

6.1 The Equation of a Line in Slope  $y$ -Intercept Form:  $y = mx + b$

*Principles of Mathematics 9, pages 296–307*

A

1. Identify the slope and the  $y$ -intercept of each line.

a)  $y = 3x - 2$

b)  $y = -2x + 4$

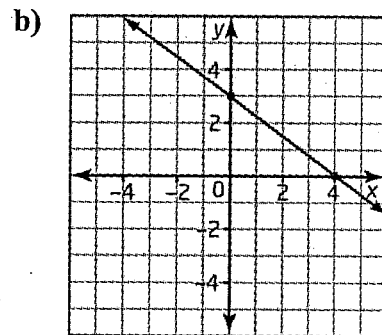
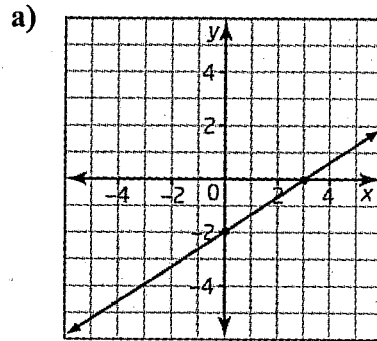
c)  $y = \frac{3}{4}x - 5$

d)  $y = -\frac{2}{5}x$

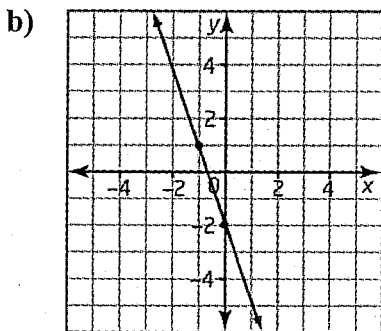
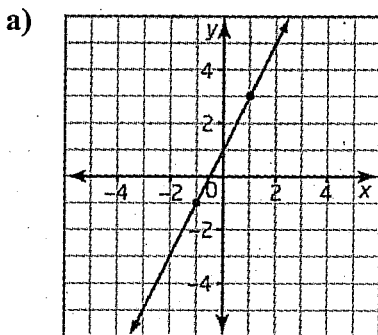
e)  $y = 2x - \frac{1}{3}$

3. Write the equation of each line in question 2.

4. Find the slope and  $y$ -intercept of each line.



2. Find the slope and  $y$ -intercept of each line.



5. Write the equation of each line in question 4.

## Other Word Problems

1. A plumber charges a fee of \$40 to make a house call. He also charges \$22.75 an hour for labour.

a. Write an equation that you could use to find the total amount a plumber charges based on the number of hours of labour. Define your variables.

b. If you paid \$176.50, how many hours did the plumber work for?

2. Michael is taking a road trip and keeping track of the kilometres travelled, as well as the amount of gas he's left with. After 150km, he has 42.5L of gas left. After 370km, he has 9.5L of gas left.

a. Write an equation relating number of kilometres travelled to total gas in the tank. Define your variables.

b. Using your equation determine how many kilometres until his tank is empty.

# Solutions for "The Equation of a Line in Slope-Intercept Form"

Day 9

4. a) slope =  $\frac{2}{3}$ , y-intercept = -2

b) slope =  $-\frac{3}{4}$ , y-intercept = 3

5. a)  $y = \frac{2}{3}x - 2$  b)  $y = -\frac{3}{4}x + 3$

## Chapter 6

### 6.1 The Equation of a Line in Slope

**y-Intercept Form:**  $y = mx + b$ , pages 97–99

1. a) slope = 3, y-intercept = -2

b) slope = -2, y-intercept = 4

c) slope =  $\frac{3}{4}$ , y-intercept = -5

d) slope =  $-\frac{2}{5}$ , y-intercept = 0

e) slope = 2, y-intercept =  $-\frac{1}{3}$

f) slope = 0, y-intercept = 5

2. a) slope = 2, y-intercept = 1

b) slope = -3, y-intercept = -2

3. a)  $y = 2x + 1$  b)  $y = -3x - 2$

# Solutions for "Other Word Problems"

1a. Let  $x$  be number of hours. Let  $y$  be total charge.  $y = 22.75x + 40$

b.  $x = 6$  hours

2a. Let  $x$  be distance (kilometres). Let  $y$  be volume (L).  $y = -0.15x + 65$

b.  $x = 433$  km