

# **Math Connections Worksheets**

MAT0018C Developmental Math I

## **Chapter 3**

Solving Equations and  
Problem Solving



### 3.1 Simplifying Algebraic Expressions

#### Combine Like Terms

1.  $3x + 6x$

2.  $10y - 4y$

3.  $3a - 2b + 4a - 3b$

4.  $2x + 6x + 7$

5.  $-5a + 3b + 4a$

6.  $6x^2 - 2x^2$

#### Multiply

7.  $6(5a)$

8.  $-4(3b)$

9.  $-12(5c)$

10.  $4(3x)$

11.  $5(2x + 1)$

12.  $3(a - 3)$

13.  $-4(4x - 3)$

14.  $-6(2b + 4)$

15.  $3(5y + 1)$

16.  $6(4 + z)$

#### Simplify

17.  $2(x - 3) - 7$

18.  $-6(2y + 3) + 2$

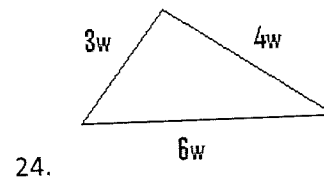
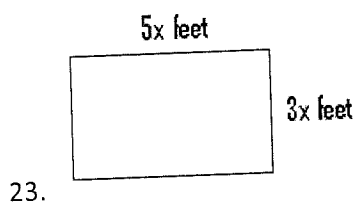
19.  $6 + 4(z + 2)$

20.  $8w + 4(3w - 2) - 4$

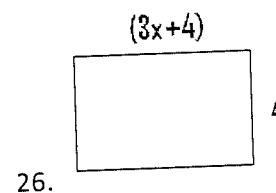
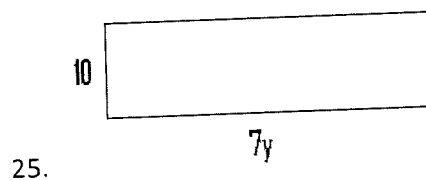
21.  $2(3x + 5) - 6(2x - 2)$

22.  $-(3a - 4) - 2$

#### Find the perimeter



#### Find the Area



### 3.2 Solving Equations: Review of the Addition and Multiplication Properties

**Solve**

27.  $x - 3 = -1 + 5$

28.  $y + 2 = 3 + 4$

29.  $16 - 5 = m - 3$

30.  $w - 10 = -3 + 4$

31.  $4x + 5x = 18$

32.  $12a - 9a = 9$

33.  $-4y - 4y = 24$

34.  $5x - 2x = -27$

35.  $-4x - 2x = 20 - 8$

36.  $-8 - 10 = 5f + 2 - 4f$

37.  $2(4c - 6) = 9c$

38.  $-4(3 - 6t) = 25t$

39.  $2j - 10 = 0$

40.  $9r - 4 = 23$

41.  $6(s - 4) = 11 + 25$

42.  $w - 15 = 4w$

**Translate the phrase into an algebraic expression**

43. the sum of negative five and a number

44. ten subtracted from a number

45. twice a number

46. the product of six and a number minus eight

**3.3 Solving linear equations in one variable****Solve**

47.  $2x - 4 = 3x + 1$

48.  $4y - 2 = -3y - 16$

49.  $46 - 16 = 3(g - 10)$

50.  $2w - 14 = 6(w - 3)$

51.  $7 - z = 13$

52.  $-9(n - 2) = 24 - (-3)$

53.  $5(h - 2) = 2(2h - 4)$

54.  $3(5c - 4) - 2 = 17c - 8$

**Translate the sentences into equations**

55. The sum of fourteen and twenty is thirty-four.

56. The difference of negative four and five is equal to negative nine.

57. The quotient of eighteen and negative six gives negative three

### 3.4 Linear equations in one variable and problem solving

**Translate the sentences into equations then solve**

58. Twice a number plus three is fifteen.
59. The difference of five and a number is equal to the sum of four and ten.
60. Five less than a number gives the quotient of four and two.

**Solve.**

61. Angela has 5 times the number of juggling balls as Jeff. If they have a total of 36 juggling balls, find how many juggling balls Angela has.
62. The average life span of a Red-tailed Hawk is 4 years longer than the average life span of a Northern Cardinal. If the total of these average life spans is 36, find the average life span of the Northern Cardinal.

## Chapter 3

1.  $9x$
2.  $6y$
3.  $7a - 5b$
4.  $8x + 7$
5.  $-a + 3b$
6.  $4x^2$
7.  $30a$
8.  $-12b$
9.  $-60c$
10.  $12x$
11.  $10x + 5$
12.  $3a - 9$
13.  $-16x + 12$
14.  $-12b - 24$
15.  $15y + 3$
16.  $24 + 6z$
17.  $2x - 13$
18.  $-12y - 16$
19.  $4z + 14$
20.  $20w - 12$
21.  $-6x + 22$
22.  $-3a + 2$
23.  $16x$  feet
24.  $13w$
25.  $70y$
26.  $12x + 16$

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27.  $x = 7$
28.  $y = 5$
29.  $m = 14$
30.  $w = 11$
31.  $x = 2$
32.  $a = 3$
33.  $y = -3$
34.  $x = -9$
35.  $x = -2$
36.  $f = -20$
37.  $c = -12$
38.  $t = -12$
39.  $j = 5$
40.  $r = 3$
41.  $s = 10$
42.  $w = -5$
43.  $-5 + x$
44.  $x - 10$
45.  $2x$
46.  $6n - 8$

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47.  $x = -5$
48.  $y = -2$
49.  $g = 20$
50.  $w = 1$
51.  $z = -6$
52.  $n = -1$
53.  $h = 2$
54.  $c = -3$
55.  $14 + 20 = 34$
56.  $-4 - 5 = -9$
57.  $\frac{18}{-6} = -3$

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58.  $2x + 3 = 15; x = 6$
59.  $5 - n = 4 + 10; n = -9$
60.  $x - 5 = \frac{4}{2}; x = 7$
61. 30 juggling balls
62. 16 years