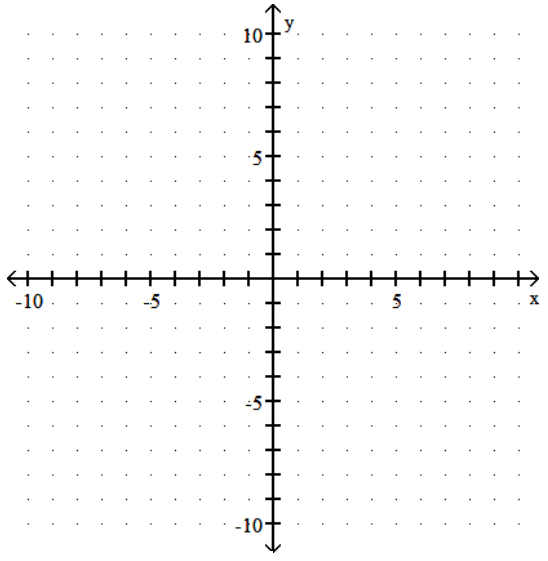
Practice 10.5 & 10.6

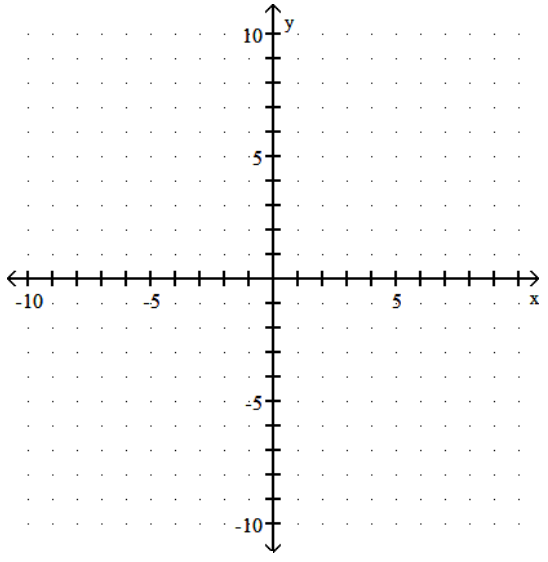
Name_____

Draw a line that has the given slope and y-intercept.

1) $m = \frac{1}{2}$, $b = 3$



2) $m = -\frac{1}{3}$, $b = 4$



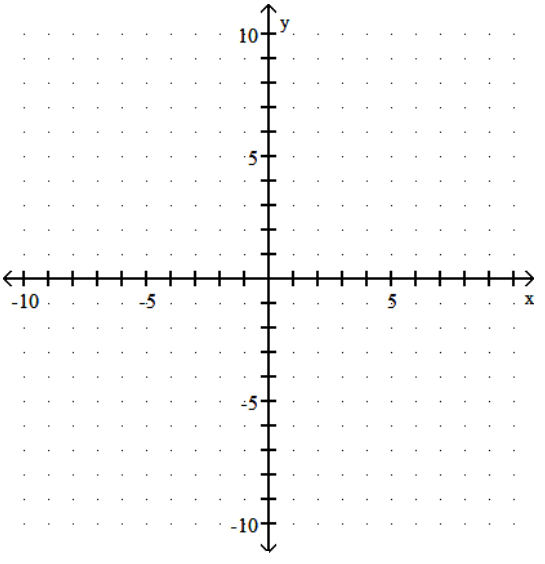
Complete the following:
(a) Write the equation in slope-intercept form.
(b) Give the slope and y-intercept of the line.

3) $9x + 7y = 55$

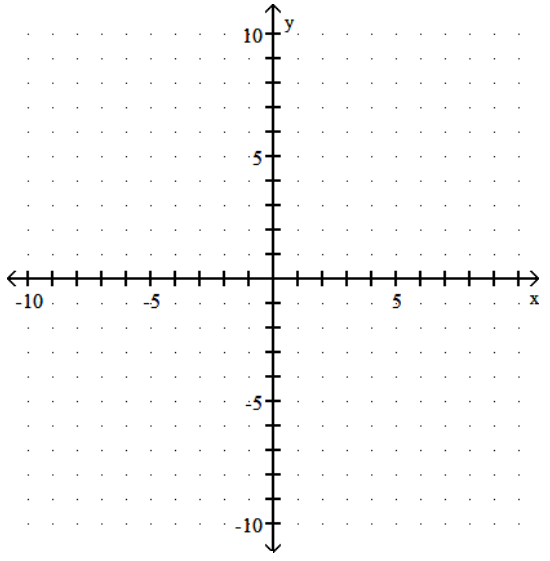
4) $-4x + y = 15$

Graph the equation.

5) $y = \frac{1}{3}x + 4$

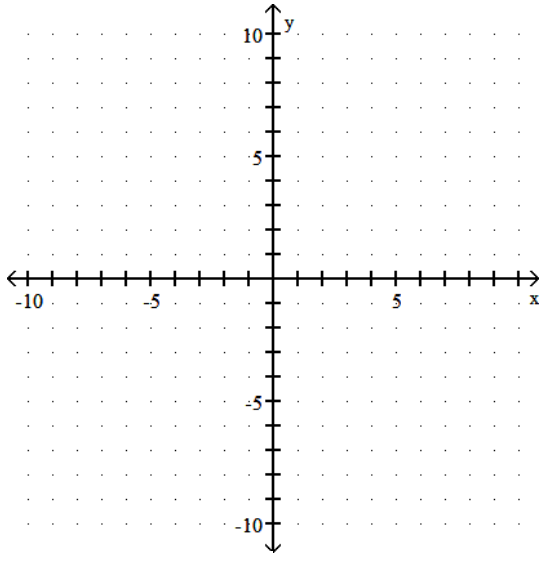


6) $y = -\frac{1}{6}x + 4$



Graph the equation.

7) $y = -\frac{1}{5}x + 2$



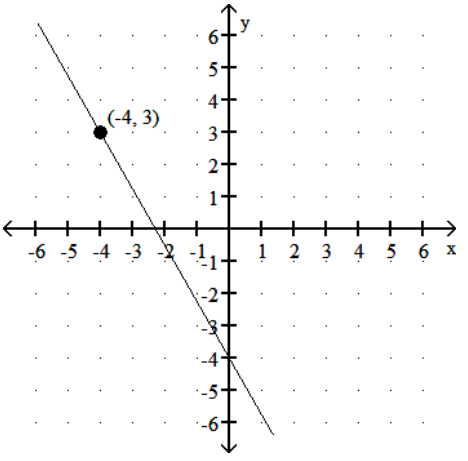
Determine whether the given point lies on the line.

8) (- 3, 8); y - 11 = x

9) (0, 4); $y = \frac{1}{2}(x + 6) + 3$

Use the labeled point to write the point-slope form for the line.

10)



Write the point-slope form in slope-intercept form.

11) y - 6 = -9(x + 5)

12) $y + 2 = \frac{3}{5}(x - 5)$

Find the slope-intercept form for the line satisfying the conditions.

13) Slope - 6, passing through (4, 4)

14) Passing through $(-2, -6)$ and $(8, 1)$

15) x-intercept 7, y-intercept -8

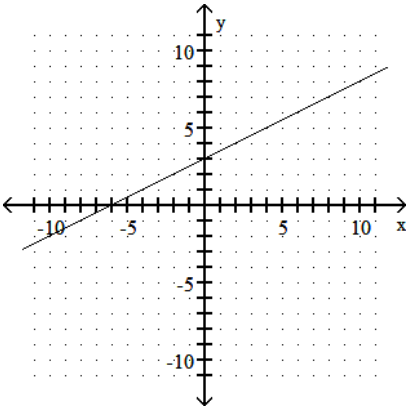
16) Parallel to $y = 2x - 9$, passing through $(1, -5)$

17) Perpendicular to $y = \frac{1}{3}x + 19$, passing through the point $(-5, -6)$

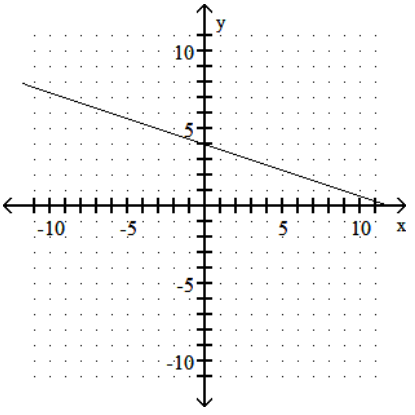
Solve the problem.

18) A gas station sells 4820 gallons of regular unleaded gasoline on a day when they charge $4.35 per gallon, whereas they sell 3953 gallons on a day that they charge $4.40 per gallon. Find a linear function that expresses gallons sold as a function of price.

1)



2)



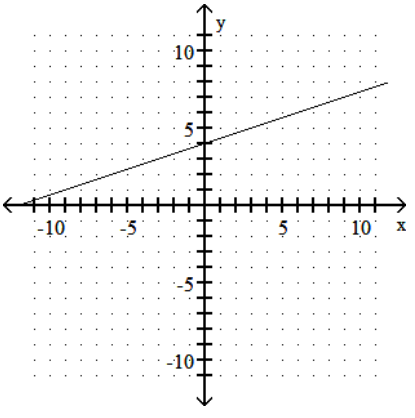
3) (a) $y = -\frac{9}{7}x + \frac{55}{7}$

(b) $-\frac{9}{7}$; $\frac{55}{7}$

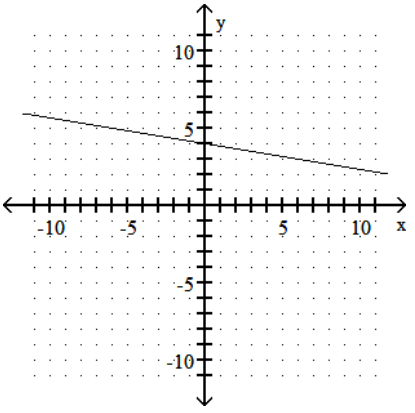
4) (a) $y = 4x + 15$

(b) 4; 15

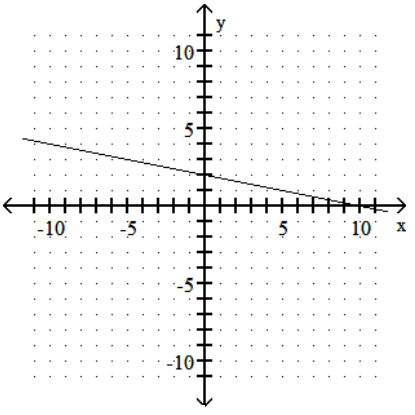
5)



6)



7)



8) Yes

9) No

10) $y - 3 = -\frac{7}{4}(x + 4)$

11) $y = -9x - 39$

12) $y = \frac{3}{5}x - 5$

13) $y = -6x + 28$

14) $y = \frac{7}{10}x - \frac{23}{5}$

15) $y = \frac{8}{7}x - 8$

16) $y = 2x - 7$

17) $y = -3x - 21$

18) $y = -17{,}340x + 80{,}249$