

***Business Mathematics 14th edition Clendenen
Solutions Manual***

SKU: 9780134693323-SOLUTIONS

1.1 Whole Numbers

1. 7040
seven thousand, forty
2. 5310
five thousand, three hundred ten
3. 37,901
thirty-seven thousand, nine hundred one
4. 725,069
seven hundred twenty-five thousand, sixty-nine
5. 4,650,015
four million, six hundred fifty thousand, fifteen
6. 3,765,041,000
three billion, seven hundred sixty-five million, forty-one thousand
7. 2065 to the nearest ten is 2070.
Draw a line under the tens digit.
$$\begin{array}{r} 20\text{ }\underline{6}5 \end{array}$$

Since the digit to the right of that place is 5, increase the tens digit by 1. Change all digits to the right of the tens place to zero.

2065 to the nearest hundred is 2100.
Draw a line under the hundreds digit.
$$\begin{array}{r} 20\text{ }\underline{6}5 \end{array}$$

Since the digit to the right of that place is 6, increase the hundreds digit by 1. Change all digits to the right of the hundreds place to zero.

2065 to the nearest thousand is 2000.
Draw a line under the thousands digit.
$$\begin{array}{r} 20\text{ }\underline{6}5 \end{array}$$

Since the digit to the right of that place is 0, do not change the thousands digit. Change all digits to the right of the thousands place to zero.

8. 8385 to the nearest ten is 8390.
Draw a line under the tens digit.
$$\begin{array}{r} 83\text{ }\underline{8}5 \end{array}$$

Since the digit to the right of that place is 5, increase the tens digit by 1. Change all digits to the right of the tens place to zero.

8385 to the nearest hundred is 8400.
Draw a line under the hundreds digit.
$$\begin{array}{r} 83\text{ }\underline{8}5 \end{array}$$

Since the digit to the right of that place is 8, increase the hundreds digit by 1. Change all digits to the right of the hundreds place to zero.

8385 to the nearest thousand is 8000.
Draw a line under the thousands digit.
$$\begin{array}{r} 83\text{ }\underline{8}5 \end{array}$$

Since the digit to the right of that place is 3, do not change the thousands digit. Change all digits to the right of the thousands place to zero.
9. 46,231 to the nearest ten is 46,230.
Draw a line under the tens digit.
$$\begin{array}{r} 46,2\text{ }\underline{3}1 \end{array}$$

Since the digit to the right of that place is 1, do not change the tens digit. Change all digits to the right of the tens place to zero.

46,231 to the nearest hundred is 46,200.
Draw a line under the hundreds digit.
$$\begin{array}{r} 46,2\text{ }\underline{3}1 \end{array}$$

Since the digit to the right of that place is 3, do not change the hundreds digit. Change all digits to the right of the hundreds place to zero.

46,231 to the nearest thousand is 46,000.
Draw a line under the thousands digit.
$$\begin{array}{r} 46,2\text{ }\underline{3}1 \end{array}$$

Since the digit to the right of that place is 2, do not change the thousands digit. Change all digits to the right of the thousands place to zero.

10. 55,175 to the nearest ten is 55,180.

Draw a line under the tens digit.

55,175

Since the digit to the right of that place is 5, increase the tens digit by 1. Change all digits to the right of the tens place to zero.

55,175 to the nearest hundred is 55,200.

Draw a line under the hundreds digit.

55,175

Since the digit to the right of that place is 7, increase the hundreds digit by 1. Change all digits to the right of the hundreds place to zero.

55,175 to the nearest thousand is 55,000.

Draw a line under the thousands digit.

55,175

Since the digit to the right of that place is 1, do not change the thousands digit. Change all digits to the right of the thousands place to zero.

11. 106,054 to the nearest ten is 106,050.

Draw a line under the tens digit.

106,054

Since the digit to the right of that place is 4, do not change the tens digit. Change all digits to the right of the tens place to zero.

106,054 to the nearest hundred is 106,100.

Draw a line under the hundreds digit.

106,054

Since the digit to the right of that place is 5, increase the hundreds digit by 1. Change all digits to the right of the hundreds place to zero.

106,054 to the nearest thousand is 106,000.

Draw a line under the thousands digit.

106,054

Since the digit to the right of that place is 0, do not change the thousands digit. Change all digits to the right of the thousands place to zero.

12. 359,874 to the nearest ten is 359,870.

Draw a line under the tens digit.

359,874

Since the digit to the right of that place is 4, do not change the tens digit. Change all digits to the right of the tens place to zero.

359,874 to the nearest hundred is 359,900.

Draw a line under the hundreds digit.

359,874

Since the digit to the right of that place is 7, increase the hundreds digit by 1. Change all digits to the right of the hundreds place to zero.

359,874 to the nearest thousand is 360,000.

Draw a line under the thousands digit.

359,874

Since the digit to the right of that place is 8, increase the thousands digit by 1. 59 increased by 1 is 60. Change all other digits to the right of the thousands place to zero.

13. Answers will vary.

14. Answers will vary.

$$\begin{array}{r} 15. \quad 75 \\ \quad 63 \\ \quad 45 \\ \quad + 27 \\ \hline \quad 210 \end{array}$$

$$\begin{array}{r} 16. \quad 57 \\ \quad 26 \\ \quad 43 \\ \quad + 18 \\ \hline \quad 144 \end{array}$$

$$\begin{array}{r} 17. \quad 875 \\ \quad 364 \\ \quad 171 \\ \quad + 776 \\ \hline \quad 2186 \end{array}$$

$$\begin{array}{r} 18. \quad 135 \\ \quad 594 \\ \quad 415 \\ \quad + 276 \\ \hline \quad 1420 \end{array}$$

$$\begin{array}{r}
 19. \quad 750 \\
 \quad 91 \\
 \quad 8 \\
 \quad 540 \\
 + \quad 7 \\
 \hline
 1396
 \end{array}$$

$$\begin{array}{r}
 20. \quad 371 \\
 \quad 45 \\
 \quad 839 \\
 \quad 3 \\
 + \quad 47 \\
 \hline
 1305
 \end{array}$$

$$\begin{array}{r}
 21. \quad 311,479 \\
 \quad 77,631 \\
 + \quad 594,383 \\
 \hline
 983,493
 \end{array}$$

$$\begin{array}{r}
 22. \quad 803,526 \\
 \quad 759,991 \\
 + \quad 36,024 \\
 \hline
 1,599,541
 \end{array}$$

$$\begin{array}{r}
 23. \quad 896 \\
 - \quad 228 \\
 \hline
 668
 \end{array}$$

$$\begin{array}{r}
 24. \quad 757 \\
 - \quad 286 \\
 \hline
 471
 \end{array}$$

$$\begin{array}{r}
 25. \quad 3715 \\
 - \quad 838 \\
 \hline
 2877
 \end{array}$$

$$\begin{array}{r}
 26. \quad 6215 \\
 - \quad 767 \\
 \hline
 5448
 \end{array}$$

$$\begin{array}{r}
 27. \quad 65,198 \\
 - \quad 43,652 \\
 \hline
 21,546
 \end{array}$$

$$\begin{array}{r}
 28. \quad 445,193 \\
 - \quad 62,785 \\
 \hline
 382,408
 \end{array}$$

$$\begin{array}{r}
 29. \quad 7,025,389 \\
 - \quad 936,490 \\
 \hline
 6,088,899
 \end{array}$$

$$\begin{array}{r}
 30. \quad 9,807,943 \\
 - \quad 959,489 \\
 \hline
 8,848,454
 \end{array}$$

31. Adding across the rows, we get the following.

\$49,802	\$86,154
\$36,911	\$72,908
\$47,851	\$31,552
\$54,732	\$74,944
\$29,852	\$85,532
+ \$74,119	+ \$36,705
<u>\$293,267</u>	<u>\$387,795</u>

\$59,854	\$73,951
\$85,119	\$72,564
\$87,914	\$39,615
\$45,812	\$71,099
\$56,314	\$72,918
+ \$91,856	+ \$42,953
<u>\$426,869</u>	<u>\$373,100</u>

$$\begin{aligned}
 & \$293,267 + \$387,795 + \$426,869 + \$373,100 \\
 & = \$1,481,031
 \end{aligned}$$

Adding down the columns, we get the following.

\$49,802	\$36,911
\$86,154	\$72,908
\$59,854	\$85,119
+ \$73,951	+ \$72,564
<u>\$269,761</u>	<u>\$267,502</u>

\$47,851	\$54,732
\$31,552	\$74,944
\$87,914	\$45,812
+ \$39,615	+ \$71,099
<u>\$206,932</u>	<u>\$246,587</u>

\$29,852	\$74,119
\$85,532	\$36,705
\$56,314	\$91,856
+ \$72,918	+ \$42,953
<u>\$244,616</u>	<u>\$245,633</u>

$$\begin{aligned}
 & \$269,761 + \$267,502 + \$206,932 \\
 & + \$246,587 + \$244,616 + \$245,633 \\
 & = \$1,481,031
 \end{aligned}$$

32. Adding across the rows, we get the following.

\$29,806	\$92,143
\$31,712	\$86,599
\$40,909	\$97,194
\$32,514	\$72,815
\$18,902	\$89,500
+ \$23,514	+ \$63,754
<u>\$177,357</u>	<u>\$502,005</u>

\$31,802	\$15,746
\$39,515	\$12,986
\$58,192	\$32,325
\$32,544	\$41,983
\$41,920	\$39,814
+ \$48,732	+ \$20,605
<u>\$252,705</u>	<u>\$163,459</u>

$$\begin{aligned} & \$177,357 + \$502,005 + \$252,705 + \$163,459 \\ & = \$1,095,526 \end{aligned}$$

Adding down the columns, we get the following.

\$29,806	\$31,712
\$92,143	\$86,599
\$31,802	\$39,515
+ \$15,746	+ \$12,986
<u>\$169,497</u>	<u>\$170,812</u>

\$40,909	\$32,514
\$97,194	\$72,815
\$58,192	\$32,544
+ \$32,325	+ \$41,983
<u>\$228,620</u>	<u>\$179,856</u>

\$18,902	\$23,514
\$89,500	\$63,754
\$41,920	\$48,732
+ \$39,814	+ \$20,605
<u>\$190,136</u>	<u>\$156,605</u>

$$\begin{aligned} & \$169,497 + \$170,812 + \$228,620 \\ & + \$179,856 + \$190,136 + \$156,605 \\ & = \$1,095,526 \end{aligned}$$

33.
$$\begin{array}{r} 218 \\ \times 43 \\ \hline 654 \\ 872 \\ \hline 9374 \end{array}$$

34.
$$\begin{array}{r} 672 \\ \times 56 \\ \hline 4032 \\ 3360 \\ \hline 37,632 \end{array}$$

35.
$$\begin{array}{r} 1896 \\ \times 62 \\ \hline 3792 \\ 11376 \\ \hline 117,552 \end{array}$$

36.
$$\begin{array}{r} 7318 \\ \times 38 \\ \hline 58544 \\ 21954 \\ \hline 278,084 \end{array}$$

37.
$$\begin{array}{r} 6452 \\ \times 263 \\ \hline 19356 \\ 38712 \\ 12904 \\ \hline 1,696,876 \end{array}$$

38.
$$\begin{array}{r} 7143 \\ \times 295 \\ \hline 35715 \\ 64287 \\ 14286 \\ \hline 2,107,185 \end{array}$$

39.
$$\begin{array}{r} 1109 \\ \times 7311 \\ \hline 1109 \\ 1109 \\ 3327 \\ 7763 \\ \hline 8,107,899 \end{array}$$

40.
$$\begin{array}{r} 9503 \\ \times 3411 \\ \hline 9503 \\ 9503 \\ 38012 \\ 28509 \\ \hline 32,414,733 \end{array}$$

41. Estimate Exact

$$\begin{array}{r} 8,000 \leftarrow 8,215 \\ 60 \leftarrow 56 \\ 700 \leftarrow 729 \\ + 4,000 \leftarrow + 3,605 \\ \hline 12,760 \qquad 12,605 \end{array}$$

42. Estimate Exact

$$\begin{array}{r} 3,000 \leftarrow 2,685 \\ 70 \leftarrow 73 \\ 600 \leftarrow 592 \\ + 7,000 \leftarrow + 7,183 \\ \hline 10,670 \qquad 10,533 \end{array}$$

43. Estimate Exact

$$\begin{array}{r} 800 \leftarrow 783 \\ - 200 \leftarrow - 238 \\ \hline 600 \qquad 545 \end{array}$$

44. Estimate Exact

$$\begin{array}{r} 900 \leftarrow 942 \\ - 300 \leftarrow - 286 \\ \hline 600 \qquad 656 \end{array}$$

45. Estimate Exact

$$\begin{array}{r} 600 \leftarrow 638 \\ \times 50 \leftarrow \times 47 \\ \hline 30,000 \qquad 29,986 \end{array}$$

46. Estimate Exact

$$\begin{array}{r} 900 \leftarrow 864 \\ \times 70 \leftarrow \times 74 \\ \hline 63,000 \qquad 63,936 \end{array}$$

47. $\begin{array}{r} 370 \\ \times 180 \\ \hline 66,600 \end{array}$ $\begin{array}{r} 37 \\ \times 18 \\ \hline 666 + 2 \text{ zeros} \end{array}$

48. $\begin{array}{r} 520 \\ \times 400 \\ \hline 208,000 \end{array}$ $\begin{array}{r} 52 \\ \times 4 \\ \hline 208 + 3 \text{ zeros} \end{array}$

49. $\begin{array}{r} 3760 \\ \times 6000 \\ \hline 22,560,000 \end{array}$ $\begin{array}{r} 376 \\ \times 6 \\ \hline 2256 + 4 \text{ zeros} \end{array}$

50. $\begin{array}{r} 7200 \\ \times 1300 \\ \hline 9,360,000 \end{array}$ $\begin{array}{r} 72 \\ \times 13 \\ \hline 936 + 4 \text{ zeros} \end{array}$

51. $\begin{array}{r} 1241 \text{ R1} \\ 4 \overline{)4965} \\ \underline{4} \\ 09 \\ \underline{8} \\ 16 \\ \underline{16} \\ 05 \\ \underline{4} \\ 1 \end{array}$

52. $\begin{array}{r} 1,887 \text{ R5} \\ 7 \overline{)13,214} \\ \underline{7} \\ 62 \\ \underline{56} \\ 61 \\ \underline{56} \\ 54 \\ \underline{49} \\ 5 \end{array}$

53. $\begin{array}{r} 458 \text{ R21} \\ 43 \overline{)19,715} \\ \underline{172} \\ 251 \\ \underline{215} \\ 365 \\ \underline{344} \\ 21 \end{array}$

54. $\begin{array}{r} 875 \text{ R77} \\ 93 \overline{)81,452} \\ \underline{744} \\ 705 \\ \underline{651} \\ 542 \\ \underline{465} \\ 77 \end{array}$

55. Answers will vary.

56. Answers will vary.

$$57. \begin{array}{r} 180 \overline{)429,350} \end{array} \quad \begin{array}{r} 2,385 \text{ R5} \\ 18 \overline{)42,935} \\ \underline{36} \\ 69 \\ \underline{54} \\ 153 \\ \underline{144} \\ 95 \\ \underline{90} \\ 5 \end{array}$$

$$58. \begin{array}{r} 320 \overline{)360,990} \end{array} \quad \begin{array}{r} 1,128 \text{ R3} \\ 32 \overline{)36,099} \\ \underline{32} \\ 40 \\ \underline{32} \\ 89 \\ \underline{64} \\ 259 \\ \underline{256} \\ 3 \end{array}$$

$$59. \begin{array}{r} 1300 \overline{)75,800} \end{array} \quad \begin{array}{r} 58 \text{ R4} \\ 13 \overline{)758} \\ \underline{65} \\ 108 \\ \underline{104} \\ 4 \end{array}$$

$$60. \begin{array}{r} 1600 \overline{)253,100} \end{array} \quad \begin{array}{r} 158 \text{ R3} \\ 16 \overline{)2531} \\ \underline{16} \\ 93 \\ \underline{80} \\ 131 \\ \underline{128} \\ 3 \end{array}$$

61. 2,443,000
two million, four hundred forty-three thousand

62. 8,534,350
eight million, five hundred thirty-four thousand, three hundred fifty

63. 3,200,000
three million, two hundred thousand

64. 18,036,650,000,000
eighteen trillion, thirty-six billion, six hundred fifty million

65. eight hundred fifty-four thousand, seven hundred ninety-five
854,795

66. two billion
2,000,000,000

67. fifty-six million, three hundred twelve thousand, seven hundred
56,312,700

68. six hundred forty-eight million
648,000,000

$$69. \begin{array}{r} 5000 \\ \times 40 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array} \quad + 4 \text{ zeros}$$

There are 200,000 chips in 40 pounds.

$$70. \begin{array}{r} 61,000,000 \\ \times 30 \\ \hline \end{array} \quad \begin{array}{r} 61 \\ \times 3 \\ \hline 183 \end{array} \quad + 7 \text{ zeros}$$

1,830,000,000 Hershey Kisses can be produced in 30 days.

$$71. 900 + 400 + 500 + 200 = 2000 \\ 2000 \div 4 = 500$$

Jim restocks 500 items per hour.

$$72. 1801 + 927 + 2088 + 580 + 1049 = 6445 \\ 6445 \div 5 = 1289$$

There is an average of 1289 sold per week.

73. A total of $6 + 15 + 10 + 5 = 36$ rafts were rented.

$$\begin{array}{l} 6 \times \$70 = \$420 \\ 15 \times \$95 = \$1425 \\ 10 \times \$165 = \$1650 \\ 5 \times \$180 = \$900 \\ 36 \times \$3 = \$108 \end{array}$$

$$\$420 + \$1425 + \$1650 + \$900 + \$108 = \$4503$$

Total receipts were \$4503.

74. A total of $38 + 73 + 58 + 46 = 215$ rafts were rented.

$$\begin{array}{l} 38 \times \$70 = \$2660 \\ 73 \times \$95 = \$6935 \\ 58 \times \$165 = \$9570 \\ 46 \times \$180 = \$8280 \\ 215 \times \$3 = \$645 \end{array}$$

$$\$2660 + \$6935 + \$9570 + \$8280 + \$645 = \$28,090$$

Total receipts were \$28,090.

75. $51,062 + 27,870 + 24,912 + 24,353$
 $= 128,197$
 There were 128,197 thousand or 128,197,000 egg-laying chickens in the top four states.

76. $50,000 + 30,000 + 20,000$
 $+ 20,000 + 20,000 + 20,000$
 $= 160,000$
 The total number of egg-laying chickens from all states shown is 160,000 thousand or 160,000,000.

77. $51,062 - 18,769 = 32,293$
 There are 32,293 thousand or 32,293,000 more egg-laying chickens in Iowa than in Texas.

78. $(51,062 + 27,870) - (20,024 + 18,769)$
 $= 78,932 - 38,793$
 $= 40,139$
 There are 40,139 thousand or 40,139,000 more egg-laying chickens in Iowa and Ohio combined compared to California and Texas combined.

79. $12.5 \times 1000 = 12,500$
 There are 12,500 Dollar General stores.

80. $4.5 \times 1000 = 4500$
 There are 4500 Walmart stores.

81. Amazon has the fewest retail stores. There is no cart, meaning that there are fewer than 100 stores.

82. $\$340.0 - \$73.2 = \$266.8$ billion
 The difference in annual sales between Walmart and Target is \$266.8 billion.

83. $\$83.5 - \$73.2 = \$10.3$ billion
 Costco has more \$10.3 billion more in sales.

84. $12.5 \times 1000 = 12,500$ Dollar General stores
 $8 \times 1000 = 8000$ Walgreens stores
 $12,500 - 8000 = 4500$
 Dollar General has 4500 more retail stores than Walgreens.

1.2 Application Problems

1. $602 + 935 + 1328 + 757 + 1586 = 5208$
 Subway sold 5208 sandwiches.

2. $80 + 75 + 135 + 40 + 52 = 382$
 Rob rode 382 miles.

3. $3 - 1 = 2$ trillion
 2 trillion additional miles per year were driven.

4. $405 - 328 = 77$
 The amount of carbon dioxide increased by 77 parts per million.

5. $4.7 \times 253,000,000 = 1,189,100,000$
 1,189,100,000 metric tons of carbon dioxide are emitted per year in the U.S.

6. $19 \times 850,000 = 16,150,000$
 There were approximately 16,150,000 World War II veterans.

7. $8375 - 762 = 7613$
 $7613 + 976 = 8589$
 The weight of the boat is 8589 pounds.

8. $(\$195 + \$180 + \$205) - (\$85 + \$62 + \$92)$
 $= \$580 - \$239 = \$341$
 The savings is \$341.

9. $\$499 - \$435 = \$64$
 The decrease in price was \$64.

10. $21,375 - 9250 = 12,125$
 The weight of the firewood is 12,125 pounds.

11. $43,560 \times 140 = 6,098,400$
 There are 6,098,400 square feet in 140 acres.

12. $3000 \times 365 = 1,095,000$
 1,095,000 checks are processed in a year.

13. $\$225 - \$75 = \$150$, $7 \times \$150 = \1050
 The amount saved is \$1050.

14. $\$645 - \$74 = \$571$; $4 \times \$571 = \2284
 The amount saved is \$2284.

15. $6 \times \$1256 = \$ 7,536$
 $15 \times \$895 = \$13,425$
 Total = \$20,961
 The total cost is \$20,961.

16. $32 \times \$1538 = \$49,216$
 $28 \times \$887 = \$24,836$
 Total = $\$74,052$
 The total cost is \$74,052.

17. $\$7588 - \$838 = \$6750$
 $\$6750$ was raised.
 $\$6750 \div 18 = \375
 Each team received \$375.

18. $(\$60 \times 2) - \$98 = \$120 - \$98 = \$22$
 The total profit per hour is \$22.
 $\$22 \times 35 = \770
 Smith's profit for the week is \$770.

19. $30 \times 25 = 750$
 $1250 - 750 = 500$
 There are 500 balcony seats.
 $500 \div 25 = 20$
 There must be 20 seats in each row.

20. $82 \times 40 \times 5 \times 50 = 820,000$
 There are 820,000 calls per year.
 $820,000 \div 17,000 = 48 \text{ R}4000$,
 which rounds to 49.
 A minimum of 49 call center operators are needed.

1.3 Decimal Numbers

1. .38
thirty-eight hundredths
2. .91
ninety-one hundredths
3. 5.61
five and sixty-one hundredths
4. 6.53
six and fifty-three hundredths
5. 7.408
seven and four hundred eight thousandths
6. 1.254
one and two hundred fifty-four thousandths
7. 37.593
thirty-seven and five hundred ninety-three thousandths

8. 20.903
twenty and nine hundred three thousandths
9. 4.0062
four and sixty-two ten-thousandths
10. 9.0201
nine and two hundred one ten-thousandths
11. Answers will vary.
12. Answers will vary.
13. four hundred thirty-eight and four tenths
438.4
14. six hundred five and seven tenths
605.7
15. ninety-seven and sixty-two hundredths
97.62
16. seventy-one and thirty-three hundredths
71.33
17. one and five hundred seventy-three ten-thousandths
1.0573
18. nine and three hundred eight ten-thousandths
9.0308
19. three and five thousand eight hundred twenty-seven ten-thousandths
3.5827
20. two thousand seventy-four ten-thousandths
.2074
21. $\$11.99 \div 2 = \$5.995 \approx \$6.00$
Zagorin pays \$6.00.
22. $\$69.94 \div 4 = \$17.485 \approx \$17.49$
Zagorin pays \$17.49.
23. $\$1.75 \div 3 \approx \$0.58333 \approx \$0.58$
Zagorin pays \$.58.
24. $\$3.94 \div 6 \approx \$0.65666 \approx \$0.66$
Zagorin pays \$.66.
25. $\$11.98 \div 3 \approx \$3.993 \approx \$3.99$
Zagorin pays \$3.99.
26. $\$37.46 \div 5 = \$7.492 \approx \$7.49$
Zagorin pays \$7.49.

27. 3.5218 to the nearest tenth is 3.5.

Locate the tenths digit and draw a line.

$$3.5|218$$

Since the digit to the right of the line is 2, leave the tenths digit alone.

3.5218 to the nearest hundredth is 3.52.

Locate the hundredths digit and draw a line.

$$3.52|18$$

Since the digit to the right of the line is 1, leave the hundredths digit alone.

3.5218 to the nearest thousandth is 3.522.

Locate the hundredths digit and draw a line.

$$3.512|8$$

Since the digit to the right of the line is 8, increase the thousandths digit by 1.

28. 4.836 to the nearest tenth is 4.8.

Locate the tenths digit and draw a line.

$$4.8|36$$

Since the digit to the right of the line is 3, leave the tenths digit alone.

4.836 to the nearest hundredth is 4.84.

Locate the hundredths digit and draw a line.

$$4.83|6$$

Since the digit to the right of the line is 6, increase the hundredths digit by 1.

4.836 to the nearest thousandth is 4.836.

Locate the hundredths digit and draw a line.

$$4.836|0$$

Since the digit to the right of the line is 0, leave the thousandths digit alone.

29. 2.54836 to the nearest tenth is 2.5.

Locate the tenths digit and draw a line.

$$2.5|4836$$

Since the digit to the right of the line is 4, leave the tenths digit alone.

2.54836 to the nearest hundredth is 2.55.

Locate the hundredths digit and draw a line.

$$2.54|836$$

Since the digit to the right of the line is 8, increase the hundredths digit by 1.

2.54836 to the nearest thousandth is 2.548.

Locate the thousandths digit and draw a line.

$$2.548|36$$

Since the digit to the right of the line is 3, leave the thousandths digit alone.

30. 7.44652 to the nearest tenth is 7.4.

Locate the tenths digit and draw a line.

$$7.4|4652$$

Since the digit to the right of the line is 4, leave the tenths digit alone.

7.44652 to the nearest hundredth is 7.45.

Locate the hundredths digit and draw a line.

$$7.44|652$$

Since the digit to the right of the line is 6, increase the hundredths digit by 1.

7.44652 to the nearest thousandth is 7.447.

Locate the thousandths digit and draw a line.

$$7.446|52$$

Since the digit to the right of the line is 5, increase the thousandths digit by 1.

31. 27.32451 to the nearest tenth is 27.3.

Locate the tenths digit and draw a line.

$$27.3|2451$$

Since the digit to the right of the line is 2, leave the tenths digit alone.

27.32451 to the nearest hundredth is 27.32.

Locate the hundredths digit and draw a line.

$$27.32|451$$

Since the digit to the right of the line is 4, leave the hundredths digit alone.

27.32451 to the nearest thousandth is 27.325.

Locate the thousandths digit and draw a line.

$$27.324|51$$

Since the digit to the right of the line is 5, increase the thousandths digit by 1.

32. 89.53796 to the nearest tenth is 89.5.

Locate the tenths digit and draw a line.

$$89.5|3796$$

Since the digit to the right of the line is 3, leave the tenths digit alone.

89.53796 to the nearest hundredth is 89.54.

Locate the hundredths digit and draw a line.

$$89.53|796$$

Since the digit to the right of the line is 7, increase the hundredths digit by 1.

89.53796 to the nearest thousandth is 89.538.

Locate the thousandths digit and draw a line.

$$89.537|96$$

Since the digit to the right of the line is 9, increase the thousandths digit by 1.

33. 36.47249 to the nearest tenth is 36.5.
Locate the tenths digit and draw a line.

$$36.4\overline{)7249}$$

Since the digit to the right of the line is 7, increase the tenths digit by 1.

- 36.47249 to the nearest hundredth is 36.47.
Locate the hundredths digit and draw a line.

$$36.47\overline{)249}$$

Since the digit to the right of the line is 2, leave the hundredths digit alone.

- 36.47249 to the nearest thousandth is 36.472.
Locate the thousandths digit and draw a line.

$$36.472\overline{)49}$$

Since the digit to the right of the line is 4, leave the thousandths digit alone.

34. 58.95651 to the nearest tenth is 59.0.
Locate the tenths digit and draw a line.

$$58.9\overline{)5651}$$

Since the digit to the right of the line is 5, increase the tenths digit by 1. 58.9 increased by .1 is 59.0.

- 58.95651 to the nearest hundredth is 58.96.
Locate the hundredths digit and draw a line.

$$58.95\overline{)651}$$

Since the digit to the right of the line is 6, increase the hundredths digit by 1.

- 58.95651 to the nearest thousandth is 58.957.
Locate the thousandths digit and draw a line.

$$58.956\overline{)51}$$

Since the digit to the right of the line is 5, increase the thousandths digit by 1.

35. .0562 to the nearest tenth is .1.
Locate the tenths digit and draw a line.

$$.0\overline{)562}$$

Since the digit to the right of the line is 5, increase the tenths digit by 1.

- .0562 to the nearest hundredth is .06.
Locate the hundredths digit and draw a line.

$$.05\overline{)62}$$

Since the digit to the right of the line is 6, increase the hundredths digit by 1.

- .0562 to the nearest thousandth is .056.
Locate the thousandths digit and draw a line.

$$.056\overline{)2}$$

Since the digit to the right of the line is 2, leave the thousandths digit alone.

36. .0789 to the nearest tenth is .1.
Locate the tenths digit and draw a line.

$$.0\overline{)789}$$

Since the digit to the right of the line is 7, increase the tenths digit by 1.

- .0789 to the nearest hundredth is .08.
Locate the hundredths digit and draw a line.

$$.07\overline{)89}$$

Since the digit to the right of the line is 8, increase the hundredths digit by 1.

- .0789 to the nearest thousandth is .079.
Locate the thousandths digit and draw a line.

$$.078\overline{)9}$$

Since the digit to the right of the line is 9, increase the thousandths digit by 1.

37. \$5.056 $\approx$ \$5.06
Locate the digit representing the cent and draw a vertical line.

$$\$5.05\overline{)6}$$

Since the digit to the right of the line is 6, increase the cent digit by 1.

38. \$16.519 $\approx$ \$16.52
Locate the digit representing the cent and draw a vertical line.

$$\$16.51\overline{)9}$$

Since the digit to the right of the line is 9, increase the cent digit by 1.

39. \$32.493 $\approx$ \$32.49
Locate the digit representing the cent and draw a vertical line.

$$\$32.49\overline{)3}$$

Since the digit to the right of the line is 3, leave the cent digit alone.

40. \$375.003 $\approx$ \$375.00
Locate the digit representing the cent and draw a vertical line.

$$\$375.00\overline{)3}$$

Since the digit to the right of the line is 3, leave the cent digit alone.

41. \$382.005 $\approx$ \$382.01
Locate the digit representing the cent and draw a vertical line.

$$\$382.00\overline{)5}$$

Since the digit to the right of the line is 5, increase the cent digit by 1.

42. $\$12,802.965 \approx \$12,802.97$

Locate the digit representing the cent and draw a vertical line.

$$\$12,802.96|5$$

Since the digit to the right of the line is 5, increase the cent digit by 1.

43. $\$42.137 \approx \42.14

Locate the digit representing the cent and draw a vertical line.

$$\$42.13|7$$

Since the digit to the right of the line is 7, increase the cent digit by 1.

44. $\$.846 \approx \$.85$

Locate the digit representing the cent and draw a vertical line.

$$$.84|6$$

Since the digit to the right of the line is 6, increase the cent digit by 1.

45. $\$.0015 \approx \$.00$

Locate the digit representing the cent and draw a vertical line.

$$$.00|15$$

Since the digit to the right of the line is 1, leave the cent digit alone.

46. $\$.008 \approx \$.01$

Locate the digit representing the cent and draw a vertical line.

$$$.00|8$$

Since the digit to the right of the line is 8, increase the cent digit by 1.

47. $\$1.5002 \approx \1.50

Locate the digit representing the cent and draw a vertical line.

$$\$1.50|02$$

Since the digit to the right of the line is 0, leave the cent digit alone.

48. $\$7.6009 \approx \7.60

Locate the digit representing the cent and draw a vertical line.

$$\$7.60|09$$

Since the digit to the right of the line is 0, leave the cent digit alone.

49. $\$1.995 \approx \2.00

Locate the digit representing the cent and draw a vertical line.

$$\$1.99|5$$

Since the digit to the right of the line is 5, increase the cent digit by 1.

50. $\$28.994 \approx \28.99

Locate the digit representing the cent and draw a vertical line.

$$\$28.99|4$$

Since the digit to the right of the line is 4, leave the cent digit alone.

51. $\$752.798 \approx \752.80

Locate the digit representing the cent and draw a vertical line.

$$\$752.79|8$$

Since the digit to the right of the line is 8, increase the cent digit by 1.

52. $\$8.58 \approx \9

Locate the digit representing the dollar and draw a vertical line.

$$\$8.|58$$

Since the digit to the right of the line is 5, increase the dollar digit by 1.

53. $\$26.49 \approx \26

Locate the digit representing the dollar and draw a vertical line.

$$\$26.|49$$

Since the digit to the right of the line is 4, leave the dollar digit alone.

54. $\$.57 \approx \1

Locate the digit representing the dollar and draw a vertical line.

$$$.|57$$

Since the digit to the right of the line is 5, increase the dollar digit by 1.

55. $\$.49 \approx \0

Locate the digit representing the dollar and draw a vertical line.

$$$.|49$$

Since the digit to the right of the line is 4, leave the dollar digit alone.

56. $\$299.76 \approx \300

Locate the digit representing the dollar and draw a vertical line.

$$\$299.\overline{|}76$$

Since the digit to the right of the line is 7, increase the dollar digit by 1. \$299 increased by 1 is \$300.

57. $\$12,836.38 \approx \$12,836$

Locate the digit representing the dollar and draw a vertical line.

$$\$12,836.\overline{|}38$$

Since the digit to the right of the line is 3, leave the dollar digit alone.

58. $\$268.72 \approx \269

Locate the digit representing the dollar and draw a vertical line.

$$\$268.\overline{|}72$$

Since the digit to the right of the line is 7, increase the dollar digit by 1.

59. $\$395.18 \approx \395

Locate the digit representing the dollar and draw a vertical line.

$$\$395.\overline{|}18$$

Since the digit to the right of the line is 1, leave the dollar digit alone.

60. $\$666.66 \approx \667

Locate the digit representing the dollar and draw a vertical line.

$$\$666.\overline{|}66$$

Since the digit to the right of the line is 6, increase the dollar digit by 1.

61. $\$4699.62 \approx \4700

Locate the digit representing the dollar and draw a vertical line.

$$\$4699.\overline{|}62$$

Since the digit to the right of the line is 6, increase the dollar digit by 1. \$4699 increased by 1 is \$4700.

62. $\$11,285.13 \approx \$11,285$

Locate the digit representing the dollar and draw a vertical line.

$$\$11,285.\overline{|}13$$

Since the digit to the right of the line is 1, leave the dollar digit alone.

63. $\$378.59 \approx \379

Locate the digit representing the dollar and draw a vertical line.

$$\$378.\overline{|}59$$

Since the digit to the right of the line is 5, increase the dollar digit by 1.

64. $\$233.86 \approx \234

Locate the digit representing the dollar and draw a vertical line.

$$\$233.\overline{|}86$$

Since the digit to the right of the line is 8, increase the dollar digit by 1.

65. $\$722.38 \approx \722

Locate the digit representing the dollar and draw a vertical line.

$$\$722.\overline{|}38$$

Since the digit to the right of the line is 3, leave the dollar digit alone.

66. $\$8263.47 \approx \8263

Locate the digit representing the dollar and draw a vertical line.

$$\$8263.\overline{|}47$$

Since the digit to the right of the line is 3, leave the dollar digit alone.

67. Answers will vary.

68. Answers will vary.

1.4 Addition and Subtraction of Decimals

1. Estimate Exact

$$40 \quad \longleftarrow \quad 43.36$$

$$20 \quad \longleftarrow \quad 15.8$$

$$\begin{array}{r} + 9 \quad \longleftarrow \quad + 9.3 \\ \hline 69 \qquad \qquad 68.46 \end{array}$$

2. Estimate Exact

$$600 \quad \longleftarrow \quad 623.15$$

$$700 \quad \longleftarrow \quad 734.29$$

$$\begin{array}{r} + 700 \quad \longleftarrow \quad + 686.26 \\ \hline 2000 \qquad \qquad 2043.70 \end{array}$$

3. Estimate Exact

$$\begin{array}{r}
 6 \longleftarrow 6.23 \\
 4 \longleftarrow 3.6 \\
 5 \longleftarrow 5.1 \\
 7 \longleftarrow 7.2 \\
 + 2 \longleftarrow + 1.69 \\
 \hline
 24 \qquad 23.82
 \end{array}$$

4. Estimate Exact

$$\begin{array}{r}
 10 \longleftarrow 12.79 \\
 2 \longleftarrow 2.15 \\
 20 \longleftarrow 16.28 \\
 4 \longleftarrow 4.39 \\
 + 8 \longleftarrow + 7.61 \\
 \hline
 44 \qquad 43.22
 \end{array}$$

5. Estimate Exact

$$\begin{array}{r}
 2000 \longleftarrow 2156.38 \\
 5 \longleftarrow 5.26 \\
 3 \longleftarrow 2.791 \\
 + 7 \longleftarrow + 6.983 \\
 \hline
 2015 \qquad 2171.414
 \end{array}$$

6. Estimate Exact

$$\begin{array}{r}
 2000 \longleftarrow 1889.76 \\
 20 \longleftarrow 21.42 \\
 20 \longleftarrow 19.35 \\
 + 8 \longleftarrow + 8.1 \\
 \hline
 2048 \qquad 1938.63
 \end{array}$$

7. Estimate Exact

$$\begin{array}{r}
 6000 \longleftarrow 6133.78 \\
 500 \longleftarrow 506.124 \\
 20 \longleftarrow 18.63 \\
 + 8 \longleftarrow + 7.527 \\
 \hline
 6528 \qquad 6666.061
 \end{array}$$

8. Estimate Exact

$$\begin{array}{r}
 700 \longleftarrow 743.1 \\
 4000 \longleftarrow 3817.65 \\
 3 \longleftarrow 2.908 \\
 4000 \longleftarrow 4123.76 \\
 + 20 \longleftarrow + 21.98 \\
 \hline
 8723 \qquad 8709.398
 \end{array}$$

9. Estimate Exact

$$\begin{array}{r}
 2000 \longleftarrow 1798.419 \\
 70 \longleftarrow 68.32 \\
 500 \longleftarrow 512.807 \\
 600 \longleftarrow 643.9 \\
 + 400 \longleftarrow + 428. \\
 \hline
 3570 \qquad 3451.446
 \end{array}$$

10. 45.631

$$\begin{array}{r}
 15.8 \\
 7.234 \\
 + 19.63 \\
 \hline
 88.295
 \end{array}$$

11. 12.15

$$\begin{array}{r}
 6.83 \\
 61.75 \\
 19.218 \\
 + 73.325 \\
 \hline
 173.273
 \end{array}$$

12. 197.4

$$\begin{array}{r}
 83.72 \\
 17.43 \\
 25.63 \\
 + 1.4 \\
 \hline
 325.58
 \end{array}$$

13. 27.653

$$\begin{array}{r}
 18.7142 \\
 9.7496 \\
 + 3.21 \\
 \hline
 59.3268
 \end{array}$$

14. 73.618

$$\begin{array}{r}
 19.18 \\
 371.82 \\
 + 355.125 \\
 \hline
 819.743
 \end{array}$$

15. Answers will vary.

16. Answers will vary.

$$\begin{array}{l}
 17. \$1815.79 + \$2367.34 + \$1976.22 \\
 \quad + \$2155.81 + \$1698.14 + 2885.26 \\
 \quad + \$2239.63 = \$15,138.19 \\
 \text{The total weekly sales are \$15,138.19.}
 \end{array}$$

$$\begin{array}{l}
 18. \$85.25 + \$114.60 + \$129.40 = \$329.25 \\
 \text{The total is \$329.25.}
 \end{array}$$

$$\begin{array}{l}
 19. \$12.99 - \$1.89 = \$11.10 \\
 \text{The price of T-bone steak is \$11.10 per} \\
 \text{pound more than turkey.}
 \end{array}$$

$$\begin{array}{l}
 20. \$1530 - \$1238.73 = \$291.27 \\
 \text{Tuxon is paying \$291.27 above the average.}
 \end{array}$$

21. Estimate Problem

$$\begin{array}{r}
 20 \longleftarrow 19.74 \\
 - 7 \longleftarrow - 6.58 \\
 \hline
 13 \qquad 13.16
 \end{array}$$

22. Estimate Problem

$$\begin{array}{r} 40 \longleftarrow 35.86 \\ - 8 \longleftarrow - 7.91 \\ \hline 32 \qquad 27.95 \end{array}$$

23. Estimate Problem

$$\begin{array}{r} 50 \longleftarrow 51.215 \\ - 20 \longleftarrow - 19.708 \\ \hline 30 \qquad 31.507 \end{array}$$

24. Estimate Problem

$$\begin{array}{r} 30 \longleftarrow 27.613 \\ - 20 \longleftarrow - 18.942 \\ \hline 10 \qquad 8.671 \end{array}$$

25. Estimate Problem

$$\begin{array}{r} 300 \longleftarrow 325.053 \\ - 90 \longleftarrow - 85.019 \\ \hline 210 \qquad 240.034 \end{array}$$

26. Estimate Problem

$$\begin{array}{r} 4000 \longleftarrow 3974.61 \\ - 900 \longleftarrow - 892.59 \\ \hline 3100 \qquad 3082.02 \end{array}$$

27. Estimate Problem

$$\begin{array}{r} 8 \longleftarrow 7.8 \\ - 3 \longleftarrow - 2.952 \\ \hline 5 \qquad 4.848 \end{array}$$

28. Estimate Problem

$$\begin{array}{r} 30 \longleftarrow 27.8 \\ - 10 \longleftarrow - 13.582 \\ \hline 20 \qquad 14.218 \end{array}$$

29. Estimate Problem

$$\begin{array}{r} 5 \longleftarrow 5 \\ - 2 \longleftarrow - 1.9802 \\ \hline 3 \qquad 3.0198 \end{array}$$

- 30.
- $\$60,375.82 + \$3280.18 + \$75.53$

$$= \$63,731.53$$

Fernandez deposited \$63,731.53 in March.

- 31.
- $\$27,282.75 + \$4280.83 + \$12,252.23$

$$= \$43,815.81$$

Fernandez paid out \$43,815.81.

- 32.
- $\$5382.12 + \$63,731.53 - \$43,815.81$

$$= \$25,297.84$$

Her final balance was \$25,297.84.

1.5 Multiplication and Division of Decimals

1. Estimate Problem

$$\begin{array}{r} 100 \longleftarrow 96.8 \\ \times 4 \longleftarrow \times 4.2 \\ \hline 400 \qquad 406.56 \end{array}$$

2. Estimate Problem

$$\begin{array}{r} 20 \longleftarrow 16.6 \\ \times 4 \longleftarrow \times 4.2 \\ \hline 80 \qquad 69.72 \end{array}$$

3. Estimate Problem

$$\begin{array}{r} 30 \longleftarrow 34.1 \\ \times 7 \longleftarrow \times 6.8 \\ \hline 210 \qquad 231.88 \end{array}$$

4. Estimate Problem

$$\begin{array}{r} 70 \longleftarrow 70.35 \\ \times 8 \longleftarrow \times 8.06 \\ \hline 560 \qquad 567.021 \end{array}$$

5. Estimate Problem

$$\begin{array}{r} 40 \longleftarrow 43.8 \\ \times 2 \longleftarrow \times 2.04 \\ \hline 80 \qquad 89.352 \end{array}$$

6. Estimate Problem

$$\begin{array}{r} 70 \longleftarrow 69.3 \\ \times 3 \longleftarrow \times 2.81 \\ \hline 210 \qquad 194.733 \end{array}$$

- 7.
- $.532 \longleftarrow 3 \text{ decimals}$

$$\begin{array}{r} \times 3.6 \longleftarrow 1 \text{ decimal} \\ \hline 3192 \end{array}$$

$$\begin{array}{r} 1596 \\ \hline 1.9152 \longleftarrow 4 \text{ decimals} \end{array}$$

- 8.
- $.259 \longleftarrow 3 \text{ decimals}$

$$\begin{array}{r} \times 6.2 \longleftarrow 1 \text{ decimal} \\ \hline 518 \end{array}$$

$$\begin{array}{r} 1554 \\ \hline 1.6058 \longleftarrow 4 \text{ decimals} \end{array}$$

- 9.
- $21.7 \longleftarrow 1 \text{ decimal}$

$$\begin{array}{r} \times .431 \longleftarrow 3 \text{ decimals} \\ \hline 217 \end{array}$$

$$\begin{array}{r} 651 \\ 868 \\ \hline 9.3527 \longleftarrow 4 \text{ decimals} \end{array}$$

$$\begin{array}{r}
 10. \quad 76.9 \longleftarrow 1 \text{ decimal} \\
 \times .903 \longleftarrow 3 \text{ decimals} \\
 \hline
 2307 \\
 0 \\
 6921 \\
 \hline
 69.4407 \longleftarrow 4 \text{ decimals}
 \end{array}$$

$$\begin{array}{r}
 11. \quad .0408 \longleftarrow 4 \text{ decimal} \\
 \times .06 \longleftarrow 2 \text{ decimals} \\
 \hline
 2448 \\
 0 \\
 \hline
 .002448 \longleftarrow 6 \text{ decimals}
 \end{array}$$

$$\begin{array}{r}
 12. \quad 2481.9 \longleftarrow 1 \text{ decimal} \\
 \times .003 \longleftarrow 3 \text{ decimals} \\
 \hline
 74457 \\
 0 \\
 0 \\
 \hline
 7.4457 \longleftarrow 4 \text{ decimals}
 \end{array}$$

$$13. \quad 18.5 \times \$14.50 = \$268.25$$

$$14. \quad 36.6 \times \$9.85 = \$360.51$$

$$\begin{array}{r}
 15. \quad 27.9 \times \$11.42 = \$318.62 \\
 6.8 \times \$14.63 = \$99.48 \\
 \hline
 \$418.10
 \end{array}$$

$$\begin{array}{r}
 16. \quad 11.4 \times \$8.59 = \$97.93 \\
 23.9 \times \$10.06 = \$240.43 \\
 \hline
 \$338.36
 \end{array}$$

$$\begin{array}{r}
 17. \quad 8.075 \\
 6 \overline{)48.450} \\
 \underline{48} \\
 04 \\
 \underline{0} \\
 45 \\
 \underline{42} \\
 30 \\
 \underline{30} \\
 0
 \end{array}$$

$$\begin{array}{r}
 18. \quad 12.476 \\
 5 \overline{)62.380} \\
 \underline{5} \\
 12 \\
 \underline{10} \\
 23 \\
 \underline{20} \\
 38 \\
 \underline{35} \\
 30 \\
 \underline{30} \\
 0
 \end{array}$$

$$\begin{array}{r}
 19. \quad 27.442 \\
 15 \overline{)411.630} \\
 \underline{30} \\
 111 \\
 \underline{105} \\
 66 \\
 \underline{60} \\
 63 \\
 \underline{60} \\
 30 \\
 \underline{30} \\
 0
 \end{array}$$

$$\begin{array}{r}
 20. \quad 2.43 \overline{)9.6153} \\
 = 3.957 \text{ (rounded)}
 \end{array}
 \quad
 \begin{array}{r}
 3.9569 \\
 243 \overline{)961.5300} \\
 \underline{729} \\
 2325 \\
 \underline{2187} \\
 1383 \\
 \underline{1215} \\
 1680 \\
 \underline{1458} \\
 2220 \\
 \underline{2187} \\
 33
 \end{array}$$

$$\begin{array}{r}
 21. \quad .65 \overline{)37.6852} \\
 = 57.977 \text{ (rounded)}
 \end{array}
 \quad
 \begin{array}{r}
 57.9772 \\
 65 \overline{)3768.5200} \\
 \underline{325} \\
 518 \\
 \underline{455} \\
 635 \\
 \underline{585} \\
 502 \\
 \underline{455} \\
 470 \\
 \underline{455} \\
 150 \\
 \underline{130} \\
 20
 \end{array}$$

$$\begin{array}{r}
 22. \quad .28 \overline{)15.62} \\
 = 55.786 \text{ (rounded)}
 \end{array}
 \qquad
 \begin{array}{r}
 55.7857 \\
 28 \overline{)1562.0000} \\
 \underline{140} \\
 162 \\
 \underline{140} \\
 220 \\
 \underline{196} \\
 240 \\
 \underline{224} \\
 160 \\
 \underline{140} \\
 200 \\
 \underline{196} \\
 4
 \end{array}$$

23. Answers will vary.

24. Answers will vary.

25. $\$246,500 \times .06 = \$14,790$
The amount of commission was \$14,790.

26. $2.75 \times 4 = 11$
Janitha needs 11 yards of material.

27. $519 \div 10.2 = 50.9$
The Prius got 50.9 miles per gallon.

28. (a) $48 \times 4.3 = 206.4$
206.4 hours are worked each month.

(b) $\$2528 \div 206.4 = \12.25
The assistant manager's hourly earnings are \$12.25.

29. $\$1170.18 \div \$106.38 = 11$
It will take 11 months to pay off the balance.

30. $57.13 \div 1.62 \approx 35$
35 doses can be made.

31. (a) $.0043 \times 100 = .43$
The pile of one hundred \$100 bills would be .43 inch high.

(b) $.0043 \times 1000 = 4.3$
The pile of one thousand \$100 bills would be 4.3 inches high.

32. (a) $43 \div .0043 = 10,000$
There are 10,000 bills.

(b) $10,000 \times \$20 = \$200,000$
You would have \$200,000.

33. A total of $4 + 2 = 6$ shirts were ordered.

$$\begin{aligned}
 4 \times \$18.95 &= \$75.80 \\
 2 \times \$16.75 &= \$33.50 \\
 6 \times \$2 &= \$12
 \end{aligned}$$

$$\$75.80 + \$33.50 + \$12 = \$121.30 \text{ total price}$$

$$\begin{aligned}
 &\text{Total price + shipping} \\
 &= \$121.30 + \$7.95 = \$129.25 \\
 &\text{The total cost is } \$129.95.
 \end{aligned}$$

34. $5 \times \$18.95 = \94.75
 $3 \times \$21.95 = \65.85

$$\$94.75 + \$65.85 = \$160.60 \text{ total price}$$

$$\begin{aligned}
 &\text{Total price + shipping} \\
 &= \$160.60 + \$9.95 + \$4.25 = \$174.80 \\
 &\text{The total cost is } \$174.80.
 \end{aligned}$$

35. (a) Add to find the total for the shirts, monogram, and gift box.
 $3 \times \$14.75 = \44.25
 $\$44.25 + \$4.95 + \$4.95 + \$4.95 + \$5 = \64.10

$$\begin{aligned}
 &\text{Total price + shipping} \\
 &= \$64.10 + \$5.95 = \$70.05 \\
 &\text{The total cost is } \$70.05.
 \end{aligned}$$

(b) Monogram + gift box + shipping
 $= \$4.95 + \$4.95 + \$4.95 + \$5 + \$5.95 = \25.80
The monogram, gift box, and shipping added \$25.80 to the cost.

36. (a) Add to find the total for your shirts, with monogram on the solid-color shirts.
 $\$14.75 + \$16.75 + \$18.95 + \$21.95 + \$4.95 + \$4.95 = \$82.30$

$$\begin{aligned}
 &\text{Add to find the total for your father's size-XXL shirts, in a gift box.} \\
 &3 \times \$21.95 = \$65.85 \\
 &\$65.85 + \$2 + \$2 + \$2 + \$5 = \$76.85
 \end{aligned}$$

$$\begin{aligned}
 &\text{Total price} \\
 &= \$82.30 + \$76.85 = \$159.15
 \end{aligned}$$

$$\begin{aligned}
 &\text{Total price + shipping} \\
 &= \$159.15 + \$9.95 + \$4.25 = \$173.35 \\
 &\text{The total cost is } \$173.35.
 \end{aligned}$$

(b) $\$82.30 - \$76.85 = \$5.45$
The difference in total cost is \$5.45.

Case Study

1. $\$10,664 + \$3821 + \$3053 + \$2958 = \$20,496$
The combined cost is \$20,496.
2. $\$28,540 - \$24,168 = \$4372$
The difference in the average costs is \$4372.
3. $\$7500 \div \$42 \approx 178$
You can invite 178 guests.
 $\$42 \times 178 = \7476
 $\$7500 - \$7476 = \$24$
The amount remaining is \$24.
4. $\$5325 \div 115 \approx \$46.304 \approx \$46.30$
\$46.30 can be spent per person.
5. $\$22,000 - \$8000 = \$14,000$
 $\$14,000 \div \$650 \approx 21.538 \approx 22$
It will require 22 months for the couple to pay their share of the costs.

Case in Point Summary Exercise

1. $\$486.12 + \$1236.14 + \$364.76 + \$103.75 = \$2190.77$
The total of the invoice is \$2190.77.
2. $3.5 + 4.5 + 6 + \$5.5 = 19.5$
The total number of hours worked is 19.5.
 $19.5 \times \$8.65 = \168.68
The pay for the week is \$168.68.
3. $\$2065.48 - \$1864.92 = \$200.56$
The difference between the two is \$200.56.
 $\$200.56 \div \$0.94 \approx 213$
There are approximately 213 additional customers.
4. $\$168.32 \times 4 = \673.28
The amount spent on advertising is \$673.28.
 $\$10,984.76 \times 1.3 = \$14,280.19$
The revenue is approximately \$14,280.19.

Chapter 1 Test

1. 844 to the nearest ten is 840.
Draw a line under the tens digit.
 $\underline{84}4$
Since the digit to the right of that place is 4, do not change the tens digit. Change all digits to the right of the tens place to zero.
2. 21,958 to the nearest hundred is 22,000.
Draw a line under the hundreds digit.
 $21,\underline{9}58$
Since the digit to the right of that place is 5, increase the hundreds digit by 1, which increases the thousands digit by 1. Change all digits to the right of the thousands place to zero.
3. 671,529 to the nearest thousand is 672,000.
Draw a line under the thousands digit.
 $671,\underline{5}29$
Since the digit to the right of that place is 5, increase the thousands digit by 1. Change all digits to the right of the thousands place to zero.
4. $50,987 \approx 50,000$
Round the first digit and change all other digits to zero.
5. $851,004 \approx 900,000$
Round the first digit and change all other digits to zero.
6. $\$124 + \$88 + \$62 + \$137 + \$195 = \606
Katie's total amount of commissions is \$606.
7. $(3 \times \$1540) + (5 \times \$695) + (8 \times \$38) = \$4620 + \$3475 + \$304 = \$8399$
The total cost of the equipment is \$8399.
8. $\$21.0568 \approx \21.06
Locate the digit representing the cent and draw a vertical line.
 $\$21.05|68$
Since the digit to the right of the line is 6, increase the cent digit by 1.

9. $\$364.345 \approx \364.35

Locate the digit representing the cent and draw a vertical line.

$$\$364.34|5$$

Since the digit to the right of the line is 5, increase the cent digit by 1.

10. $\$7246.49 \approx \7246

Locate the digit representing the dollar and draw a vertical line.

$$\$7246.|49$$

Since the digit to the right of the line is 4, leave the dollar digit alone.

11. $9.6 + 8.42 + 3.715 + 159.8 = 181.535$

$$\begin{array}{r} 2.715 \\ 32.78 \\ 426.3 \\ + 37 \\ \hline 498.795 \end{array}$$

$$\begin{array}{r} 341.4 \\ - 207.8 \\ \hline 133.6 \end{array}$$

$$\begin{array}{r} 3.8 \\ - .0053 \\ \hline 3.7947 \end{array}$$

$$\begin{array}{r} 21.98 \leftarrow 2 \text{ decimals} \\ \times .72 \leftarrow 2 \text{ decimals} \\ \hline 4396 \\ 15386 \\ \hline 15.8256 \leftarrow 4 \text{ decimals} \end{array}$$

$$\begin{array}{r} 218.6 \leftarrow 1 \text{ decimal} \\ \times .037 \leftarrow 3 \text{ decimals} \\ \hline 15302 \\ 6558 \\ \hline 8.0882 \leftarrow 4 \text{ decimals} \end{array}$$

$$\begin{array}{r} 11.56 \\ 218 \overline{)2520.08} \\ \underline{218} \\ 340 \\ \underline{218} \\ 1220 \\ \underline{1090} \\ 1308 \\ \underline{1308} \\ 0 \end{array}$$

$$\begin{array}{r} 350 \\ 70 \overline{)24,500} \\ \underline{210} \\ 350 \\ \underline{350} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

$$\begin{array}{r} 23.8 \\ 241 \overline{)5735.8} \\ \underline{482} \\ 915 \\ \underline{723} \\ 1928 \\ \underline{1928} \\ 0 \end{array}$$

$$\begin{aligned} 20. & (24.8 \times \$1.89) + (38.2 \times \$4.52) \\ & = \$219.536 \approx \$219.54 \\ & \text{The final cost is } \$219.54. \end{aligned}$$

$$\begin{aligned} 21. & \$84.52 + \$55.75 + \$9.65 = \$149.92 \\ & \text{The cost per square is } \$149.92. \\ & \$149.92 \times 26.3 = \$3942.90 \\ & \text{The total cost is } \$3942.90. \end{aligned}$$

$$\begin{aligned} 22. & 3.4 - 1.6 = 1.8 \\ & 1.8 \text{ gallons of water are saved per flush.} \\ & 1.8 \times 22 \times 365 = 14,454 \\ & 14,454 \text{ gallons of water are saved in one year.} \end{aligned}$$

$$\begin{aligned} 23. & (135.5 \times \$86) + (12 \times \$2.18) = \$142.69 \\ & \text{The total cost was } \$142.69. \\ & (8 \times \$20) - \$142.69 = \$17.31 \\ & \text{Steve received } \$17.31 \text{ change.} \end{aligned}$$

$$\begin{aligned} 24. & \$1.74 \div 2.2 = \$7909 \approx \$7.9 \\ & \text{The price of bananas is } \$7.9 \text{ per pound.} \end{aligned}$$

$$\begin{aligned} 25. & 14.674 \div .058 = 253 \\ & 253 \text{ seedlings can be fertilized.} \end{aligned}$$

$$\begin{aligned} 26. & .65 \times 2 \times 7 = 9.1 \approx 9 \\ & 9 \text{ milliliters of antibiotics are needed.} \end{aligned}$$

$$\begin{aligned} 27. & \$36.95 \times 4 = \$147.80 \\ & \text{The cost of the phones is } \$147.80 \text{ per month.} \\ & \$147.80 - \$100 = \$47.80 \\ & \text{The monthly shortage is } \$47.80. \end{aligned}$$

BUSINESS MATHEMATICS

CHAPTER TEST FORMS

Round as indicated.

- | | |
|------------------------------------|----------|
| 1. 577 to the nearest ten | 1. _____ |
| 2. 29,568 to the nearest hundred | 2. _____ |
| 3. 478,236 to the nearest thousand | 3. _____ |

Round each of the following, using front-end rounding.

- | | |
|------------|----------|
| 4. 87,923 | 4. _____ |
| 5. 147,273 | 5. _____ |

Solve each word problem.

- | | |
|---|----------|
| 6. Michael Ross earned \$44 on Monday, \$36 on Tuesday, \$58 on Wednesday, took Thursday off, and earned \$51 on Friday. Find his total earnings for the week. | 6. _____ |
| 7. DT Publishing purchased four notebook computers, each costing \$2149, and three printers, each priced at \$399. Find the total cost of the new computer equipment. | 7. _____ |

Round as indicated.

- | | |
|------------------------------------|-----------|
| 8. \$8.0443 to the nearest cent | 8. _____ |
| 9. \$61.718 to the nearest cent | 9. _____ |
| 10. \$736.49 to the nearest dollar | 10. _____ |

Solve each problem.

- | | |
|--|-----------|
| 11. $5.7 + 4.74 + 56.5423 + 666.2$ | 11. _____ |
| 12. $\begin{array}{r} 365.812 \\ 47.37 \\ 598.1 \\ + 54 \\ \hline \end{array}$ | 12. _____ |
| 13. $\begin{array}{r} 278.6 \\ - 195.1 \\ \hline \end{array}$ | 13. _____ |

14. $3.15 - .201$ 14. _____

$$\begin{array}{r} 15. \quad 23.96 \\ \times .51 \\ \hline \end{array}$$
$$\begin{array}{r} 16. \quad 345.2 \\ \times .027 \\ \hline \end{array}$$
15. _____
16. _____

17. $23.7 \overline{)116.604}$ 17. _____

18. $8.848 \div 1.58$ 18. _____

19. $39.5115 \div 2.13$ 19. _____

Solve each word problem.

20. Find the total cost of 3.4 pounds of caramel nut clusters at \$8.25 per pound and 5.2 pounds of chocolate covered cashews at \$9.35 per pound. 20. _____

21. A certain wallpaper costs \$18.79 per roll. An installer charges \$30.00 per roll for labor and \$5.50 per roll for supplies. Find the charge to buy and install 7 rolls of wallpaper. 21. _____

22. An Ebay merchant sells Civil War bullets individually for \$2.50. You are interested in buying the bullets in bulk to create display cases to resell. The merchant agrees to sell assortments of 25 bullets for \$45. How much will you save over the individual price if you buy 75 bullets? 22. _____

23. Elena treats a friend to a snack at the food court of a local mall. She buys a slice of pizza to share for \$2.95, two drinks at \$1.25 each, and two cinnamon rolls at \$1.85 each. How much change will Elena receive from a \$20 bill? 23. _____

24. While redecorating, Morris Company used 275 square yards of commercial carpet. The cost of the carpet was \$7411.25. How much did Morris pay per square yard? 24. _____

25. A bottle of cleanser contains .76 ounce of an active ingredient. Find the number of bottles of cleanser that can be made with 39.52 ounces of active ingredient. 25. _____

Round as indicated.

- | | |
|------------------------------------|----------|
| 1. 423 to the nearest ten | 1. _____ |
| 2. 56,314 to the nearest hundred | 2. _____ |
| 3. 965,937 to the nearest thousand | 3. _____ |

Round each of the following, using front-end rounding.

- | | |
|------------|----------|
| 4. 63,559 | 4. _____ |
| 5. 371,491 | 5. _____ |

Solve each word problem.

- | | |
|--|----------|
| 6. James sold \$175 of concession snacks at the ballpark during the first hour, \$305 during the second hour, and \$224 during the final hour of the game. How much revenue did James make from the concessions during the game? | 6. _____ |
| 7. Four students each decide to purchase a new smartphone. One student purchases a smartphone for \$99. A second student purchases a smartphone for \$149. The last two students spend \$299 each on a smartphone. Find the total. | 7. _____ |

Round as indicated.

- | | |
|-----------------------------------|-----------|
| 8. \$12.1573 to the nearest cent | 8. _____ |
| 9. \$1.213 to the nearest cent | 9. _____ |
| 10. \$45.63 to the nearest dollar | 10. _____ |

Solve each problem.

- | | |
|--|-----------|
| 11. $7236.4 + 21.6478 + 1.2 + 32.78$ | 11. _____ |
| 12. $\begin{array}{r} 2.723 \\ 285.38 \\ 24.1 \\ + 36 \\ \hline \end{array}$ | 12. _____ |
| 13. $\begin{array}{r} 786.3 \\ - 397.2 \\ \hline \end{array}$ | 13. _____ |

14. $7.52 - 1.205$ 14. _____
15. $\begin{array}{r} 19.95 \\ \times 3.2 \\ \hline \end{array}$ 15. _____
16. $\begin{array}{r} 621.7 \\ \times 0.245 \\ \hline \end{array}$ 16. _____
17. $13.3 \overline{)312.55}$ 17. _____
18. $26.208 \div 3.64$ 18. _____
19. $28.0606 \div 1.73$ 19. _____

Solve each word problem.

20. A fly fisherman purchased 7 Black Gnat dry flies at \$3.67 each, 11 Blue Dun dry flies at \$3.97 each, and a floating trout leader for \$5.99. Find the total spent for the supplies. 20. _____
21. A contractor charges \$66.35 per cubic yard for concrete, \$168.45 per cubic yard to spread the concrete, and \$15.75 per cubic yard to finish the concrete. Find the total cost for 9.17 cubic yards of concrete. Round to the nearest cent. 21. _____
22. The Ramirez family is planning a cruise for their reunion. If they book 2 people per stateroom, the cost per person is \$776.29. If they book 4 people per stateroom, the cost per person is \$606.64. Forty-four people will attend the reunion. How much will the group save by booking 4 people per room as opposed to 2 people per room? 22. _____
23. Sally bought 2 new tires at Kirk's Tires for \$96.80 each. Kirk also charged Sally \$2.99 per tire for mounting, \$2.80 per tire for valves, and \$4.10 per tire for balancing. What is Sally's final bill? 23. _____
24. JoEllyn spent \$4.41 on ribbon for a craft project. The ribbon cost \$.36 per yard. How many yards of ribbon did JoEllyn purchase? 24. _____
25. Shelia owns a sports car that gets 23.4 miles to the gallon. She is planning a weekend trip to see her parents, who live 265 miles away. If gas costs \$3.43 per gallon, how much does she need to budget for gas for the trip? Round to the nearest dollar. (Hint: Remember the return trip.) 25. _____

Round as indicated.

1. 877 to the nearest ten 1. _____
2. 54,396 to the nearest hundred 2. _____
3. 343,184 to the nearest thousand 3. _____

Round each of the following, using front-end rounding.

4. 78,894 4. _____
5. 603,888 5. _____

Solve each word problem.

6. Lynda earned the following tips in a week: Monday, \$37; Tuesday, \$21; Wednesday, \$19; Friday, \$52; and Saturday, \$63. Find her total tips for the week. 6. _____
7. The manager of a small office orders several bouquets of flowers for Mother's Day, 3 rose bouquets for \$69 each, 4 orchid bouquets for \$75 each, and 7 daisy bouquets for \$35 each. Find the total cost for the flowers. 7. _____

Round as indicated.

8. \$7.4538 to the nearest cent 8. _____
9. \$94.8795 to the nearest cent 9. _____
10. \$357.61 to the nearest dollar 10. _____

Solve each problem.

11. $129.18 + 4.7 + 32.8 + 9.532$ 11. _____
12.
$$\begin{array}{r} 219.57 \\ 22.8 \\ 36.982 \\ + 54 \\ \hline \end{array}$$
 12. _____
13.
$$\begin{array}{r} 471.2 \\ - 84.3 \\ \hline \end{array}$$
 13. _____

14. $2.3 - .0093$ 14. _____

15. $\begin{array}{r} 81.74 \\ \times 3.6 \\ \hline \end{array}$	16. $\begin{array}{r} 204.8 \\ \times .075 \\ \hline \end{array}$	15. _____
--	---	-----------

16. _____

17. $77.4 \overline{)2054.196}$ 17. _____

18. $643.365 \div 7.65$ 18. _____

19. $2036.6571 \div 26.31$ 19. _____

Solve each word problem.

20. Find the total cost for 2.34 pounds of strawberries at \$1.48 per pound, and 2.48 pounds of grapes at \$1.99 per pound. Round to the nearest cent. 20. _____

21. Brandon worked 44.75 hours last week. He will earn a base pay of \$10.80 per hour and 1.5 times this amount for any time over 40 hours. Find Brandon's gross pay. 21. _____

22. The Robinson family's federal income tax is found by multiplying their taxable income of \$84,305.29 by the decimal .27 and rounding the result to the nearest dollar. Find their tax. 22. _____

23. An adult belt requires 45.375 inches of leather. A child's belt requires 34.75 inches of leather. A craftsman must produce one dozen of each size. How much leather will be left over from a 1000 inch length? 23. _____

24. Each dose of a medication contains 4.28 units of a certain ingredient. Find the number of doses that can be made from 286.77 units of the ingredient. Round to the nearest whole number. 24. _____

25. A commemorative gold coin weighs 7.842 grams. Find the number of coins that can be produced from 118 grams of gold. Round to the nearest whole number. 25. _____

Round as indicated.

- | | |
|------------------------------------|----------|
| 1. 241 to the nearest ten | 1. _____ |
| 2. 36,062 to the nearest hundred | 2. _____ |
| 3. 708,532 to the nearest thousand | 3. _____ |

Round each of the following, using front-end rounding.

- | | |
|------------|----------|
| 4. 23,941 | 4. _____ |
| 5. 362,352 | 5. _____ |

Solve each word problem.

- | | |
|--|----------|
| 6. Brent Richmond earned \$48 on Monday, \$74 on Tuesday, \$54 on Wednesday, took Thursday off, and earned \$86 on Friday. Find his total earnings for the week. | 6. _____ |
| 7. The Northwest Public Library purchased 8 laptops at \$1295 each, 3 copiers at \$3815 each, and 4 projectors at \$1375 each. Find the total cost. | 7. _____ |

Round as indicated.

- | | |
|------------------------------------|-----------|
| 8. \$6.8361 to the nearest cent | 8. _____ |
| 9. \$243.5652 to the nearest cent | 9. _____ |
| 10. \$998.49 to the nearest dollar | 10. _____ |

Solve each problem.

- | | |
|--|-----------|
| 11. $128.6 + 13.57 + 48 + 1.974$ | 11. _____ |
| 12. $\begin{array}{r} 12.8 \\ 13.82 \\ 77 \\ + 48.908 \\ \hline \end{array}$ | 12. _____ |
| 13. $\begin{array}{r} 743.2 \\ - 54.3 \\ \hline \end{array}$ | 13. _____ |

14. $8.3 - .0542$ 14. _____

15. $\begin{array}{r} 71.15 \\ \times 4.4 \\ \hline \end{array}$	16. $\begin{array}{r} 117.8 \\ \times .032 \\ \hline \end{array}$	15. _____
--	---	-----------

16. _____

17. $22.65 \overline{)1402.035}$ 17. _____

18. $103.224 \div 2.64$ 18. _____

19. $149.547 \div 6.31$ 19. _____

Solve each word problem.

20. Find the total cost for 3.55 pounds of chicken at \$2.68 per pound, and 2.7 pounds of beef at \$6.48 per pound. Round to the nearest cent. 20. _____

21. A local car rental company charges a weekend rate of \$35.98 plus surcharges of \$14.30. Additionally, taxes are calculated by multiplying the entire amount by .15. What is the charge to rent the car? Round to the nearest cent. 21. _____

22. Phil bought a jeep for \$29,850. Find the tax if the tax rate is .0575. Round to the nearest cent. 22. _____

23. The Law family budgeted \$500 for a camping vacation. They spent \$315.89 on food, \$43.80 on site rental, and \$26.53 on gas. How much is left in their vacation budget for souvenirs? 23. _____

24. It takes an assembly line machine 7.84 seconds to wrap an item in plastic. Find the number of items that can be wrapped in 1 hour (3600 seconds). Round to the nearest whole number. 24. _____

25. Joe Cratty is reimbursed \$.29 per mile for travel expenses. Last month he was reimbursed \$219.53. How many miles did Joe submit on his travel log last month? 25. _____

For each question, select the letter that corresponds to the correct answer.

1. Round 968 to the nearest ten. 1. _____
(a) 1000 (b) 970 (c) 960 (d) 900
2. Round 9812 to the nearest hundred. 2. _____
(a) 9000 (b) 9800 (c) 10,000 (d) 9810
3. Round 75,698 to the nearest thousand. 3. _____
(a) 75,000 (b) 75,700 (c) 76,000 (d) 80,000
4. Round 38,486 using front-end rounding. 4. _____
(a) 40,000 (b) 38,000 (c) 38,490 (d) 38,500
5. Round 649,999 using front-end rounding. 5. _____
(a) 700,000 (b) 649,000 (c) 650,000 (d) 600,000
6. Luis Ramirez earned \$41 on Monday, \$71 on Tuesday, \$69 on Wednesday, \$40 on Thursday, and \$73 on Friday. Find his total earnings for the week. 6. _____
(a) \$254 (b) \$253 (c) \$294 (d) \$225
7. Tierra Santa Resort bought 4 exercise bikes at \$964 each, 3 treadmills at \$1235 each, and 2 weight sets at \$1148 each. Find the total cost of the equipment. 7. _____
(a) \$9857 (b) \$6694 (c) \$3347 (d) \$8709
8. Round \$72.0648 to the nearest cent. 8. _____
(a) \$72.00 (b) \$72.10 (c) \$72.65 (d) \$72.06
9. Round \$1842.1824 to the nearest cent. 9. _____
(a) \$1800 (b) \$1842.18 (c) \$1842.20 (d) \$1842
10. Round \$16.705 to the nearest dollar. 10. _____
(a) \$16.71 (b) \$16 (c) \$17 (d) \$16.70

11. Add: $7.815 + 6.28 + 17.47 + 829.6$ **11.** _____
(a) 862.15 (b) 861.2 (c) 861.165 (d) 861

12. Add: $413.2 + 74.398 + 12 + 83.2$ **12.** _____
(a) 570.918 (b) 582.80 (c) 583.38 (d) 582.798

13. Subtract: $418.2 - 39.3$ **13.** _____
(a) 378.9 (b) 457.5 (c) 37.89 (d) 25.2

14. Subtract: $2.8 - .0074$ **14.** _____
(a) 27.9926 (b) 27.926 (c) 2.7926 (d) 2.8026

15. Multiply: 41.27×4.39 **15.** _____
(a) 18,117.53 (b) 181.1753 (c) 45.66 (d) 18.7453

16. Multiply: $703.9 \times .024$ **16.** _____
(a) 16.8936 (b) 1609.53 (c) 703.924 (d) 168.936

17. Divide: $24.6 \overline{)322.752}$ **17.** _____
(a) .0762 (b) 1.312 (c) 298.152 (d) 13.12

18. Divide: $33.948 \div 9.43$ **18.** _____
(a) 24.518 (b) .036 (c) 3.6 (d) .2778

19. Divide: $140.7606 \div 11.37$ **19.** _____
(a) 12.38 (b) .08078 (c) 129.3906 (d) .1238

Solve each word problem.

- 20.** Find the total cost, rounded to the nearest cent, of 3.9 pounds of corned beef at \$5.49 per pound and 4.6 pounds of pastrami at \$4.95 per pound. **20.** _____
(a) \$40.72 (b) \$26.36 (c) \$28.26 (d) \$44.18
- 21.** Artificial grass sells for \$10.98 per square yard. Find the cost to buy and install 69.2 square yards if the installer charges \$5.15 per square yard for labor. Round to the nearest cent. **21.** _____
(a) \$1116.20 (b) \$764.97 (c) \$367.36 (d) \$412.93
- 22.** The Gerard family's state income tax is found by multiplying their taxable income of \$53,928.36 by the decimal .021 and rounding the result to the nearest dollar. Find the tax. **22.** _____
(a) \$2568 (b) \$1132 (c) \$11,325 (d) \$1133
- 23.** A construction worker works 34.6 hours at \$10.47 per hour. A total of \$68.83 is deducted for taxes. Find the net amount of his paycheck. Round to the nearest cent. **23.** _____
(a) \$293.43 (b) \$2019.26 (c) \$431.09 (d) \$281.00
- 24.** A domestic automobile can travel 326 miles on a full tank of gasoline, and averages 22 miles per gallon. How big is the gas tank? Round to the nearest tenth. **24.** _____
(a) 12.4 gallons (b) 10 gallons (c) 15 gallons (d) 14.8 gallons
- 25.** A piece of rubber tubing must be 12.8 inches in length. Find the number of pieces that can be cut from 1472 inches of tubing. Round to the nearest whole number. **25.** _____
(a) 86 pieces (b) 87 pieces (c) 118 pieces (d) 115 pieces

For each question, select the letter that corresponds to the correct answer.

1. Round 843 to the nearest ten. 1. _____
(a) 840 (b) 845 (c) 800 (d) 850
2. Round 119,451 to the nearest hundred. 2. _____
(a) 119,450 (b) 119,500 (c) 119,400 (d) 119,000
3. Round 336,503 to the nearest thousand. 3. _____
(a) 336,000 (b) 336,500 (c) 337,000 (d) 300,000
4. Round 4121 using front-end rounding. 4. _____
(a) 4120 (b) 4000 (c) 5000 (d) 4100
5. Round 749,999 using front-end rounding. 5. _____
(a) 740,000 (b) 750,000 (c) 700,000 (d) 800,000
6. Cheryl paid the following utility bills: electric, \$47; gas, \$71; telephone, \$153; water, \$18; and trash, \$19. Find the total amount for the utility bills. 6. _____
(a) \$261 (b) \$308 (c) \$289 (d) \$155
7. The Harris County Library bought 4 printers at \$895 each, 7 personal computers at \$2600 each, and 3 copiers at \$3590 each. Find the total cost of the equipment. 7. _____
(a) \$28,340 (b) \$7085 (c) \$16,950 (d) \$32,550
8. Round \$3.4892 to the nearest cent. 8. _____
(a) \$3.48 (b) \$3.50 (c) \$3.49 (d) \$3.45
9. Round \$2348.0190 to the nearest cent. 9. _____
(a) \$2348.20 (b) \$2348.00 (c) \$2348.10 (d) \$2348.02
10. Round \$5678.49 to the nearest dollar. 10. _____
(a) \$5678 (b) \$5700 (c) \$5670 (d) \$6000

- 11.** Add: $14.86 + 2.9 + 34 + 178.271$ **11.** _____
(a) 230.031 (b) 229.771 (c) 256.131 (d) 199.431
- 12.** Add: $36.4 + 788 + 7.06 + 147.209$ **12.** _____
(a) 979.209 (b) 978.669 (c) 979 (d) 979.29
- 13.** Subtract: $114.1 - 78.3$ **13.** _____
(a) 35.8 (b) 45.8 (c) 46.8 (d) 36.8
- 14.** Subtract: $14.3 - .0017$ **14.** _____
(a) 14.13 (b) 14.3093 (c) 14.2983 (d) 14.283
- 15.** Multiply: 14.26×3.92 **15.** _____
(a) 4264.82 (b) 42.6482 (c) 5589.92 (d) 55.8992
- 16.** Multiply: $706.5 \times .023$ **16.** _____
(a) 16.1285 (b) 16.2495 (c) 162.495 (d) 1624.95
- 17.** Divide: $30.8 \overline{)543.312}$ **17.** _____
(a) 56.69 (b) 1.764 (c) 17.64 (d) 5.67
- 18.** Divide: $118.144 \div 9.23$ **18.** _____
(a) 128 (b) 13 (c) 7.8125 (d) 12.8
- 19.** Divide: $324.508 \div 6.2$ **19.** _____
(a) 52.34 (b) 523.4 (c) 5.234 (d) 262.508

Solve each word problem.

- 20.** Find the total cost of 4.3 pounds of bean salad at \$6.95 per pound and 2.9 pounds of potato salad at \$5.35 per pound. **20.** _____
(a) \$45.31 (b) \$45.40 (c) \$50.04 (d) \$44.30
- 21.** Ceramic tile costs \$5.36 per square foot. The installer charges \$6.35 per square foot for labor. Find the cost to buy and install 54.3 square feet of tile. Round to the nearest cent. **21.** _____
(a) \$635.90 (b) \$350.17 (c) \$297.40 (d) \$635.85
- 22.** The Robb family purchased a new van for \$32,499. The tax rate is .0725. Find the total cost of the vehicle. Round to the nearest cent. **22.** _____
(a) \$23,561.78 (b) \$23,56.18 (c) \$34,855.18 (d) \$4482.62
- 23.** The Garzas have budgeted \$700 for the Christmas holiday. To this point, they have spent \$435.27 on gifts, \$112.79 on food, and \$85 on travel. How much remains in their holiday budget? **23.** _____
(a) \$237.48 (b) \$633.06 (c) \$1333.06 (d) \$66.94
- 24.** A sales representative spent \$337.96 on incentive gifts for 21 clients. What is the average cost per gift? Round to the nearest cent. **24.** _____
(a) \$16.09 (b) \$7097.16 (c) \$16.93 (d) \$7098
- 25.** Each dosage of a medication contains 5.85 units of a certain ingredient. Find the number of dosages that can be made from 1872 units of the ingredient. **25.** _____
(a) 320 dosages (b) 110 dosages
(c) 109 dosages (d) 313 dosages

