2.4B Homework pg. 87 25-28, 30, 32-34, 36, 45-46

MP APPLY MATH Write an equation in slope-intercept form for the line that satisfies each set of conditions.

**25.** passes through $(4, 2)$, perpendicular to $y = -2x + 3$

26. passes through $(-6, -6)$, parallel to $y = \frac{4}{3}x + 8$

27. passes through $(12, 0)$, parallel to $y = -\frac{1}{2}x - 3$

28. passes through $(10, 2)$, perpendicular to $y = 4x + 6$

30. DELI The sales of a sandwich store increased approximately linearly from \$52,000 to \$116,000 during the first five years of business. Write an equation that models the sales y after x years. Determine what the sales will be at the end of 12 years if the pattern continues.

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

32.

33

34.
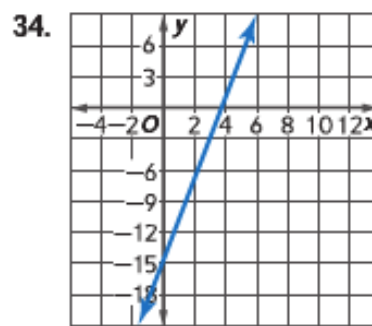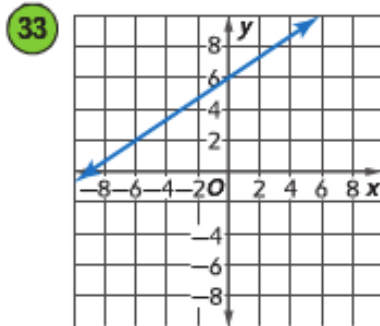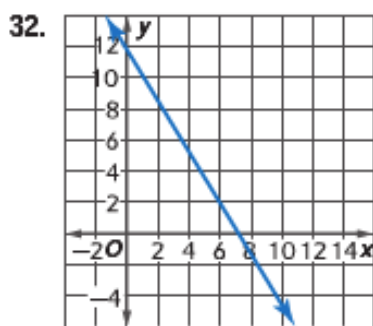
36. KEY BOARDING The equation $y = 55(23 - x)$ can be used to model the number of words y you have left to type after x minutes.

a. Write this equation in slope-intercept form.

b. Identify the slope and y-intercept.

c. Find the number of words you have left to type after 20 minutes.

45. What is the equation of the line containing the point $(3, 7)$ that is perpendicular to the line containing the points $(0, 5)$ and $(-1, -3)$?

A $\quad y = 8x - 17$

B $\quad y = -8x + 31$

C $\quad y = \frac{1}{8}x + \frac{53}{8}$

D $\quad y = -\frac{1}{8}x + \frac{31}{8}$

E $\quad y = -\frac{1}{8}x + \frac{59}{8}$

46. Which of the following lines has an undefined slope?

F $\quad x - y = 1$

G $\quad x + y = 1$

H $\quad x = 1$

J $\quad y = 1$

K $\quad y = x$