

## Chapter 4 Review

### 4.1 Solve One- and Two-Step Linear Equations

1. Identify the operation (addition, subtraction, multiplication, or division) required to undo the operation in each linear equation.

a)  $3x = 66$                       b)  $z + 2 = -8$   
 c)  $a - 2 = 9$                       d)  $7 = s - 4$   
 e)  $\frac{r}{4} = 12$                       f)  $-2 = y - 1$

2. Solve each equation from question 1.

3. Solve each linear equation.

a)  $-10 = 2.5x$                       b)  $-14 = \frac{y}{3} + 1$   
 c)  $17 = 2n + 1$                       d)  $2 - m = 8$   
 e)  $1 - r = 0$                       f)  $5 = \frac{1}{3}a + 2$

4. Carly has \$4.25 to spend on candy. Each candy bar costs \$0.55.

- a) Write an equation showing the relationship between the total cost in dollars,  $C$  and the number of candy bars purchased,  $n$ .  
 b) What is the cost of 6 candy bars?  
 c) If Carly had twice the money, how many candy bars can she purchase?

### 4.2 Solve Multi-Step Linear Equations

5. Solve each equation.

a)  $-2 + a = a + 3(a - 1)$                       b)  $5 = b - (1 + 2b)$   
 c)  $2(a + 1) = 2$                       d)  $2y - 5 = 1$   
 e)  $t - 5 = -2(t + 2) + 1$

6. Solve each equation.

a)  $\frac{a-2}{3} = 2$                       b)  $\frac{2k-1}{3} = -4$   
 c)  $\frac{1}{4}(x-4) = 0$                       d)  $-\frac{1}{2}(x-4) = 1$

7. Yan invested \$750 into an account that pays 4.5% interest per year. The value when matured is represented by the equation  $A = 750 + (0.045 \times 750)n$ , where  $A$  is the total amount that Yan has in his account, and  $n$  is the number of years.

- a) What will the amount be after 4 years?  
 b) What will be the amount be after 10 years?  
 c) If Yan wants to have \$800, how many years would he have to invest?

### 4.3 Model With Formulas

8. Rearrange each formula to isolate the indicated variable.

a)  $x = 2(y - 1)$ , for  $y$   
 b)  $m = -5(n - 1)$ , for  $n$   
 c)  $u = -3v - 1$ , for  $v$   
 d)  $a = -3b + 5$ , for  $b$   
 e)  $1 = x - 2y$ , for  $y$

9. Stan can run 200 m in 40 s.

- a) What is Stan's speed in metres per second?  
 b) Use the speed to determine how far Stan can run in 10 min (600 s).  
 c) How long would it take Stan to run 1600 m?

### 4.4 Convert Linear Equations From Standard Form

10. Write each equation in slope  $y$ -intercept form.

a)  $2x - y - 5 = 0$                       b)  $x - y + 1 = 0$   
 c)  $-4x + y - 2 = 0$                       d)  $-6x - 2y - 1 = 0$   
 e)  $-x + y - 1 = 0$

11. If the line  $2x + 4y + C = 0$  passes through (2, 4), determine the value of  $C$ .

12. If the line  $Ax + 2y - 2 = 0$  passes through (3, 4), determine the value of  $A$ .