Geometry- Mrs. Tilus   Name: _____
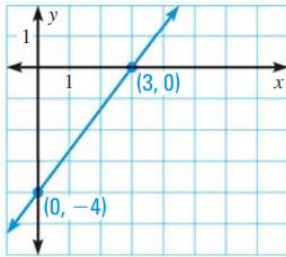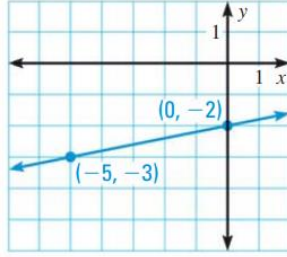
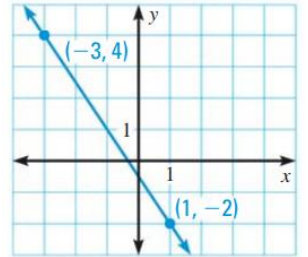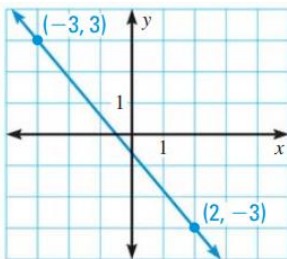Unit 3- Worksheet #5: Writing and Graphing Equations

Write an equation ($y = mx + b$) of the line shown.

1.

(3, 0)

(0, −4)

2.

(0, −2)

(−5, −3)

3.

(−3, 4)

(1, −2)

4.
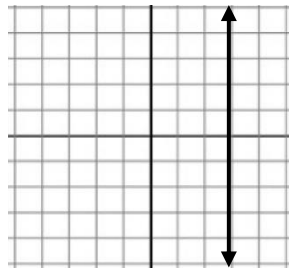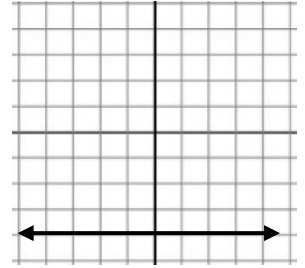

(−3, 3)

(2, −3)

5.

6.

Write an equation of the line with the given slope m and y-intercept b.

7. $m = -5, b = -12$ 8. $m = 4, b = 0$ 9. $m = -\frac{5}{2}, b = 6$

Write an equation of the line that passes through the given point P and has the given slope m.

10. $P(5, 4), m = 4$ 11. $P(6, -2), m = 3$

12. $P(-6, -2), m = -\frac{2}{3}$ 13. $P(-13, 7), m = 0$

Write an equation of the line that passes through point P and is **parallel** to the line with the given equation.

14. $P(-3, 5), y = -2x + 3$

15. $P(4, -2), 10x + 4y = -8$

16. $P(-2, 6), \ x = -5$

17. Find an equation for a line with an x-intercept of 7 and **parallel** to the y-axis.

Write an equation of the line that passes through point P and is **perpendicular** to the line with the given equation.

18. $P(2, 3), y - 4 = -2x - 6$

19. $P(-6, 0), 3x - 5y = 6$
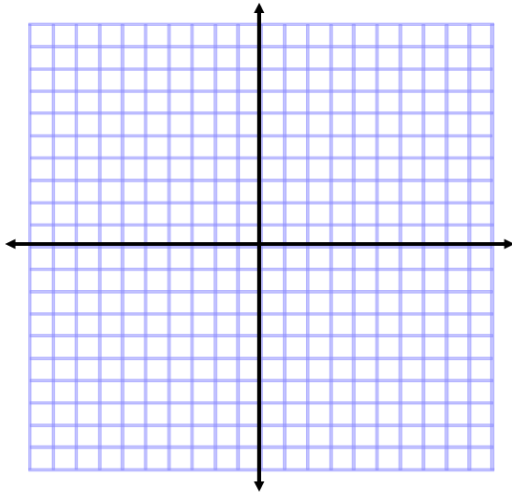
20. $P(-2, 6), \ x = -5$

21. Find an equation for a line with a y-intercept of -2 and **perpendicular** to the y-axis.

22. Write an equation of the line with undefined slope that passes through the point $(3, -2)$.
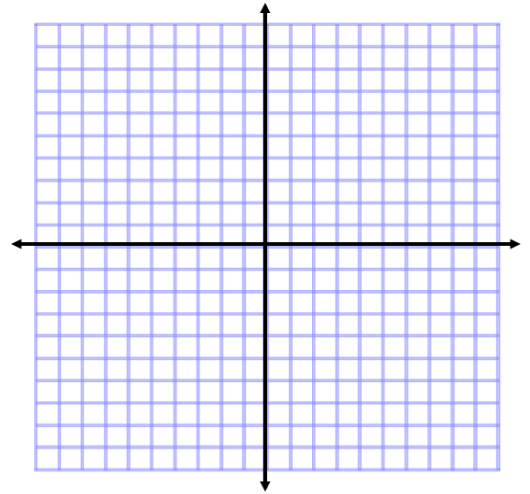
23. Find an equation for a line with an x-intercept of 2 and a y-intercept of 4.
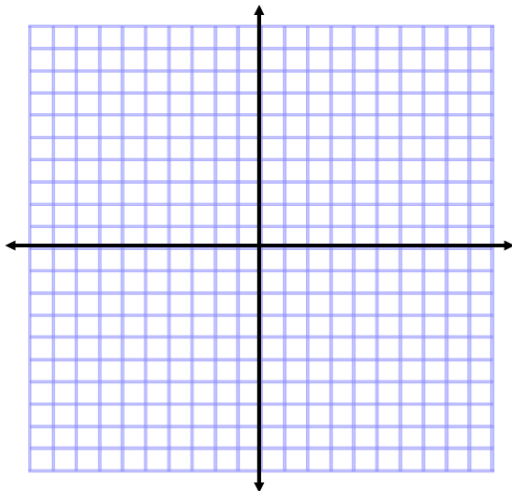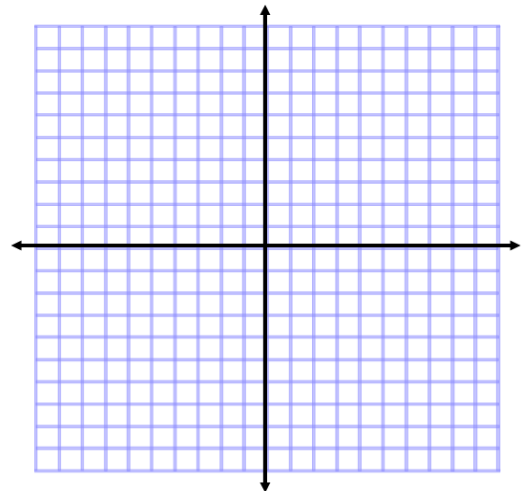
Graph each equation.

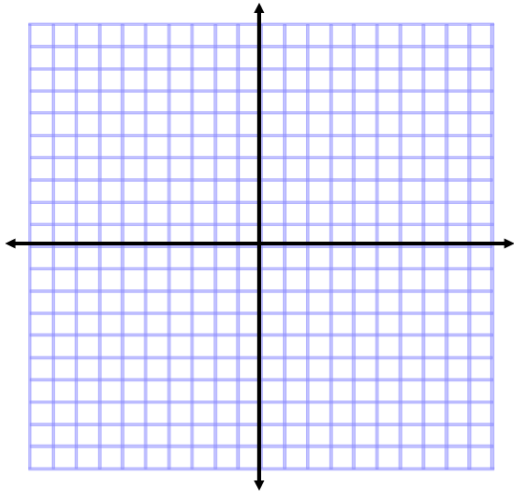24. $y = -\frac{2}{3}x - 3$

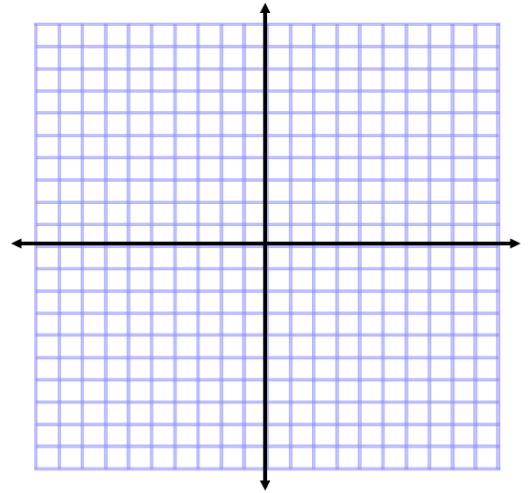25. $2y = -8x - 10$

26. $4x - y = -8$
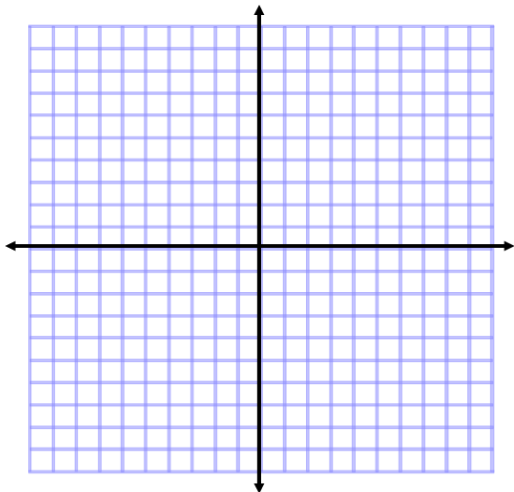
27. $-5y + 10 = x$

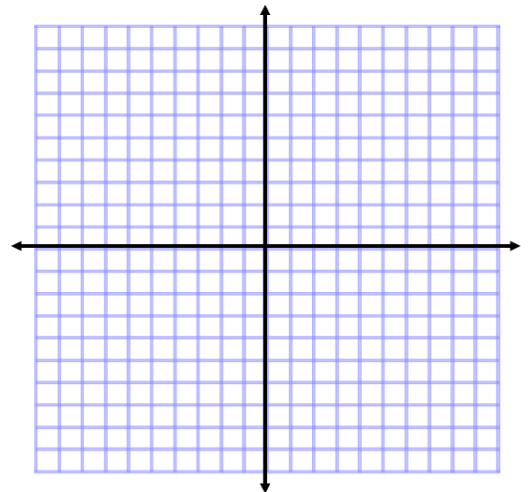Graph each equation.
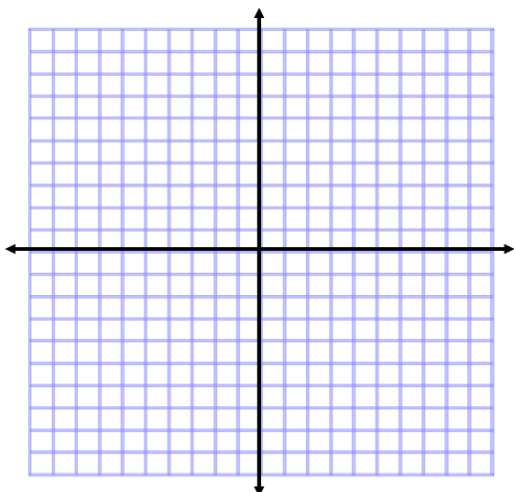
28. $-x + 3y = -9$

29. $y + 2 = x - 1$

30. $2y - 4 = -x + 2$

31. $x + 1 = -4$

32. $y - 2 = 5$

33. $2(x - 1) = -4y - 2$