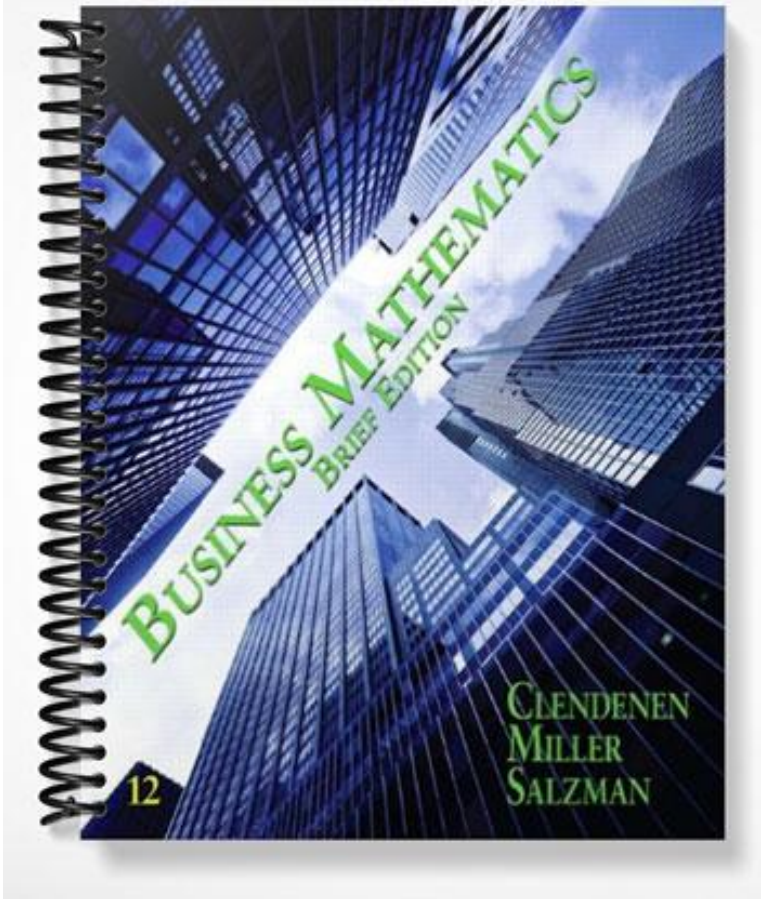
SOLUTIONS MANUAL



INSTRUCTOR'S SOLUTIONS MANUAL

to accompany

BUSINESS MATHEMATICS

TWELTH EDITION

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Prentice Hall

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Cover Printer: Lehigh-Phoenix Color/Hagerstown
Text Font: Times New Roman

10 9 8 7 6 5 4 3 2 1

Prentice Hall
is an imprint of
PEARSON

www.pearsonhighered.com

ISBN 10: 0-13-281814-0
ISBN 13: 978-0-13-281814-8

PREFACE

This manual provides complete solutions for the exercises in *Business Mathematics*, Twelvth Edition, by Gary Clendenen, Stanley A. Salzman, and Charles D. Miller. Solutions are provided for all section exercises and for all Case Studies, Case in Point Summary Exercises, Chapter Tests, and Cumulative Review exercises.

The supplement should be used as an aid to mastering the course work. Try to solve the exercises on your own before you refer to the solutions in this manual. Then, if you have difficulty, study the solutions. A conscientious effort has been made to write solutions so as to be consistent with the methods and format used in the textbook examples.

CONTENTS

Chapter 1 Whole Numbers and Decimals

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.

2065

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.

2065

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.

2065

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.

8385

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.

8385

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.

8385

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.

46,231

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.

46,231

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.

46,231

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.

55,1$\underline{7}$5

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,$\underline{1}$75

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$\underline{,}$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.

106,0$\underline{5}$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.

106,054 to the nearest hundred is 106,100.
Draw a line under the hundreds digit.

106,$\underline{0}$54

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.

10$\underline{6}$,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.

359,8$\underline{7}$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.

359,874 to the nearest hundred is 359,900.
Draw a line under the hundreds digit.

359,$\underline{8}$74

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.

35$\underline{9}$,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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$\begin{array}{r} \$49{,}802 \\ \$36{,}911 \\ \$47{,}851 \\ \$54{,}732 \\ \$29{,}852 \\ +\ \$74{,}119 \\ \hline \$293{,}267 \end{array} \qquad \begin{array}{r} \$86{,}154 \\ \$72{,}908 \\ \$31{,}552 \\ \$74{,}944 \\ \$85{,}532 \\ +\ \$36{,}705 \\ \hline \$387{,}795 \end{array}$$

$$\begin{array}{r} \$59{,}854 \\ \$85{,}119 \\ \$87{,}914 \\ \$45{,}812 \\ \$56{,}314 \\ +\ \$91{,}856 \\ \hline \$426{,}869 \end{array} \qquad \begin{array}{r} \$73{,}951 \\ \$72{,}564 \\ \$39{,}615 \\ \$71{,}099 \\ \$72{,}918 \\ +\ \$42{,}953 \\ \hline \$373{,}100 \end{array}$$

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

Adding down the columns, we get the following.

$$\begin{array}{r} \$49{,}802 \\ \$86{,}154 \\ \$59{,}854 \\ +\ \$73{,}951 \\ \hline \$269{,}761 \end{array} \qquad \begin{array}{r} \$36{,}911 \\ \$72{,}908 \\ \$85{,}119 \\ +\ \$72{,}564 \\ \hline \$267{,}502 \end{array}$$

$$\begin{array}{r} \$47{,}851 \\ \$31{,}552 \\ \$87{,}914 \\ +\ \$39{,}615 \\ \hline \$206{,}932 \end{array} \qquad \begin{array}{r} \$54{,}732 \\ \$74{,}944 \\ \$45{,}812 \\ +\ \$71{,}099 \\ \hline \$246{,}587 \end{array}$$

$$\begin{array}{r} \$29{,}852 \\ \$85{,}532 \\ \$56{,}314 \\ +\ \$72{,}918 \\ \hline \$244{,}616 \end{array} \qquad \begin{array}{r} \$74{,}119 \\ \$36{,}705 \\ \$91{,}856 \\ +\ \$42{,}953 \\ \hline \$245{,}633 \end{array}$$

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

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
\$177,357	\$502,005

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

\$177,357 + \$502,005 + \$252,705 + \$163,459
= \$1,095,526

Adding down the columns, we get the following.

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

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

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

\$169,497 + \$170,812 + \$228,620
+\$179,856 + \$190,136 + \$156,605
= \$1,095,526

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
8000	⟵	8215
60	⟵	56
700	⟵	729
+ 4000	⟵	+ 3605
12,760		12,605

42.

Estimate		Exact
3000	⟵	2685
70	⟵	73
600	⟵	592
+ 7000	⟵	+ 7183
10,670		10,533

43.

Estimate		Exact
800	⟵	783
− 200	⟵	− 238
600		545

44.

Estimate		Exact
900	⟵	942
− 300	⟵	− 286
600		656

45.

Estimate		Exact
600	⟵	638
× 50	⟵	× 47
30,000		29,986

46.

Estimate		Exact
900	⟵	864
× 70	⟵	× 74
63,000		63,936

47.

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

48.

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

49.

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

50.

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

51.

$$\begin{array}{r} 1241\frac{1}{4} \\ 4\overline{)4965} \\ \underline{4} \\ 09 \\ \underline{8} \\ 16 \\ \underline{16} \\ 05 \\ \underline{4} \\ 1 \end{array}$$

52.

$$\begin{array}{r} 1887\frac{5}{7} \\ 7\overline{)13{,}214} \\ \underline{7} \\ 62 \\ \underline{56} \\ 61 \\ \underline{56} \\ 54 \\ \underline{49} \\ 5 \end{array}$$

53.

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

54.

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

55. Answers will vary.

56. Answers will vary.

57. $180\overline{)429,350}$

$$\begin{array}{r} 2385\frac{5}{18} \\ 18\overline{)42{,}935} \\ \underline{36} \\ 69 \\ \underline{54} \\ 153 \\ \underline{144} \\ 95 \\ \underline{90} \\ 5 \end{array}$$

58. $320\overline{)360,990}$

$$\begin{array}{r} 1128\frac{3}{32} \\ 32\overline{)36{,}099} \\ \underline{32} \\ 40 \\ \underline{32} \\ 89 \\ \underline{64} \\ 259 \\ \underline{256} \\ 3 \end{array}$$

59. $1300\overline{)75,800}$

$$\begin{array}{r} 58\frac{4}{13} \\ 13\overline{)758} \\ \underline{65} \\ 108 \\ \underline{104} \\ 4 \end{array}$$

60. $1600\overline{)253,100}$

$$\begin{array}{r} 158\frac{3}{16} \\ 16\overline{)2531} \\ \underline{16} \\ 93 \\ \underline{80} \\ 131 \\ \underline{128} \\ 3 \end{array}$$

61. 24,375,300
twenty-four million, three hundred seventy-five thousand, three hundred

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

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

64. 14,243,600,000,000
fourteen trillion, two hundred forty-three billion, six hundred million

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

66. two billion crayons
2,000,000,000 crayons

67. fifty-five million, five hundred seventy-two thousand, six hundred thirty-three meals
55,572,633 meals

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

69.

$$\begin{array}{rr} 5000 & 5 \\ \times\ 40 & \times 4 \\ \hline & 20 \end{array} \quad + 4 \text{ zeros}$$

There are 200,000 chips in 40 pounds.

70.

$$\begin{array}{rr} 33{,}000{,}000 & 33 \\ \times \qquad 30 & \times 3 \\ \hline & 99 \end{array} \quad + 7 \text{ zeros}$$

990,000,000 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 day.

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

$$\begin{array}{r} 6\times\$50=\$300 \\ 15\times\$72=\$1080 \\ 10\times\$128=\$1280 \\ 5\times\$143=\$715 \\ 36\times\$3=\$108 \end{array}$$

$\$300+\$1080+\$1280+\$715+\$108$
$=\$3483$

Total receipts were \$3483.

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

$$\begin{array}{r} 38\times\$50=\$1900 \\ 73\times\$72=\$5256 \\ 58\times\$128=\$7424 \\ 46\times\$143=\$6578 \\ 215\times\$3=\$645 \end{array}$$

$\$1900+\$5256+\$7424+\$6578+\$645$
$=\$21{,}803$

Total receipts were \$21,803.

75. $3433+2060+1040=6533$
Combined milk production was 6533 million pounds or 6,533,000,000 pounds.

76. $3000+2000+1000+1000+900$
$+800+800+700+700+500=11,400$
The total amount of milk produced was 11,400 million pounds or 11,400,000,000 pounds.

77. $3433-662=2771$
2771 million pounds or 2,771,000,000 pounds more milk were produced in California than in Michigan.

78. $(2060+753)-(778+687)$
$2813-1465=1348$
1348 million pounds or 1,348,000,000 pounds more milk were produced in Wisconsin and Minnesota combined than in Texas and New Mexico combined.

79. $6.5\times1000=6500$
There are 6500 Family Dollar retail stores.

80. $8\times1000=8000$
There are 8000 7-Eleven stores.

81. $8.5\times1000=8500$
Dollar General has the greatest number of retail stores.

82. $5\times1000=5000$
Rite-Aid has the fewest retail stores.

83. $8.5\times1000=8500$ Dollar General stores
$6\times1000=6000$ Walgreens stores

$8500-6000=2500$
Dollar General has 2500 more retail stores than Walgreens.

84. $7\times1000=7000$ CVS stores
$6\times1000=6000$ Walgreens stores

$7000-6000=1000$
CVS has 1000 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. $3020-2920=100$
100 billion fewer miles were driven.

4. $81,465-70,449=11,016$
11,016 more Ford Explorers were sold.

5. $1050\times365=383,250$
383,250 World War II veterans are projected to die in the next year.

6. $6\times2,933,310=17,599,860\approx17,600,000$
There were approximately 17,600,000 World War II veterans.

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

8. $\$2324-\$734+\$568=\$2158$
The balance in the account is \$2158.

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. $43,560\times140=6,098,400$
There are 6,098,400 square feet in 140 acres.

12. $40 \text{ million}\times365=14,600 \text{ million}$
14,600 million or 14,600,000,000 checks are processed in a year.

13. $\$99-\$45=\$54$
$7\times\$54=\$378$
The amount saved is \$378.

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

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

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

17. $\$7588 - \$838 = \$6750$
\$6750 was raised.

$\$6750 \div 18 = \$375$
Each team received \$375.

18. $3545 + 2575 = 6120$
6120 eggs were collected.

$6120 \div 30 = 204$
204 flats are needed for packing.

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.

$820,000 \div 17,000 = 48$ R4000,
which rounds to 49.
49 call center operators are needed.

1.3 Basics of Decimals

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 for one pie.

22. $\$11.90 \div 4 = \$2.975 \approx \$2.98$
Zagorin pays \$2.98 for one 12-pack.

23. $\$1.75 \div 3 \approx \$.58333 \approx \$.58$
Zagorin pays \$.58 for one package.

24. $\$2.99 \div 6 \approx \$.4983 \approx \$.50$
Zagorin pays \$.50 for one candy bar.

25. $\$3.50 \div 3 \approx \$1.1666 \approx \$1.17$
Zagorin pays \$1.17 for one bottle.

26. $\$18.73 \div 5 \approx \$3.746 \approx \$3.75$
Zagorin pays \$3.75 for one pizza.

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 thousandths 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 thousandths 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.

$$36.4|7249$$

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.

$$36.47|249$$

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

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

$$36.472|49$$

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.

$$58.9|5651$$

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.

$$58.95|651$$

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

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

$$58.956|51$$

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.

$$.0|562$$

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.

$$.05|62$$

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

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

$$.056|2$$

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.

$$.0|789$$

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.

$$.07|89$$

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

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

$$.078|9$$

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.

$$\$5.05|6$$

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.

$$\$16.51|9$$

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.

$$\$32.49|3$$

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.

$$\$375.00|3$$

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.

$$\$382.00|5$$

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.

$$\$12{,}802.96\vert 5$$

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.

$$\$42.13\vert 7$$

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.

$$\$.84\vert 6$$

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.

$$\$.00\vert 15$$

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.

$$\$.00\vert 8$$

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.

$$\$1.50\vert 02$$

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.

$$\$7.60\vert 09$$

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.

$$\$1.99\vert 5$$

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.

$$\$28.99\vert 4$$

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.

$$\$752.79\vert 8$$

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.

$$\$8.\vert 58$$

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.

$$\$26.\vert 49$$

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.

$$\$.\vert 57$$

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.

$$\$.\vert 49$$

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.

$$\$299.\vert 76$$

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.

$$\$12,836.\vert 38$$

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.

$$\$268.\vert 72$$

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.

$$\$395.\vert 18$$

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.

$$\$666.\vert 66$$

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.

$$\$4699.\vert 62$$

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.

$$\$11,285.\vert 13$$

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.

$$\$378.\vert 59$$

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.

$$\$233.\vert 86$$

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.

$$\$722.\vert 38$$

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.

$$\$8263.\vert 47$$

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	⟵	43.36
20	⟵	15.8
+ 9	⟵	+ 9.3
69		68.46

2.

Estimate		Exact
600	⟵	623.15
700	⟵	734.29
+ 700	⟵	+ 686.26
2000		2043.70

3.

Estimate		Exact
6	⟵	6.23
4	⟵	3.6
5	⟵	5.1
7	⟵	7.2
+ 2	⟵	+ 1.69
24		23.82

4.

Estimate		Exact
10	⟵	12.79
2	⟵	2.15
20	⟵	16.28
4	⟵	4.39
+ 8	⟵	+ 7.61
44		43.22

5.

Estimate		Exact
2000	⟵	2156.38
5	⟵	5.26
3	⟵	2.791
+ 7	⟵	+ 6.983
2015		2171.414

6.

Estimate		Exact
2000	⟵	1889.76
20	⟵	21.42
20	⟵	19.35
+ 8	⟵	+ 8.1
2048		1938.63

7.

Estimate		Exact
6000	⟵	6133.78
500	⟵	506.124
20	⟵	18.63
+ 8	⟵	+ 7.527
6528		6666.061

8.

Estimate		Exact
700	⟵	743.1
4000	⟵	3817.65
3	⟵	2.908
4000	⟵	4123.76
+ 20	⟵	+ 21.98
8723		8709.398

9.

Estimate		Exact
2000	⟵	1798.419
70	⟵	68.32
500	⟵	512.807
600	⟵	643.9
+ 400	⟵	+ 428.
3570		3451.446

10.
$$\begin{array}{r} 45.631 \\ 15.8 \\ 7.234 \\ +\ 19.63 \\ \hline 88.295 \end{array}$$

11.
$$\begin{array}{r} 12.15 \\ 6.83 \\ 61.75 \\ 19.218 \\ +\ 73.325 \\ \hline 173.273 \end{array}$$

12.
$$\begin{array}{r} 197.4 \\ 83.72 \\ 17.43 \\ 25.63 \\ +\ 1.4 \\ \hline 325.58 \end{array}$$

13.
$$\begin{array}{r} 27.653 \\ 18.7142 \\ 9.7496 \\ +\ 3.21 \\ \hline 59.3268 \end{array}$$

14.
$$\begin{array}{r} 73.618 \\ 19.18 \\ 371.82 \\ +355.125 \\ \hline 819.743 \end{array}$$

15. Answers will vary.

16. Answers will vary.

17. $\$1815.79 + \$2367.34 + \$1976.22 + \$2155.81 + \$1698.14 + 2885.26 + \$2239.63 = \$15{,}138.19$

The total weekly sales are \$15,138.19.

18. $\$85.25 + \$114.60 + \$129.40 = \$329.25$

The total is \$329.25.

19. $\$6.71 - \$1.39 = \$5.32$

The price of T-bone steak is \$5.32 per pound more than turkey.

20. $30.50 - 27.75 = 2.75$

2.75 hours more time is spent by infants than by four-year-olds.

21.

Estimate		Problem
20	⟵	19.74
− 7	⟵	− 6.58
13		13.16

22.

Estimate		Problem
40	⟵	35.86
− 8	⟵	− 7.91
32		27.95

23.

Estimate		Problem
50	⟵	51.215
− 20	⟵	− 19.708
30		31.507

24.

Estimate		Problem
30	⟵	27.613
− 20	⟵	− 18.942
10		8.671

25.

Estimate		Problem
300	⟵	325.053
− 90	⟵	− 85.019
210		240.034

26.

Estimate		Problem
4000	⟵	3974.61
− 900	⟵	− 892.59
3100		3082.02

27.

Estimate		Problem
8	⟵	7.8
− 3	⟵	− 2.952
5		4.848

28.

Estimate		Problem
30	⟵	27.8
− 10	⟵	− 13.582
20		14.218

29.

Estimate		Problem
5	⟵	5
− 2	⟵	− 1.9802
3		3.0198

30. $\$60,375.82 + \$3280.18 + \$75.53$
$= \$63,731.53$

Fernando deposited \$63,731.53 in March.

31. $\$27,282.75 + \$4280.83 + \$12,252.23$
$= \$43,815.81$

Edwards 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
100	⟵	96.8
× 4	⟵	× 4.2
400		406.56

2.

Estimate		Problem
20	⟵	16.6
× 4	⟵	× 4.2
80		69.72

3.

Estimate		Problem
30	⟵	34.1
× 7	⟵	× 6.8
210		231.88

4.

Estimate		Problem
70	⟵	70.35
× 8	⟵	× 8.06
560		567.021

5.

Estimate		Problem
40	⟵	43.8
× 2	⟵	× 2.04
80		89.352

6.

Estimate		Problem
70	⟵	69.3
× 3	⟵	× 2.81
210		194.733

7.

.532	⟵	3 decimals
× 3.6	⟵	1 decimal
3192		
1596		
1.9152	⟵	4 decimals

8.

.259	⟵	3 decimals
× 6.2	⟵	1 decimal
518		
1554		
1.6058	⟵	4 decimals

9.

21.7	⟵	1 decimal
× .431	⟵	3 decimals
217		
651		
868		
9.3527	⟵	4 decimals

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

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

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

13. $18.5 \times \$8.25 = \$152.63$

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

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

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

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

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

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

20. $2.43\overline{)9.6153}$

$= 3.957$ (rounded)

$$\begin{array}{r} 3.9569 \\ 243\overline{)961.5300} \\ 729 \\ \hline 2325 \\ 2187 \\ \hline 1383 \\ 1215 \\ \hline 1680 \\ 1458 \\ \hline 2220 \\ 2187 \\ \hline 33 \end{array}$$

21. $.65\overline{)37.6852}$

$= 57.977$ (rounded)

$$\begin{array}{r} 57.9772 \\ 65\overline{)3768.5200} \\ 325 \\ \hline 518 \\ 455 \\ \hline 635 \\ 585 \\ \hline 502 \\ 455 \\ \hline 470 \\ 455 \\ \hline 150 \\ 130 \\ \hline 20 \end{array}$$

22. $.28\overline{)15.62}$

$= 55.786$ (rounded)

$$28\overline{)1562.0000}\quad 55.7857$$
$$\begin{array}{r} 140 \\ \hline 162 \\ 140 \\ \hline 220 \\ 196 \\ \hline 240 \\ 224 \\ \hline 160 \\ 140 \\ \hline 200 \\ 196 \\ \hline 4 \end{array}$$

23. Answers will vary.

24. Answers will vary.

25. $\$246{,}500 \times .06 = \$14{,}790$

The amount of the commission was $14,790.

26. $9.5 \times \$5.68 = \$53.96$

Her total cost was $53.96.

27. $519 \div 10.2 = 50.9$

The Prius got 50.9 mpg.

28. (a) $48 \times 4.3 = 206.4$

206.4 hours are worked each month.

(b) $\$2528 \times 206.4 = \$12.25$

The hourly earnings are $12.25.

29. $\$2872.26 \div \$106.38 = 27$

It will take 27 months to pay off the balance.

30. $57.13 \div 1.62 = 35$

35 doses can be made.

31. (a) $.0043 \times 100 = .43$

The pile is .43 inch high.

(b) $.0043 \times 1000 = 4.3$

The pile is 4.3 inches high.

32. (a) $43 \div .0043 = 10{,}000$

There are 10,000 bills.

(b) $10{,}000 \times \$20{,}000 = \$200{,}000$

You would have $200,000.

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

$4 \times \$18.95 = \$75.80$
$2 \times \$16.75 = \$33.50$
$6 \times \$2 = \$12$

$\$75.80 + \$33.50 + \$12 = \$121.30$ total price

Total price + shipping
$= \$121.30 + \$7.95 = \$129.25$
The total cost is $129.95.

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

$\$94.75 + \$65.85 = \$160.60$ total price

Total price + shipping
$= \$160.60 + \$9.95 + \$4.25 = \$174.80$
The total cost is $174.80.

35. (a) Add to find the total for the shirts, monograms, and gift box.

$3 \times \$14.75 = \$44.25$

$\$44.25 + \$4.95 + \$4.95 + \$4.95 + \$5$
$= \$64.10$

Total price + shipping
$= \$64.10 + \$5.95 = \$70.05$
The total cost is $70.05.

(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 monograms on the solid-color shirts.

$\$14.75 + \$16.75 + \$18.95 + \$21.95$
$+ \$4.95 + \$4.95 = \$82.30$

Add to find the total for your father's Size-XXL shirts, in a gift box.

$3 \times \$21.95 = \$65.85$

$\$65.85 + \$2 + \$2 + \$2 + \$5 = \$76.85$

Total price
$= \$82.30 + \$76.85 = \$159.15$

Total price + shipping
$= \$159.15 + \$9.95 + \$4.25 = \$173.35$
The total cost is $173.35.

(b) $\$82.30 - \$76.85 = \$5.45$

The difference in total cost is $5.45.

Case Study

1. $\$14,067+\$3662+\$2587+\$2507$
$+\$2051+\$1955+\$1113+\$946$
$+\$871+\$407=\$30,166$

The total is \$30,166.

2. $\$30,166-\$24,168=\$5988$
A wedding in 2010 is \$5988 more expensive than a wedding in 2005.

3. $\$6000\div\$37\approx162$
You can invite 162 guests.

$\$37\times162=\$5994$
$\$6000-\$5994=\$6$
\$6 of your budgeted amount will be left over.

4. $\$11,000\div150\approx\$73.333\approx\$73.33$
\$73.33 can be spent per person.

5. $(5\times\$36.25)+(5\times\$7.50)=\$218.75$
$\$863-\$218.75=\$644.25$
\$644.25 remains to be spent for other floral arrangements.

Case in Point Summary Exercise

1. $\$486.12+\$1236.14+\$364.76+\$103.75$
$=\$2190.77$

The total is \$2190.77.

2. $3.5+4.5+6+\$5.5=19.5$
The total number of hours worked is 19.5.

$19.5+\$8.65=\$168.68$
The pay for the week is \$168.68.

3. $\$2065.48-\$1864.92=\$200.56$
The difference between the two is \$200.56.

$\$200.56\div\$.94\approx213$
There are approximately 213 additional customers.

4. $\$168.32\times4=\$673.28$
The amount spent on advertising is \$673.28.

$\$10,984.76\times1.3=\$14,280.19$
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.
$8\underline{4}4$
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.
$67\underline{1},529$
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. $50,987\approx50,000$
Round the first digit and change all other digits to zero.

5. $851,004\approx900,000$
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.

$$\$7246.\big|49$$

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

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

12.
$$\begin{array}{r} 2.715 \\ 32.78 \\ 426.3 \\ +\ 37 \\ \hline 498.795 \end{array}$$

13.
$$\begin{array}{r} 341.4 \\ -\ 207.8 \\ \hline 133.6 \end{array}$$

14.
$$\begin{array}{r} 3.8 \\ -\ .0053 \\ \hline 3.7947 \end{array}$$

15.
$$\begin{array}{rl} 21.98 & \longleftarrow \text{ 2 decimals} \\ \times\ \ .72 & \longleftarrow \text{ 2 decimals} \\ \hline 4396 & \\ 15386 & \\ \hline 15.8256 & \longleftarrow \text{ 4 decimals} \end{array}$$

16.
$$\begin{array}{rl} 218.6 & \longleftarrow \text{ 1 decimal} \\ \times\ .037 & \longleftarrow \text{ 3 decimals} \\ \hline 15302 & \\ 6558 & \\ \hline 8.0882 & \longleftarrow \text{ 4 decimals} \end{array}$$

17. $21.8\overline{)252.008}$

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

18. $2.41\overline{)57.358}$

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

19. $18.62\overline{)79.135}$

$$1862.\overline{)7913.50}\quad 4.25$$
$$\begin{array}{r} 7448 \\ \hline 4655 \\ 3724 \\ \hline 9310 \\ 9310 \\ \hline 0 \end{array}$$

20. $(24.8\times\$1.89)+(38.2\times\$2.05)$
$=\$125.182\approx\$125.18$

The total cost is \$125.18.

21. $\$84.52+\$55.75+\$9.65=\$149.92$
The cost per square is \$149.92.

$\$149.92\times 26.3=\$3942.896\approx\$3942.90$
The total cost is \$3942.90.

22. $3.4-1.6=1.8$
1.8 gallons are saved per flush.

$1.8\times 22\times 365=14,454$
14,454 gallons are saved in one year.

23. $(135.5\times\$.86)+(12\times\$2.18)=\$142.69$
The total cost was \$142.69.

$(8\times\$20)-\$142.69=\$17.31$
Steve received \$17.31 change.

24. $\$1.74\div 2.2=\$.7909\approx\$.79$
The price of bananas is \$.79 per pound.

25. $14.674\div .058=253$
253 seedlings can be fertilized.