

# Chapter 1 Elementary Algebra, Norco Edition

## Answers to Odd Exercises

### Section 1.1

3. The sum of three 12's:  $12 + 12 + 12$       5. The product of three 8's:  $8 \cdot 8 \cdot 8$   
7. 27      9. 121      11.  $28 \div 4 = 7$       13.  $12 \cdot 5 = 60$   
15.  $x - 17$       17.  $21 + x$   
19. The difference of 71 and 15      21. The 6<sup>th</sup> power of 2  
23. The quotient of a number and 6      25. The product of a number and 11  
27. 1 and 32; 2 and 16; 4 and 8      29. 1 and 28; 2 and 14; 4 and 7  
31. 1 and 48; 2 and 24; 3 and 16; 4 and 12; 6 and 8  
33. 1 and 60; 2 and 30; 3 and 20; 4 and 15; 5 and 12; 6 and 10  
35. 7      37. 10      39. 72      41. 45  
43. 93      45. 8      47. 10      49. 45  
51. 11      53. 8      55. 32      57. 25  
59. 130      61. 3      63. 6      65. 2  
67. Associative Property of Addition      69. Additive Identity  
71. Commutative Property of Addition      73 & 75. Answers may vary.

### Section 1.2

5. -8      7. 18      9. <      11. <  
13. <      15. >      17. 15      19. 6.5  
21. The numerical value is 6, and the direction is to the right.  
23. The numerical value is 0, and it has no direction.  
25. Integer, rational      27. Rational  
29. Natural, whole, integer, rational      31.  $\frac{6}{9} = \frac{2}{3}$       33.  $\frac{12}{99} = \frac{4}{33}$

### Section 1.3

3. 3      5. -5      7. -9      9. 10  
11. 3      13. -2      15. 0      17. 0

- |               |               |                |               |
|---------------|---------------|----------------|---------------|
| <b>19.</b> 1  | <b>21.</b> -1 | <b>23.</b> 6   | <b>25.</b> -3 |
| <b>27.</b> 18 | <b>29.</b> 14 | <b>31.</b> 0   | <b>33.</b> 1  |
| <b>35.</b> 43 | <b>37.</b> 15 | <b>39.</b> 36  | <b>41.</b> 2  |
| <b>43.</b> -2 | <b>45.</b> -8 | <b>47.</b> -10 | <b>49.</b> -2 |
| <b>51.</b> -9 | <b>53.</b> 4  | <b>55.</b> -3  | <b>57.</b> 1  |
| <b>59.</b> 25 | <b>61.</b> 9  |                |               |

### Section 1.4

- |                 |                |               |                |
|-----------------|----------------|---------------|----------------|
| <b>5.</b> 2     | <b>7.</b> -6   | <b>9.</b> 1   | <b>11.</b> 7   |
| <b>13.</b> 12   | <b>15.</b> 1   | <b>17.</b> -2 | <b>19.</b> -10 |
| <b>21.</b> 1    | <b>23.</b> 54  | <b>25.</b> -5 | <b>27.</b> -8  |
| <b>29.</b> -130 | <b>31.</b> -55 | <b>33.</b> 63 | <b>35.</b> 14  |
| <b>37.</b> 11   | <b>39.</b> 12  |               |                |

- 41.**  $-237 + 2,694 = 2,457$ ; Mike's new account balance was \$2,457. This is a credit.
- 43.**  $114 - 72 + 33 - 89 - 31 + 215 = 170$ ; Joni's account balance on Saturday was \$170. This is a credit.
- 45.**  $-11 + 15 = +4$ ; The temperature at 10:00 AM was  $4^{\circ}$ .
- 47.**  $5 - 14 = -9$ ; The new temperature was  $-9^{\circ}$ .
- 49.**  $5,280 - 2,519 = 2,761$ ; The difference in altitude is 2,761 feet.
- 51.**  $4,638 - (-784) = 5,422$ ; The difference in altitude is 5,422 feet.

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|---------------------------|---|---------------------------|---------------------------|
| <b>53.</b> $-\frac{2}{5}$ | <b>55.</b> $-\frac{3}{4}$   | <b>57.</b> $-\frac{1}{5}$ | <b>59.</b> $-\frac{1}{5}$ |
| <b>61.</b> $-\frac{1}{6}$ | <b>63.</b> $\frac{3}{10}$   | <b>65.</b> -1.3           | <b>67.</b> -0.237         |
| <b>69.</b> -1.33          | <b>71.</b> The sum of five (-3)'s: $(-3) + (-3) + (-3) + (-3) + (-3) = -15$ |                           |                           |
| <b>73.</b> 85             | <b>75.</b> 4  |                           |                           |

### Section 1.5

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|---------------------------|----------------|---------------------------|---------------------------|
| <b>5.</b> 6               | <b>7.</b> 90   | <b>9.</b> 0               | <b>11.</b> -1.4           |
| <b>13.</b> 27             | <b>15.</b> -6  | <b>17.</b> -180           | <b>19.</b> 2.4            |
| <b>21.</b> -315           | <b>23.</b> 120 | <b>25.</b> 24             | <b>27.</b> 14             |
| <b>29.</b> 4              | <b>31.</b> -5  | <b>33.</b> -8             | <b>35.</b> -46            |
| <b>37.</b> Undefined.     | <b>39.</b> 5   | <b>41.</b> $\frac{2}{21}$ | <b>43.</b> $-\frac{6}{5}$ |
| <b>45.</b> $\frac{1}{12}$ | <b>47.</b> +1  | <b>49.</b> 8              | <b>51.</b> $-\frac{1}{6}$ |

### Section 1.6

3. 2 and 5      5. 3 and 10      7. 2 and 12      9. 3 and 7  
11. No combination.      13. No combination.      15. -2 and -3      17. -7 and -4  
19. -9 and -4      21. -10 and -1      23. No combination.      25. -12 and -4  
27. 10 and -2      29. 6 and -5      31. No combination.      33. -6 and 7  
35. No combination.      37. -30 and 2      39. -10 and 6      41. 6 and -6  
43. No combination.      #45 through 53: Answers may vary.

### Section 1.7

3. 1      5. -16      7. -4      9. 8  
11. -9      13. Undefined.      15. 7      17. 8  
19. 1      21. -17      23. 49      25. 18  
27. -26      29. -80      31. -5      33. 36  
35. -50      37. 11      39. 12      41. -2  
43. -4      45. 1      47.  $\frac{1}{2}$       49. 7  
51.  $z = -3$       53.  $a = 5$       55.  $A = 18$       57. 16  
59. -1

### Section 1.8

5. 4,  $m$ , 2      7. 9, none, none      9. -1,  $d$ , 5  
11. a)  $3x^4$       b)  $-5x^3$       c) 1      d) -9      e) 4      f) 1  
13. 10      15. 14      17. 28      19. 25  
21.  $7x$       23.  $-a$       25.  $2y^2$       27. 0  
29.  $-6k$       31.  $2s + 4m$       33.  $10y$       35.  $6c$   
37.  $-8y^2$       39.  $-y$       41.  $\frac{7}{18}k$       43.  $-\frac{1}{5}b^2$   
45.  $11x + 3$       47.  $-x - 2$       49.  $4a - 5$       51.  $5w + 5w^2$   
53.  $-3x - 1$  or  $-1 - 3x$       55.  $-4c - 4b$   
57. No. Replacing  $x$  with 2 creates division by 0 which is not allowed.      59.  $16x + 54$

### Section 1.9

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|-------------------|--------------------|-------------------|----------------|
| 5. $40w$          | 7. $28r$           | 9. $-35x$         | 11. $x$        |
| 13. $16x + 8$     | 15. $15w + 24$     | 17. $35x - 40$    | 19. $-30p + 5$ |
| 21. $-8x - 40$    | 23. $-30x^2 - 12x$ | 25. $15w^2 + 35y$ | 27. $-x - 4$   |
| 29. $-4y^3 + 28y$ | 31. $-35m^3 - 5m$  | 33. $24w^2$       | 35. $-30m^4$   |
| 37. $15x^2 - 35x$ | 39. $18m^3 - 6m^2$ |                   |                |

### Section 1.10

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|--|-----------------------------------|---------------------|
| 5. Multiplication; Product                                 | 7. Exponent; Power                |                     |
| 9. Division; Quotient                                      | 11. Division; Quotient            |                     |
| 13. $x - 15$   | 15. $x \div 18$                   | 17. $x \cdot 9$     |
| 19. The difference of a number and 8                       | 21. The product of 3 and a number |                     |
| 23. The square root of a number                            | 25. The sum of $x^2$ and 6        |                     |
| 27. The product of 6 and $(m + 8)$                         | 29. The square root of $25 - x$   |                     |
| 31. The difference of 10 and the square of a number        |                                   |                     |
| 33. The product of 5 and the difference of 4 and a number  |                                   |                     |
| 35. The 5 <sup>th</sup> power of the sum of a number and 1 |                                   |                     |
| 37. $x^2 \div 4$   | 39. $\sqrt{x} - 9$                | 41. $(8 \cdot x)^2$ |
| 43. $\sqrt{x+2}$   | 45. $ x+9 $                       | 47. $-x \cdot 9$    |
| 49. $6^2 \div 4 = 9$                                       | 51. $(4-7)^2 = 9$                 |                     |