1
y-intercept = -8

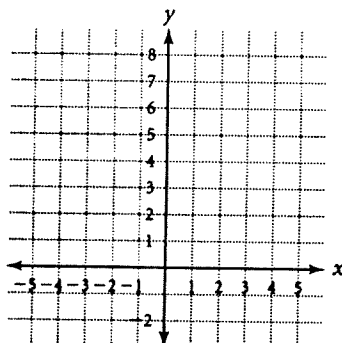
8. slope = $\frac{1}{4}$
y-intercept = 0

Graph each line from its equation. 1.

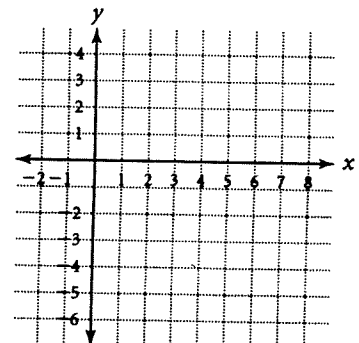
9. $y = \frac{1}{3}x - 2$



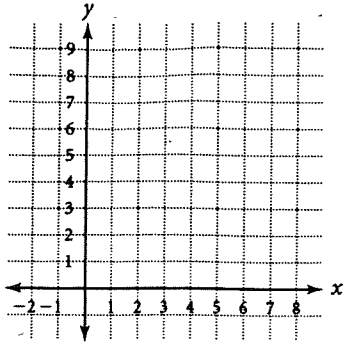
10. $y = -\frac{3}{2}x + 4$



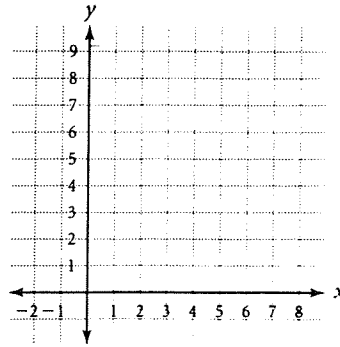
11. $y = -2x + 1$



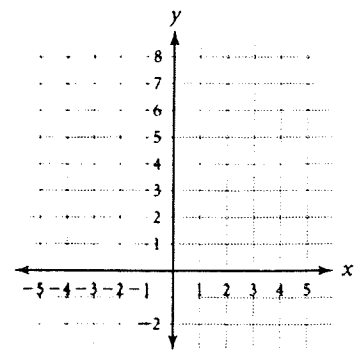
12. $y = \frac{2}{3}x + 4$



13. $y = -4x + 8$

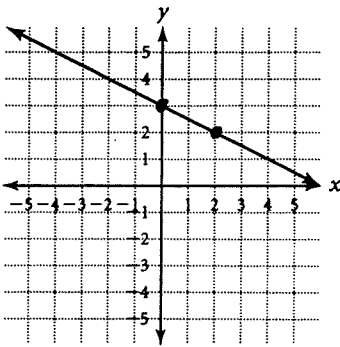


14. $y = 3x + 1$



Write an equation in slope-intercept form from each graph.

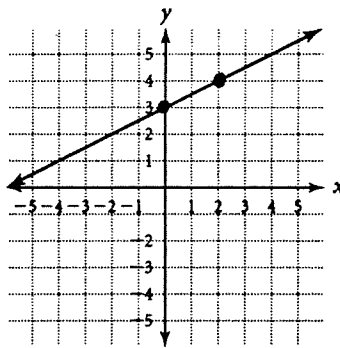
15.



slope = _____

y-intercept = _____

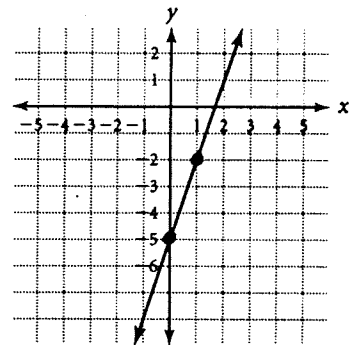
16.



slope = _____

y-intercept = _____

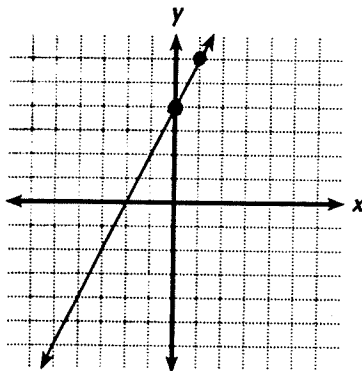
17.



slope = _____

y-intercept = _____

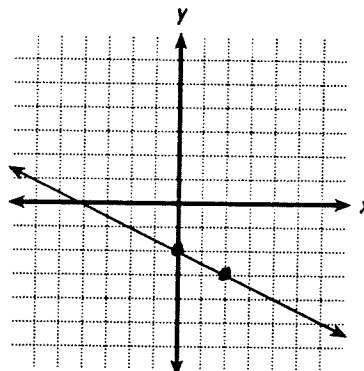
18.



slope = _____

y-intercept = _____

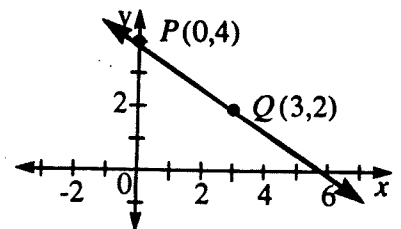
19.



slope = _____

y-intercept = _____

20.



slope = _____

y-intercept = _____
