LESSON 1, LESSON PRACTICE

a. **$0.45 per glass; 45¢ per glass**

b. **0**

c. Product of 4 and 4 = 16
Sum of 4 and 4 = 8

$$8\overline{)16}\quad \begin{array}{r} 2 \\ 16 \\ \hline 0 \end{array}$$

d.
$$\begin{array}{r} {\scriptstyle 1} \\ \$1.75 \\ \$0.60 \\ +\ \$3.00 \\ \hline \mathbf{\$5.35} \end{array}$$

e.
$$\begin{array}{r} {\scriptstyle 1\ \ 9} \\ \$\ 2.\ 0\ 0 \\ -\ \$\ 0.\ 4\ 7 \\ \hline \mathbf{\$\ 1.\ 5\ 3} \end{array}$$

f.
$$\begin{array}{r} \$0.65 \\ \times\quad 5 \\ \hline \mathbf{\$3.25} \end{array}$$

g.
$$\begin{array}{r} 250 \\ \times\ 24 \\ \hline 1000 \\ 500 \\ \hline \mathbf{6000} \end{array}$$

h.
$$5\overline{)\$24.00}\quad \begin{array}{r} \mathbf{\$4.80} \\ 20 \\ \hline 40 \\ 40 \\ \hline 0 \end{array}$$

i.
$$18\overline{)234}\quad \begin{array}{r} \mathbf{13} \\ 18 \\ \hline 54 \\ 54 \\ \hline 0 \end{array}$$

j.
$$\begin{array}{r} 20 \\ +\ 4 \\ \hline \mathbf{24} \end{array}$$

k.
$$\begin{array}{r} 20 \\ -\ 4 \\ \hline \mathbf{16} \end{array}$$

l.
$$\begin{array}{r} 20 \\ \times\ 4 \\ \hline \mathbf{80} \end{array}$$

m.
$$4\overline{)20}\quad \mathbf{5}$$

LESSON 1, MIXED PRACTICE

1. Product of 5 and 6 = 30
Sum of 5 and 6 = 11
30 − 11 = **19**

2.
$$\begin{array}{r} 8 \\ +\ 9 \\ \hline \mathbf{17} \end{array}$$

3. $4\overline{)\text{dividend}}$; the dividend is **32**

4. Product of 6 and 6 = 36
Sum of 6 and 6 = 12

$$12\overline{)36}\quad \begin{array}{r} \mathbf{3} \\ 36 \\ \hline 0 \end{array}$$

5. **Addition, subtraction, multiplication, and division**

6. (a) 12 + 4 = **16**

(b) 12 − 4 = **8**

(c) 12 · 4 = **48**

(d) $\frac{12}{4}$ = **3**

7.
$$\begin{array}{r} {\scriptstyle 3}\ \ {\scriptstyle 6} \\ \$\ 4\ 3.\ 7\ 4 \\ -\ \$\ 1\ 6.\ 5\ 9 \\ \hline \mathbf{\$\ 2\ 7.\ 1\ 5} \end{array}$$

8.
$$\begin{array}{r} 64 \\ \times\ 37 \\ \hline 448 \\ 192 \\ \hline \mathbf{2368} \end{array}$$

9.
$$\begin{array}{r} 7 \\ 8 \\ 4 \\ 6 \\ 9 \\ 3 \\ 5 \\ +\ 7 \\ \hline \mathbf{49} \end{array}$$

10.
$$\begin{array}{r} {\scriptstyle 1\,2} \\ 364 \\ 52 \\ 867 \\ +\ \ 9 \\ \hline \mathbf{1292} \end{array}$$

11.
$$\begin{array}{r} {\scriptstyle 3\ 9\ 9} \\ \not{4}\,\not{0}\,\not{0}^{1}0 \\ -\ 3\,6\,2\,5 \\ \hline \mathbf{3\,7\,5} \end{array}$$

12.
$$\begin{array}{r} 316 \\ \times\ \ 18 \\ \hline 2528 \\ 316 \\ \hline \mathbf{5688} \end{array}$$

13.
$$\begin{array}{r} \mathbf{\$2.18} \\ 20\overline{)\$43.60} \\ \underline{40} \\ 36 \\ \underline{20} \\ 160 \\ \underline{160} \\ 0 \end{array}$$

14.
$$\begin{array}{r} 300 \\ \times\ \ 40 \\ \hline \mathbf{12{,}000} \end{array}$$

15.
$$\begin{array}{r} 12 \\ \times\ \ 8 \\ \hline 96 \end{array} \qquad \begin{array}{r} 96 \\ \times\ \ 0 \\ \hline \mathbf{0} \end{array}$$

16.
$$\begin{array}{r} \mathbf{309} \\ 12\overline{)3708} \\ \underline{36} \\ 108 \\ \underline{108} \\ 0 \end{array}$$

17.
$$\begin{array}{r} 365 \\ \times\ \ 20 \\ \hline \mathbf{7300} \end{array}$$

18.
$$\begin{array}{r} \mathbf{30\ R\ 17} \\ 25\overline{)767} \\ \underline{75} \\ 17 \\ \underline{0} \\ 17 \end{array}$$

19.
$$\begin{array}{r} 30 \\ \times\ \ 40 \\ \hline \mathbf{1200} \end{array}$$

20.
$$\begin{array}{r} {\scriptstyle 0\ 9\ 9} \\ \$\,\not{1}\,\not{0}.\,\not{0}^{1}0 \\ -\ \ \$\,2.\,3\,4 \\ \hline \mathbf{\$\,7.\,6\,6} \end{array}$$

21.
$$\begin{array}{r} {\scriptstyle 3\ 9} \\ \not{4}\,\not{0}^{1}1\,7 \\ -\ 3\,9\,5\,2 \\ \hline \mathbf{6\,5} \end{array}$$

22.
$$\begin{array}{r} \$2.50 \\ \times\ \ \ 80 \\ \hline \mathbf{\$200.00} \end{array}$$

23.
$$\begin{array}{r} \$2.50 \\ \times\ \ \ 20 \\ \hline \mathbf{\$50.00} \end{array}$$

24.
$$\begin{array}{r} \mathbf{40} \\ 14\overline{)560} \\ \underline{56} \\ 0 \\ \underline{0} \\ 0 \end{array}$$

25.
$$\begin{array}{r} \$1.25 \\ 8\overline{)\$10.00} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

26. **Natural numbers**

27. **\$0.25; 25¢**

28. **All counting numbers are whole numbers.**

29. **Quotient**

30. **Minuend − subtrahend = difference**

Lesson 2, Lesson Practice

a. **The additive identity is zero. The multiplicative identity is 1.**

b. **Division**

c. $(x + y) + z = x + (y + z)$
Numerical answers may vary.

d. **Commutative property of multiplication**

e. $(5 + 4) + 3 = (9) + 3 =$ **12**

f. $5 + (4 + 3) = 5 + (7) =$ **12**

g. $(10 - 5) - 3 = (5) - 3 =$ **2**

h. $10 - (5 - 3) = 10 - (2) =$ **8**

i. $(6 \cdot 2) \cdot 5 = (12) \cdot 5 =$ **60**

j. $6 \cdot (2 \cdot 5) = 6 \cdot (10) =$ **60**

k. $(12 \div 6) \div 2 = (2) \div 2 =$ **1**

l. $12 \div (6 \div 2) = 12 \div (3) =$ **4**

m. $k = n \cdot n$
Eighth term: $k = 8 \cdot 8 =$ **64**
Ninth term: $k = 9 \cdot 9 =$ **81**
Tenth term: $k = 10 \cdot 10 =$ **100**

n. **Each term in the sequence can be found by doubling the preceding term; 16, 32, 64.**

o. $k = (2n) - 1$
$k = (2 \cdot 1) - 1 = (2) - 1 = 1$
$k = (2 \cdot 2) - 1 = (4) - 1 = 3$
$k = (2 \cdot 3) - 1 = (6) - 1 = 5$
$k = (2 \cdot 4) - 1 = (8) - 1 = 7$
First four terms: **1, 3, 5, 7**

Lesson 2, Mixed Practice

1. Product of 2 and 3 = 6
Sum of 4 and 5 = 9
9 − 6 = **3**

2. **\$0.04; 4¢**

3. **75¢ per glass; \$0.75 per glass**

4. **Subtraction**

5.
$$\begin{array}{r} 15 \\ 4\overline{)60} \\ \underline{4} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

6. **3 × 5 = 15 15 ÷ 5 = 3**
5 × 3 = 15 15 ÷ 3 = 5

7. **Each term in the sequence can be found by multiplying the preceding term by ten.**
100(10) = **1000**
1000(10) = **10,000**

8.
$$\begin{array}{r} {}^{1}\not{2}\,{}^{9}\not{0}.\,{}^{9}\not{0}{}^{1}0 \\ -\ \$\,1\,4.\,7\,9 \\ \hline \$\,5.\,2\,1 \end{array}$$

9.
$$\begin{array}{r} \$1.54 \\ \times \quad 7 \\ \hline \$10.78 \end{array}$$

10.
$$\begin{array}{r} \$3.75 \\ 8\overline{)\$30.00} \\ 24 \\ \hline 60 \\ 56 \\ \hline 40 \\ 40 \\ \hline 0 \end{array}$$

11.
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ \$4.36 \\ \$0.75 \\ \$12.00 \\ +\ \$0.06 \\ \hline \mathbf{\$17.17} \end{array}$$

12.
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ \$4.89 \\ +\ \$0.74 \\ \hline \$5.63 \end{array} \qquad \begin{array}{r} {\scriptstyle 0\ 9\ 9} \\ \$\not{1}\not{0}.\not{0}^{1}0 \\ -\ \$5.63 \\ \hline \mathbf{\$4.37} \end{array}$$

13.
$$\begin{array}{r} 8 \\ 5 \\ 4 \\ 6 \\ 5 \\ 4 \\ 3 \\ 7 \\ 2 \\ 4 \\ 1 \\ +\ 8 \\ \hline \mathbf{57} \end{array}$$

14.
$$\begin{array}{r} \mathbf{207} \\ 15\overline{)3105} \\ 30 \\ \hline 10 \\ 0 \\ \hline 105 \\ 105 \\ \hline 0 \end{array}$$

15.
$$\begin{array}{r} \mathbf{40\ R\ 30} \\ 40\overline{)1630} \\ 160 \\ \hline 30 \\ 0 \\ \hline 30 \end{array}$$

16. $9 \div 3 = 3$
$$\begin{array}{r} \mathbf{27} \\ 3\overline{)81} \\ 6 \\ \hline 21 \\ 21 \\ \hline 0 \end{array}$$

17.
$$\begin{array}{r} 9 \\ 9\overline{)81} \\ 81 \\ \hline 0 \end{array}$$
$9 \div 3 = \mathbf{3}$

18.
$$\begin{array}{r} \$3.75 \\ \times\ 10 \\ \hline \mathbf{\$37.50} \end{array}$$

19.
$$\begin{array}{r} {\scriptstyle 3\ {}^{1}4} \\ \not{4}\not{5}^{1}0 \\ -\ 78 \\ \hline 372 \end{array} \qquad \begin{array}{r} {\scriptstyle 2\ {}^{1}0} \\ \not{3}\not{1}^{1}67 \\ -\ 372 \\ \hline \mathbf{2795} \end{array}$$

20.
$$\begin{array}{r} {\scriptstyle 2} \\ \not{3}^{1}167 \\ -\ 450 \\ \hline 2717 \end{array} \qquad \begin{array}{r} {\scriptstyle 6\ {}^{1}0} \\ 27\not{1}^{1}7 \\ -\ 78 \\ \hline \mathbf{2639} \end{array}$$

21.
$$\begin{array}{r} \mathbf{\$1.25} \\ 16\overline{)\$20.00} \\ 16 \\ \hline 40 \\ 32 \\ \hline 80 \\ 80 \\ \hline 0 \end{array}$$

22.
$$\begin{array}{r} 70 \\ \times\ 800 \\ \hline \mathbf{56{,}000} \end{array}$$

23.
$$\begin{array}{r} {\scriptstyle 1\ 1\ 2} \\ 3714 \\ 268 \\ 47 \\ +\ 9 \\ \hline \mathbf{4038} \end{array}$$

24.
$$\begin{array}{r} 5 \\ \times\ 4 \\ \hline 20 \end{array} \qquad \begin{array}{r} 20 \\ \times\ 3 \\ \hline 60 \end{array} \qquad \begin{array}{r} 60 \\ \times\ 2 \\ \hline 120 \end{array} \qquad \begin{array}{r} 120 \\ \times\ 1 \\ \hline \mathbf{120} \end{array}$$

25.
$$\begin{array}{r} \$1.47 \\ +\ \$8.00 \\ \hline \$9.47 \end{array} \qquad \begin{array}{r} {}^{1}\$\,{}^{9}2\,{}^{9}\emptyset.\,\emptyset^{1}0 \\ -\ \$\,9.\,4\,7 \\ \hline \$\,1\,0.\,5\,3 \end{array}$$

26.
$$\begin{array}{r} \$0.45 \\ \times\ \ 30 \\ \hline \$13.50 \end{array}$$

27. (a) **Property of zero for multiplication**

(b) **Identity property of multiplication**

28. (a) $18 - 3 = \mathbf{15}$

(b)
$$\begin{array}{r} 18 \\ \times\ 3 \\ \hline 54 \end{array}$$

(c) $\frac{18}{3} = \mathbf{6}$

(d) $18 + 3 = \mathbf{21}$

29. Zero is called the additive identity because when zero is added to another number, the sum is identical to that number.

30. Dividend ÷ divisor = quotient

Lesson 3, Lesson Practice

a.
$$\begin{array}{r} {}^{2}\cancel{3}^{1}1 \\ -\ 1\,2 \\ \hline 19 \end{array}$$

b.
$$\begin{array}{r} 15 \\ +\ 24 \\ \hline 39 \end{array}$$

c.
$$\begin{array}{r} 12 \\ 15\overline{)180} \\ 15 \\ \hline 30 \\ 30 \\ \hline 0 \end{array}$$

d.
$$\begin{array}{r} 12 \\ \times\ 8 \\ \hline 96 \end{array}$$

e.
$$\begin{array}{r} 30 \\ 14\overline{)420} \\ 42 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$

f.
$$\begin{array}{r} {}^{3}\cancel{4}^{1}3 \\ -\ 2\,6 \\ \hline 17 \end{array}$$

g.
$$\begin{array}{r} 51 \\ -\ 20 \\ \hline 31 \end{array}$$

h.
$$\begin{array}{r} 52 \\ 7\overline{)364} \\ 35 \\ \hline 14 \\ 14 \\ \hline 0 \end{array}$$

i.
$$\begin{array}{r} 2 \\ 12\overline{)24} \\ 24 \\ \hline 0 \end{array}$$

j. $3 + 6 + 12 + 5 = 26$

$30 - 26 = \mathbf{4}$

Lesson 3, Mixed Practice

1. Product of 4 and 4 = 16

Sum of 4 and 4 = 8

$\frac{16}{8} = \mathbf{2}$

2. Add the subtrahend and the difference to find the minuend.

3. Associative property of addition

4.
$$\begin{array}{r} {}^{1}2^{1}1 \\ -\ \ 7 \\ \hline 14 \end{array}$$

5. $\mathbf{3 \cdot 4 = 4 \cdot 3}$

6. (1) $k = 3(1) = 3$

(2) $k = 3(2) = 6$

(3) $k = 3(3) = 9$

(4) $k = 3(4) = 12$

3, 6, 9, 12

7.
$$\begin{array}{r} {}^{0}\cancel{1}\,{}^{10}\cancel{1}2 \\ -\ 8\,3 \\ \hline 2\,9 \end{array}$$

$x = \mathbf{29}$

8.
$$\begin{array}{r} {}^{8}\cancel{9}\,{}^{1}6 \\ -\ 2\,7 \\ \hline 6\,9 \end{array}$$

$r = \mathbf{69}$

9.
$$\begin{array}{r} 17 \\ 7\overline{)119} \\ \underline{7} \\ 49 \\ \underline{49} \\ 0 \end{array}$$

$k = \mathbf{17}$

10.
$$\begin{array}{r} {}^{2}\cancel{3}\,{}^{9}\cancel{0}{}^{1}0 \\ -\ 1\,2\,7 \\ \hline 1\,7\,3 \end{array}$$

$z = \mathbf{173}$

11.
$$\begin{array}{r} 731 \\ +\ 137 \\ \hline 868 \end{array}$$

$m = \mathbf{868}$

12.
$$\begin{array}{r} 16 \\ 25\overline{)400} \\ \underline{25} \\ 150 \\ \underline{150} \\ 0 \end{array}$$

$n = \mathbf{16}$

13.
$$\begin{array}{r} 25 \\ 25\overline{)625} \\ \underline{50} \\ 125 \\ \underline{125} \\ 0 \end{array}$$

$w = \mathbf{25}$

14.
$$\begin{array}{r} 700 \\ \times\ 60 \\ \hline 42{,}000 \end{array}$$

$x = \mathbf{42{,}000}$

15. (a) $\frac{20}{5} = \mathbf{4}$

(b) $20 - 5 = \mathbf{15}$

(c) $20(5) = \mathbf{100}$

(d) $20 + 5 = \mathbf{25}$

16. $16 \div 2 = 8$
$$\begin{array}{r} \mathbf{12} \\ 8\overline{)96} \\ \underline{8} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

17.
$$\begin{array}{r} 6 \\ 16\overline{)96} \\ \underline{96} \\ 0 \end{array}$$
$6 \div 2 = \mathbf{3}$

18.
$$\begin{array}{r} {}^{1\,1\,1} \\ \$16.47 \\ \$15.00 \\ +\ \$0.63 \\ \hline \mathbf{\$32.10} \end{array}$$

19.
$$\begin{array}{r} {}^{1\,1} \\ \$31.75 \\ +\ \$6.48 \\ \hline \$38.23 \end{array}$$

$$\begin{array}{r} {}^{4\,9\,9} \\ \$\,\cancel{5}\,\cancel{0}.\,\cancel{0}{}^{1}0 \\ -\ \$\,3\,8.\,2\,3 \\ \hline \mathbf{\$\,1\,1.\,7\,7} \end{array}$$

20.
$$\begin{array}{r} 47 \\ \times\ 39 \\ \hline 423 \\ 141 \\ \hline \mathbf{1833} \end{array}$$

21.
$$\begin{array}{r} \$8.79 \\ \times\ \ 80 \\ \hline \mathbf{\$703.20} \end{array}$$

22.
$$\begin{array}{r} \mathbf{158} \\ 30\overline{)4740} \\ \underline{30} \\ 174 \\ \underline{150} \\ 240 \\ \underline{240} \\ 0 \end{array}$$

23.
$$\begin{array}{r} {}^{2\,{}^{1}6} \\ \cancel{3}\,\cancel{7}{}^{1}4 \\ -\ 8\,7 \\ \hline 2\,8\,7 \end{array}$$

$$\begin{array}{r} {}^{0\,{}^{10}\,9} \\ \cancel{1}\,\cancel{1}\,\cancel{0}{}^{1}0 \\ -\ 2\,8\,7 \\ \hline \mathbf{8\,1\,3} \end{array}$$

24.
$$\begin{array}{r} {}^{0}{}^{10}{}^{9} \\ \not{1}\not{1}\not{0}{}^{1}0 \\ -\ 3\,7\,4 \\ \hline 7\,2\,6 \end{array} \qquad \begin{array}{r} {}^{6}{}^{11} \\ \not{7}\not{2}{}^{1}6 \\ -\ 8\,7 \\ \hline \mathbf{6\,3\,9} \end{array}$$

25.
$$\begin{array}{r} {}^{1}{}^{2}{}^{2} \\ 4736 \\ 271 \\ 9 \\ +\ 88 \\ \hline \mathbf{5104} \end{array}$$

26.
$$\begin{array}{r} {}^{2}{}^{9}{}^{10}{}^{13} \\ \not{3}\not{0},\not{1}\not{4}{}^{1}5 \\ -\ 4\,2\,9\,9 \\ \hline \mathbf{2\,5,8\,4\,6} \end{array}$$

27.
$$\begin{array}{r} \mathbf{60\ R\ 4} \\ 35\overline{)2104} \\ 210 \\ \hline 04 \\ 0 \\ \hline 4 \end{array}$$

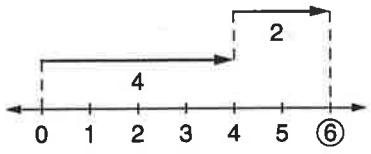
28.
$$\begin{array}{r} \mathbf{\$1.25} \\ 32\overline{)\$40.00} \\ 32 \\ \hline 80 \\ 64 \\ \hline 160 \\ 160 \\ \hline 0 \end{array}$$

29.
$$\begin{array}{r} \$0.48 \\ \times\quad 40 \\ \hline \mathbf{\$19.20} \end{array}$$

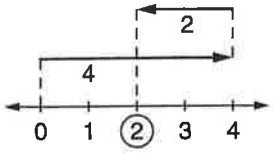
30. **One is the multiplicative identity because when any given number is multiplied by 1, the product is identical to the given number.**

LESSON 4, LESSON PRACTICE

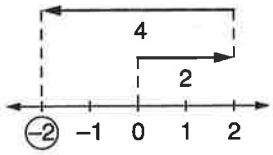
a.



b.



c.



d. **−3, −2, −1, 0**

e. $2 + 3 < 2 \times 3$

f. $3 - 4 < 4 - 3$

g. $2 \cdot 2 = 2 + 2$

h. **0**

i.
$$\begin{array}{r} {}^{5}{}^{12} \\ \not{6}\not{3}{}^{1}0 \\ -\ 4\,3\,6 \\ \hline 1\,9\,4 \end{array} \qquad \mathbf{-194}$$

j. **−2, −3, −4**

LESSON 4, MIXED PRACTICE

1. Sum of 5 and 4 = 9
Product of 3 and 3 = 9
9 − 9 = **0**

2. 27 − 9 = **18**

3. **Positive numbers**

4. (a) 24 − 6 = **18**

(b) 6 − 24 = **−18**

(c) $\frac{24}{6} = \mathbf{4}$

(d)
$$\begin{array}{r} 24 \\ \times\ 6 \\ \hline \mathbf{144} \end{array}$$

5. $5 \cdot 2 > 5 + 2$

6. $-2, -1, 0, 1$

7. (a) $3 \cdot 4 = 2(6)$

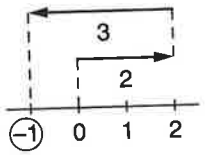
(b) $-3 < -2$

(c) $3 - 5 < 5 - 3$

(d) $xy = yx$

8. **Multiply the divisor by the quotient to find the dividend.**

9.



10. $\frac{12}{12} = 1$

$k = \mathbf{1}$

11.
$$\begin{array}{r} 4 \\ 8 \\ +\ 6 \\ \hline 18 \end{array} \qquad \begin{array}{r} {}^{2}\not{3}{}^{1}0 \\ -\ 1\ 8 \\ \hline 1\ 2 \end{array}$$

$n = \mathbf{12}$

12.
$$\begin{array}{r} 654 \\ +\ 123 \\ \hline 777 \end{array}$$

$z = \mathbf{777}$

13.
$$\begin{array}{r} {}^{0}\not{1}{}^{9}\not{0}{}^{9}\not{0}{}^{1}0 \\ -\ \ 1\ 0\ 1 \\ \hline 8\ 9\ 9 \end{array}$$

$m = \mathbf{899}$

14.
$$\begin{array}{r} \$4.95 \\ -\ \$1.45 \\ \hline \$3.50 \end{array}$$

$p = \mathbf{\$3.50}$

15.
$$\begin{array}{r} \ \ 7 \\ 32\overline{)224} \\ \ \ \underline{224} \\ \ \ \ 0 \end{array}$$

$k = \mathbf{7}$

16.
$$\begin{array}{r} 24 \\ \times\ \ 8 \\ \hline 192 \end{array}$$

$r = \mathbf{192}$

17.
$$\begin{array}{r} {}^{1}\ {}^{1} \\ \$3.67 \\ \$0.14 \\ +\ \$52.75 \\ \hline \mathbf{\$56.56} \end{array}$$

18.
$$\begin{array}{r} {}^{0}\not{\$}{}^{9}\not{1}{}^{9}\not{0}{}^{9}\not{0}.\not{0}{}^{1}0 \\ -\ \ \$\,3\,6.\,4\,9 \\ \hline \mathbf{\$\,6\,3.\,5\,1} \end{array}$$

19.
$$\begin{array}{r} \$0.36 \\ \times\ \ \ 48 \\ \hline 288 \\ 144 \\ \hline \mathbf{\$17.28} \end{array}$$

20. $5 \cdot 6 = 30$

$$\begin{array}{r} 30 \\ \times\ \ 7 \\ \hline \mathbf{210} \end{array}$$

21.
$$\begin{array}{r} \mathbf{550} \\ 18\overline{)9900} \\ \ \ \underline{90} \\ \ \ \ 90 \\ \ \ \ \underline{90} \\ \ \ \ \ 00 \\ \ \ \ \ \underline{0} \\ \ \ \ \ 0 \end{array}$$

22.
$$\begin{array}{r} 30 \\ \times\ 20 \\ \hline 600 \end{array} \qquad \begin{array}{r} 600 \\ \times\ \ 40 \\ \hline \mathbf{24{,}000} \end{array}$$

23.
$$\begin{array}{r} {}^{0}\not{1}{}^{2}\not{3}{}^{1}0 \\ -\ \ 5\ 7 \\ \hline 7\ 3 \end{array} \qquad \begin{array}{r} {}^{1} \\ 73 \\ +\ \ 9 \\ \hline \mathbf{82} \end{array}$$

24.
$$\begin{array}{r} {}^{1}\ {}^{9}\ {}^{10} \\ 2\not{0}\not{1}{}^{1}4 \\ -\ 1\,9\,8\,7 \\ \hline 2\ 7 \end{array} \qquad \mathbf{-27}$$

25.
$$\begin{array}{r} \mathbf{\$9.80} \\ 7\overline{)\$68.60} \\ \ \ \underline{63} \\ \ \ \ 56 \\ \ \ \ \underline{56} \\ \ \ \ \ 00 \\ \ \ \ \ \underline{0} \\ \ \ \ \ 0 \end{array}$$

26.
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ \$0.46 \\ +\ \$0.64 \\ \hline \$1.10 \end{array}$$

27.
$$\begin{array}{r} 58 \\ 80\overline{)4640} \\ 400 \\ \hline 640 \\ 640 \\ \hline 0 \end{array}$$

28.
$$\begin{array}{r} \$3.75 \\ \times\quad 30 \\ \hline \$112.50 \end{array}$$

29. Answers may vary. One answer is $(2 \times 3) \times 6 = 2 \times (3 \times 6)$.

30. $10 + 20 = 30 \quad 30 - 20 = 10$
$20 + 10 = 30 \quad 30 - 10 = 20$

Lesson 5, Lesson Practice

a. 3

b. Billions

c. $(2 \times 1000) + (5 \times 100)$

d. Thirty-six million, four hundred twenty-seven thousand, five hundred eighty

e. Forty million, three hundred two thousand, ten

f. 25,206,040

g. 50,402,100,000

h. $15,000,000,000

Lesson 5, Mixed Practice

1.
$$\begin{array}{r} {\scriptstyle 1\ 1} \\ {\scriptstyle 1}607 \\ +\ 2393 \\ \hline 3000 \end{array}$$

2. $101{,}000 > 1100$

3. Fifty million, five hundred seventy-four thousand, six

4. 2

5. 250,005,070

6. $-12 > -15$
Negative twelve is greater than negative fifteen

7. $-7, -1, 0, 4, 5, 7$

8. Draw a number line. Start at the origin and draw an arrow 5 units long to the right. From this point draw an arrow 4 units long to the left. The second arrow ends at 1, showing that $5 - 4 = 1$. Circle the number 1.

9. 7 units

10. $2 \cdot 3 = 6 \quad 6 \cdot 5 = 30$
$$\begin{array}{r} 32 \\ 30\overline{)960} \\ 90 \\ \hline 60 \\ 60 \\ \hline 0 \end{array}$$
$n = 32$

11.
$$\begin{array}{r} 2500 \\ +\ 1367 \\ \hline 3867 \end{array}$$
$a = 3867$

12. $17 + 5 = 22$
$$\begin{array}{r} {\scriptstyle 4}\not{5}{\scriptstyle 1}0 \\ -\ 2\ 2 \\ \hline 2\ 8 \end{array}$$
$b = 28$

13.
$$\begin{array}{r} \$\ {\scriptstyle 1}2\ {\scriptstyle 1}{\scriptstyle 4}\not{5}.{\scriptstyle 1}0\ 0 \\ -\ \$\ 1\ 8.\ 7\ 0 \\ \hline \$\ 6.\ 3\ 0 \end{array}$$
$k = \$6.30$

14.
$$\begin{array}{r} {\scriptstyle 0}\ {\scriptstyle 9} \\ \not{1}\not{0},{\scriptstyle 1}0\ 0\ 0 \\ -\ \ 6\ 4\ 0\ 0 \\ \hline 3\ 6\ 0\ 0 \end{array}$$
$d = 3600$

15.
$$\begin{array}{r} 18 \\ 8\overline{)144} \\ \underline{8} \\ 64 \\ \underline{64} \\ 0 \end{array}$$
$f = \mathbf{18}$

16. $(7 \times 100{,}000) + (5 \times 10{,}000)$

17.
$$\begin{array}{r} {\scriptstyle 1\,1\ 1\,1} \\ 37{,}428 \\ +\ 59{,}775 \\ \hline \mathbf{97{,}203} \end{array}$$

18.
$$\begin{array}{r} {\scriptstyle 2\,{}^{1}0\ \ 9\,{}^{1}0} \\ \not{3}\,\not{1}{,}\not{0}\,\not{1}{}^{1}4 \\ -\ 24{,}767 \\ \hline \mathbf{6\,247} \end{array}$$

19.
$$\begin{array}{r} {\scriptstyle 2} \\ {\scriptstyle 1}45 \\ 362 \\ 7 \\ +\ 4319 \\ \hline \mathbf{4733} \end{array}$$

20.
$$\begin{array}{r} {\scriptstyle 1\,1\ 1} \\ \$64.59 \\ \$124.00 \\ \$6.30 \\ +\ \$0.37 \\ \hline \mathbf{\$195.26} \end{array}$$

21. $12 \div 3 = 4$

$$\begin{array}{r} \mathbf{36} \\ 4\overline{)144} \\ \underline{12} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

22.
$$\begin{array}{r} 12 \\ 12\overline{)144} \\ \underline{12} \\ 24 \\ \underline{24} \\ 0 \end{array}$$
$12 \div 3 = \mathbf{4}$

23.
$$\begin{array}{r} 40 \\ \times\ 500 \\ \hline \mathbf{20{,}000} \end{array}$$

24.
$$\begin{array}{r} \mathbf{405} \\ 21\overline{)8505} \\ \underline{84} \\ 10 \\ \underline{0} \\ 105 \\ \underline{105} \\ 0 \end{array}$$

25.
$$\begin{array}{r} {\scriptstyle 5} \\ \$\ 4.\ \not{6}{}^{1}0 \\ -\ \$\ 0.\ 3\ 9 \\ \hline \mathbf{\$\ 4.\ 2\ 1} \end{array} \qquad \begin{array}{r} {\scriptstyle 0\ 9\ 9} \\ \$\ \not{1}\ \not{0}.\ \not{0}{}^{1}0 \\ -\ \$\ 4.\ 2\ 1 \\ \hline \mathbf{\$\ 5.\ 7\ 9} \end{array}$$

26.
$$\begin{array}{r} \$0.29 \\ \times\ \ 36 \\ \hline 174 \\ 87 \\ \hline \mathbf{\$10.44} \end{array}$$

27. (a) **Identity property of multiplication**

(b) **Commutative property of multiplication**

28. **Each term in the sequence can be found by subtracting two from the preceding term.**

$2 - 2 = \mathbf{0}$

$0 - 2 = \mathbf{-2}$

$-2 - 2 = \mathbf{-4}$

29. (a) **Counting numbers or natural numbers**

(b) **Whole numbers**

(c) **Integers**

30. **{ . . . , −6, −4, −2}**

LESSON 6, LESSON PRACTICE

a. **1, 5, 25**

b. **1, 2, 3, 4, 6, 8, 12, 24**

c. **1, 23**