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**

d. $1 + 2 + 6 + 0 = 9$

1, 2, 3, 4, 5, 6, 7, 9, 10

$$7\overline{)1260}\quad 180$$
$$\begin{array}{r} 7 \\ \hline 56 \\ 56 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$

e. $7 + 3 + 5 + 0 + 0 = 15$

1, 2, 3, 4, 5, 6, 7, 10

$$7\overline{)73{,}500}\quad 10{,}500$$
$$\begin{array}{r} 7 \\ \hline 03 \\ 0 \\ \hline 35 \\ 35 \\ \hline 00 \\ 0 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$

f. $3 + 6 + 0 + 0 = 9$

1, 2, 3, 4, 5, 6, 8, 9, 10

$$7\overline{)3600}\quad 514 \text{ R } 2$$
$$\begin{array}{r} 35 \\ \hline 10 \\ 7 \\ \hline 30 \\ 28 \\ \hline 2 \end{array}$$

g. $1 + 3 + 5 + 6 = 15$

1, 2, 3, 4, 6

$$7\overline{)1356}\quad 193 \text{ R } 5$$
$$\begin{array}{r} 7 \\ \hline 65 \\ 63 \\ \hline 26 \\ 21 \\ \hline 5 \end{array}$$

h. **1, 2, 4, 5, 7, 8**

i. Factors of 12: 1, 2, 3, 4, 6, 12
Factors of 20: 1, 2, 4, 5, 10, 20
1, 2, 4

j. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24
Factors of 40: 1, 2, 4, 5, 8, 10, 20, 40
8

LESSON 6, MIXED PRACTICE

1. Product of 10 and 20 = 200
Sum of 20 and 30 = 50
$$\frac{200}{50} = 4$$

2. (a) Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30
Factors of 40: 1, 2, 4, 5, 8, 10, 20, 40
1, 2, 5, 10

(b) **10**

3. **{ . . . , −5, −3, −1}**

4. **407,006,962**

5. $1 + 2 + 3 + 0 + 0 = 6$

1, 2, 3, 4, 5, 6, 10

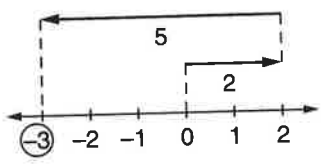
$$7\overline{)12{,}300}\quad 1\,757 \text{ R } 1$$
$$\begin{array}{r} 7 \\ \hline 53 \\ 49 \\ \hline 40 \\ 35 \\ \hline 50 \\ 49 \\ \hline 1 \end{array}$$

6. $-7 > -11$
Negative seven is greater than negative eleven.

7.
$$4\overline{)56}\quad \begin{array}{r} 14 \\ \hline 4 \\ 16 \\ 16 \\ \hline 0 \end{array}$$
$$8\overline{)456}\quad \begin{array}{r} 57 \\ \hline 40 \\ 56 \\ 56 \\ \hline 0 \end{array}$$
$$7\overline{)3456}\quad \begin{array}{r} 493 \text{ R } 5 \\ \hline 28 \\ 65 \\ 63 \\ \hline 26 \\ 21 \\ \hline 5 \end{array}$$

$3 + 4 + 5 + 6 = 18$
1, 2, 3, 4, 6, 8, 9

8.



9. $(6 \times 1000) + (4 \times 100)$

10.
$$\begin{array}{r} \$10.00 \\ -\ \$4.60 \\ \hline \$5.40 \end{array}$$
$x = \mathbf{\$5.40}$

11.
$$\begin{array}{r} 4500 \\ +\ 3850 \\ \hline 8350 \end{array}$$
$p = \mathbf{8350}$

12.
$$\begin{array}{r} \$6.25 \\ 8\overline{)\$50.00} \\ 48 \\ \hline 20 \\ 16 \\ \hline 40 \\ 40 \\ \hline 0 \end{array}$$
$z = \mathbf{\$6.25}$

13.
$$\begin{array}{r} 7 \\ 4 \\ 8 \\ 6 \\ 2 \\ 1 \\ 6 \\ 8 \\ +\ 9 \\ \hline 51 \end{array}$$

$$\begin{array}{r} 60 \\ -\ 51 \\ \hline 9 \end{array}$$
$n = \mathbf{9}$

14.
$$\begin{array}{r} 1426 \\ -\ 87 \\ \hline 1339 \end{array}$$
$k = \mathbf{1339}$

15.
$$\begin{array}{r} 22 \\ 45\overline{)990} \\ 90 \\ \hline 90 \\ 90 \\ \hline 0 \end{array}$$
$p = \mathbf{22}$

16.
$$\begin{array}{r} 32 \\ \times\ 8 \\ \hline 256 \end{array}$$
$z = \mathbf{256}$

17.
$$\begin{array}{r} \mathbf{35} \\ 35\overline{)1225} \\ 105 \\ \hline 175 \\ 175 \\ \hline 0 \end{array}$$

18.
$$\begin{array}{r} 800 \\ \times\ 50 \\ \hline \mathbf{40{,}000} \end{array}$$

19.
$$\begin{array}{r} \$100.00 \\ -\ \$48.37 \\ \hline \mathbf{\$51.63} \end{array}$$

20.
$$\begin{array}{r} 46{,}302 \\ +\ 49{,}998 \\ \hline \mathbf{96{,}300} \end{array}$$

21.
$$\begin{array}{r} \mathbf{\$2.25} \\ 20\overline{)\$45.00} \\ 40 \\ \hline 50 \\ 40 \\ \hline 100 \\ 100 \\ \hline 0 \end{array}$$

22.
$$\begin{array}{r} 11 \\ \times\ 7 \\ \hline 77 \end{array}$$

$$\begin{array}{r} 77 \\ \times\ 13 \\ \hline 231 \\ 77 \\ \hline \mathbf{1001} \end{array}$$

23.
$$\begin{array}{r} \mathbf{4\,807\ R\ 8} \\ 9\overline{)43{,}271} \\ 36 \\ \hline 72 \\ 72 \\ \hline 07 \\ 0 \\ \hline 71 \\ 63 \\ \hline 8 \\ 0 \\ \hline 8 \end{array}$$

24.
$$\begin{array}{r} 3625 \\ 59 \\ 570 \\ +\ 8 \\ \hline \mathbf{4262} \end{array}$$

25.
$$\begin{array}{r} \$0.48 \\ \$8.49 \\ +\ \$14.00 \\ \hline \mathbf{\$22.97} \end{array}$$

26.
$$\begin{array}{r} 430 \\ -\ 58 \\ \hline 372 \end{array} \qquad \begin{array}{r} 1000 \\ -\ 372 \\ \hline \mathbf{628} \end{array}$$

27.
$$\begin{array}{r} 140 \\ \times\ 16 \\ \hline 840 \\ 140 \\ \hline \mathbf{2240} \end{array}$$

28.
$$\begin{array}{r} \$0.25 \\ \times\ 24 \\ \hline 1\,00 \\ 5\,0 \\ \hline \mathbf{\$6.00} \end{array}$$

29.
$$\begin{array}{r} \mathbf{\$4.35} \\ 10\overline{)\$43.50} \\ 40 \\ \hline 3\,5 \\ 3\,0 \\ \hline 50 \\ 50 \\ \hline 0 \end{array}$$

30. **Commutative property of multiplication; the order of the factors can be changed without changing the product.**

Lesson 7, Lesson Practice

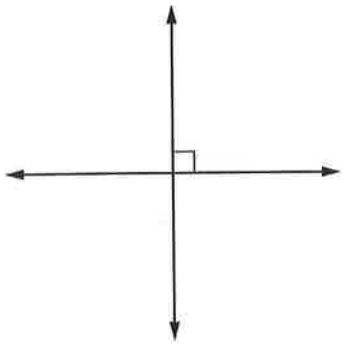
a. **Point *A***

b. $XY = XZ - YZ$
$XY = 10 - 6$
$XY = \mathbf{4\ cm}$

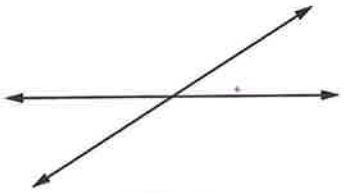
c.



d.

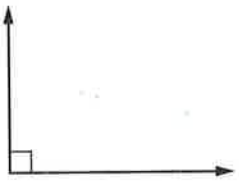


e.

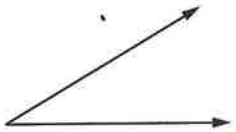


Oblique

f.



g.



h.



i. **Perpendicular**

Lesson 7, Mixed Practice

1. $7 + 5 = \mathbf{12}$

2. **Identity property of multiplication**

3. **1, 2, 5, 10, 25, 50**

4. $\mathbf{2 - 5 = -3}$

5. **90,000,000**

6.
$$\begin{array}{r} 115\text{ R }4 \\ 8\overline{)924} \\ \underline{8} \\ 12 \\ \underline{8} \\ 44 \\ \underline{40} \\ 4 \end{array} \qquad \begin{array}{r} 132 \\ 7\overline{)924} \\ \underline{7} \\ 22 \\ \underline{21} \\ 14 \\ \underline{14} \\ 0 \end{array}$$

$9 + 2 + 4 = 15$

1, 2, 3, 4, 5, 6, 7

7. **−10, −7, −2, 0, 5, 8**

8. **This is a sequence of perfect squares.**

$11 \cdot 11 =$ **121**

$12 \cdot 12 =$ **144**

$13 \cdot 13 =$ **169**

9. **Posts**

10. (a) Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24

Factors of 32: 1, 2, 4, 8, 16, 32

1, 2, 4, 8

(b) **8**

11. **7 units**

12. $6 \cdot 6 = 36$

$$\begin{array}{r} 34 \\ 36\overline{)1224} \\ \underline{108} \\ 144 \\ \underline{144} \\ 0 \end{array}$$

$z =$ **34**

13.
$$\begin{array}{r} \$100.00 \\ -\ \$17.54 \\ \hline \$82.46 \end{array}$$

$k =$ **$82.46**

14.
$$\begin{array}{r} 432 \\ +\ 98 \\ \hline 530 \end{array}$$

$w =$ **530**

15.
$$\begin{array}{r} \$1.80 \\ 20\overline{)\$36.00} \\ \underline{20} \\ 16\ 0 \\ \underline{16\ 0} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

$x =$ **$1.80**

16.
$$\begin{array}{r} 200 \\ \times\ 20 \\ \hline 4000 \end{array}$$

$w =$ **4000**

17.
$$\begin{array}{r} \mathbf{10} \\ 30\overline{)300} \\ \underline{30} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

$x =$ **10**

18. **The quotient does not have a remainder (the remainder is zero). A number is divisible by 9 if the sum of its digits is divisible by 9. The sum of the digits in 4554 is 18, which is divisible by 9.**

19.
$$\begin{array}{r} 36{,}475 \\ +\ 55{,}984 \\ \hline \mathbf{92{,}459} \end{array}$$

20.
$$\begin{array}{r} 476 \\ \times\ 38 \\ \hline 3\,808 \\ 14\,28 \\ \hline \mathbf{18{,}088} \end{array}$$

21.
$$\begin{array}{r} \$80.00 \\ -\ \$72.45 \\ \hline \mathbf{\$7.55} \end{array}$$

22.
$$\begin{array}{r} 49 \\ 387 \\ 1579 \\ +\ 98 \\ \hline \mathbf{2113} \end{array}$$

23.
$$\begin{array}{r} \$1.70 \\ 40\overline{)\$68.00} \\ 40 \\ \hline 28\,0 \\ 28\,0 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$

24. $8 \cdot 7 = 56$

$$\begin{array}{r} 56 \\ \times\ 5 \\ \hline \mathbf{280} \end{array}$$

25. $200 \div 10 = 20$

$$\begin{array}{r} 200 \\ 20\overline{)4000} \\ 40 \\ \hline 00 \\ 0 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 20 \\ 200\overline{)4000} \\ 400 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$

$20 \div 10 = 2$

$200 > 2$

26. (a) $200(400) = \mathbf{80{,}000}$

(b) $200 - 400 = \mathbf{-200}$

(c) $\frac{400}{200} = \mathbf{2}$

27. (a) $\angle BMC$ or $\angle CMB$

(b) $\angle AMC$ or $\angle CMA$

28. **Right angle**

29. $\overline{XY}$ (or $\overline{YX}$), $\overline{YZ}$ (or $\overline{ZY}$), $\overline{XZ}$ (or $\overline{ZX}$)

30. **Add m$\overline{XY}$ and m$\overline{YZ}$ to find m$\overline{XZ}$.**

Lesson 8, Lesson Practice

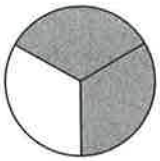
a. $\frac{3}{5}$

b. $100\% \div 5 = 20\%$

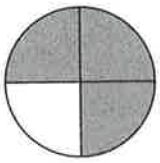
$20\% \times 3 = \mathbf{60\%}$

c. $100\% \div 2 = \mathbf{50\%}$

d.



e.



f.



g. $\mathbf{4\frac{2}{3}}$

h. $\mathbf{13\frac{1}{4}}$

i. $\mathbf{3\frac{5}{16}}$ **in.**

j. $\frac{1}{2}$ of $\frac{1}{8} = \mathbf{\frac{1}{16}}$ **inch**

Lesson 8, Mixed Practice

1. $\mathbf{1\frac{3}{4} > 1\frac{3}{5}}$

2. $XY = 2\frac{4}{16} = \mathbf{2\frac{1}{4}}$ **in.**

$YZ = \mathbf{1\frac{1}{16}}$ **in.**

3. Product of 20 and 20 = 400
Sum of 10 and 10 = 20

$$\begin{array}{r} \mathbf{20} \\ 20\overline{)400} \\ \underline{40} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

4.
$$\begin{array}{r} 85 \\ 8\overline{)680} \\ \underline{64} \\ 40 \\ \underline{40} \\ 0 \end{array} \qquad \begin{array}{r} 240 \\ 7\overline{)1680} \\ \underline{14} \\ 28 \\ \underline{28} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

1 + 6 + 8 + 0 = 15
1, 2, 3, 4, 5, 6, 7, 8

5. $\mathbf{3\frac{4}{5}}$

6. (a) 3 + 2 = 2 + 3

(b) **Commutative property of addition**

7. **Thirty-two billion, five hundred million**

8. (a) $\mathbf{\frac{3}{8}}$

(b) $\mathbf{\frac{5}{8}}$

9. (a) 100% ÷ 5 = 20%
20% × 1 = **20%**

(b) 20% × 4 = **80%**

10. **Denominator**

11.
$$\begin{array}{r} \$2.35 \\ +\ \$4.70 \\ \hline \$7.05 \end{array}$$
a = **$7.05**

12.
$$\begin{array}{r} \$60.00 \\ -\ \$25.48 \\ \hline \mathbf{\$34.52} \end{array}$$
b = **$34.52**

13.
$$\begin{array}{r} \$7.50 \\ 8\overline{)\$60.00} \\ \underline{56} \\ 40 \\ \underline{40} \\ 00 \\ \underline{0} \\ 0 \end{array}$$
c = **$7.50**

14.
$$\begin{array}{r} 10{,}000 \\ -\ 5\,420 \\ \hline 4\,580 \end{array}$$
d = **4580**

15.
$$\begin{array}{r} 15 \\ \times\ 15 \\ \hline 75 \\ \underline{15} \\ 225 \end{array}$$
e = **225**

16.
$$\begin{array}{r} 14 \\ 14\overline{)196} \\ \underline{14} \\ 56 \\ \underline{56} \\ 0 \end{array}$$
f = **14**

17.
$$\begin{array}{r} 8 \\ 9 \\ 8 \\ 8 \\ 9 \\ +\ 8 \\ \hline 50 \end{array} \qquad \begin{array}{r} 60 \\ -\ 50 \\ \hline 10 \end{array}$$
n = **10**

18.
$$\begin{array}{r} 400 \\ \times\ 500 \\ \hline \mathbf{200{,}000} \end{array}$$

19.
$$\begin{array}{r} \$0.79 \\ \times\ 30 \\ \hline \mathbf{\$23.70} \end{array}$$

20.
$$\begin{array}{r} {\scriptstyle 1\,1\,1} \\ 3625 \\ 431 \\ +\ 687 \\ \hline \mathbf{4743} \end{array}$$

21.
$$\begin{array}{r} \mathbf{120} \\ 50\overline{)6000} \\ \underline{50} \\ 100 \\ \underline{100} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

22. $\begin{array}{r} 20 \\ \times\ 10 \\ \hline 200 \end{array}$ $\begin{array}{r} 200 \\ \times\ 5 \\ \hline \mathbf{1000} \end{array}$

23.
$$\begin{array}{r} \mathbf{\$1.50} \\ 18\overline{)\$27.00} \\ \underline{18} \\ 90 \\ \underline{90} \\ 00 \\ \underline{0} \\ 0 \end{array}$$

24.
$$\begin{array}{r} \mathbf{576} \\ 6\overline{)3456} \\ \underline{30} \\ 45 \\ \underline{42} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

25. (a) $\begin{array}{r} 1000 \\ -\ \ 11 \\ \hline \mathbf{989} \end{array}$

(b) **−989**

26. $k = 3(10) - 1$
$k = 30 - 1$
$k = \mathbf{29}$

27. $\begin{array}{r} 86 \\ +\ 119 \\ \hline 205 \end{array}$ $\begin{array}{r} 416 \\ -\ 205 \\ \hline 211 \end{array}$

$\begin{array}{r} {}^{3}\not{4}{}^{1}16 \\ -\ \ 86 \\ \hline 330 \end{array}$ $\begin{array}{r} 330 \\ +\ 119 \\ \hline 449 \end{array}$

$211 < 449$

28. Acute: **∠CBA** (or **∠ABC**)
Obtuse: **∠DAB** (or **∠BAD**)
Right: **∠CDA** (or **∠ADC**)
and **∠DCB** (or **∠BCD**)

29. (a) $\overline{CB}$ (or $\overline{BC}$)

(b) $\overline{DC}$ (or $\overline{CD}$)

30. **$\overline{QR}$ identifies the segment QR, while QR refers to the distance from Q to R. So $\overline{QR}$ is a segment and QR is a length.**

LESSON 9, LESSON PRACTICE

a. $\frac{5}{6} + \frac{1}{6} = \frac{6}{6} = \mathbf{1}$

b. $\mathbf{\frac{1}{5}}$

c. $\frac{3}{5} \times \frac{1}{2} = \frac{3}{10}$ $\quad \frac{3}{10} \times \frac{3}{4} = \mathbf{\frac{9}{40}}$

d. $\mathbf{\frac{8}{3}}$

e. $\mathbf{\frac{8}{21}}$

f. $\frac{5}{8} - \frac{5}{8} = \frac{0}{8} = \mathbf{0}$

g. $\mathbf{28\frac{4}{7}\%}$

h. **75%**

i. $\mathbf{\frac{5}{4}}$

j. $\mathbf{\frac{7}{8}}$

k. $\mathbf{\frac{1}{5}}$

l. $\frac{8}{5}$

m. $\frac{1}{6}$

n. $\frac{1}{20}$ of an inch, because $\frac{1}{2}$ of $\frac{1}{10}$ is $\frac{1}{20}$.

o. $\frac{3}{2}$

p. $\frac{1}{4}$

Lesson 9, Mixed Practice

1. $1 + 2 + 3 = 6 \quad \frac{6}{6} = 1$
   $1 \cdot 2 \cdot 3 = 6$

2. **45¢ per pound; $0.45 per pound**

3. (a) $\frac{1}{2} > \frac{1}{2} \cdot \frac{1}{2}$ **One half is greater than one half times one half.**

   (b) $-2 > -4$ **Negative two is greater than negative four.**

4. **(2 × 10,000) + (6 × 1000)**

5. (a) $\frac{10}{100} = \frac{1}{10}$

   (b) 100% ÷ 10 = **10%**

6. (a) $\frac{5}{9}$

   (b) $\frac{4}{9}$

7. **It is a segment because it has two endpoints.**

8. $LM = 1\frac{1}{4}$ in.

   $MN = 1\frac{1}{4}$ in.

   $LN = 2\frac{1}{2}$ in.

9. (a) **1, 2, 3, 6, 9, 18**

   (b) **1, 2, 3, 4, 6, 8, 12, 24**

   (c) **1, 2, 3, 6**

   (d) **6**

10. (a) $\frac{2}{5} + \frac{2}{5} = \frac{4}{5}$

    (b) $\frac{2}{5} - \frac{2}{5} = \frac{0}{5} = 0$

11.
$$\begin{array}{r} 200{,}000 \\ -\ 85{,}000 \\ \hline 115{,}000 \end{array}$$
b = **115,000**

12.
$$\begin{array}{r} 15 \\ 60\overline{)900} \\ 60 \\ \hline 300 \\ 300 \\ \hline 0 \end{array}$$
c = **15**

13.
$$\begin{array}{r} \$20.00 \\ -\ \$5.60 \\ \hline \$14.40 \end{array}$$
d = **$14.40**

14.
$$\begin{array}{r} \$2.50 \\ 12\overline{)\$30.00} \\ 24 \\ \hline 60 \\ 60 \\ \hline 00 \\ 0 \\ \hline 0 \end{array}$$
e = **$2.50**

15.
$$\begin{array}{r} \$12.47 \\ +\ \$98.03 \\ \hline \$110.50 \end{array}$$
f = **$110.50**

16.
$$\begin{array}{r} 5 \\ 7 \\ 5 \\ 7 \\ 6 \\ 1 \\ 2 \\ 3 \\ +\ 4 \\ \hline 40 \end{array} \qquad \begin{array}{r} 40 \\ -\ 40 \\ \hline 0 \end{array}$$
n = **0**

17. $2\frac{8}{15}$

18. $2\frac{7}{8}$

19. $\frac{3}{16}$

20.
$$\begin{array}{r} 106 \\ 17\overline{)1802} \\ \underline{17} \\ 10 \\ \underline{0} \\ 102 \\ \underline{102} \\ 0 \end{array}$$

21.
$$\begin{array}{r} \$8.97 \\ \$110.00 \\ +\ \$0.53 \\ \hline \mathbf{\$119.50} \end{array}$$

22.
$$\begin{array}{r} \$60.00 \\ -\ \$49.49 \\ \hline \mathbf{\$10.51} \end{array}$$

23.
$$\begin{array}{r} 607 \\ \times\ 78 \\ \hline 4856 \\ 4249 \\ \hline \mathbf{47{,}346} \end{array}$$

24.
$$\begin{array}{r} \$0.09 \\ \times\ 56 \\ \hline 54 \\ 45 \\ \hline \mathbf{\$5.04} \end{array}$$

25.
$$\begin{array}{r} 50 \\ \times\ 60 \\ \hline 3000 \end{array} \qquad \begin{array}{r} 3000 \\ \times\ 70 \\ \hline \mathbf{210{,}000} \end{array}$$

26. $\frac{4}{5} \times \frac{2}{3} = \frac{8}{15}$ $\quad \frac{8}{15} \times \frac{1}{3} = \mathbf{\frac{8}{45}}$

27. $\mathbf{\frac{7}{9}}$

28. (a) $\angle A$ and $\angle B$

(b) $\overline{AC}$ or $\overline{CA}$

29. **Each term is half of the preceding term.**
$\frac{1}{8} \times \frac{1}{2} = \mathbf{\frac{1}{16}}$

30. $\mathbf{\frac{5}{2}}$

Lesson 10, Lesson Practice

a.
$$\begin{array}{r} 8 \\ 4\overline{)35} \\ \underline{32} \\ 3 \end{array}$$
$8\frac{3}{4}$ inches

b.
$$\begin{array}{r} 14 \\ 7\overline{)100\%} \\ \underline{7} \\ 30 \\ \underline{28} \\ 2 \end{array}$$
$14\frac{2}{7}\%$

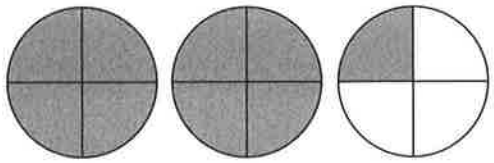
c.
$$\begin{array}{r} 2 \\ 5\overline{)12} \\ \underline{10} \\ 2 \end{array}$$
$2\frac{2}{5}$

d.
$$\begin{array}{r} 2 \\ 6\overline{)12} \end{array}$$
2

e. $2\frac{12}{7} = \frac{7 \times 2 + 12}{7} = \frac{26}{7}$

$$\begin{array}{r} 3 \\ 7\overline{)26} \\ \underline{21} \\ 5 \end{array}$$
$3\frac{5}{7}$

f.



g. $\frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{6}{3} = 2$

h. $\frac{7}{3} \times \frac{2}{3} = \frac{14}{9}$

$9\overline{)14}$ $\quad 1$

$\underline{9}$

5 $\longrightarrow 1\frac{5}{9}$

i. $1\frac{2}{3} + 1\frac{2}{3} = 2\frac{4}{3} = 3\frac{1}{3}$

j. $1\frac{2}{3} = \frac{3 \times 1 + 2}{3} = \frac{5}{3}$

k. $3\frac{5}{6} = \frac{6 \times 3 + 5}{6} = \frac{23}{6}$

l. $4\frac{3}{4} = \frac{4 \times 4 + 3}{4} = \frac{19}{4}$

m. $5\frac{1}{2} = \frac{2 \times 5 + 1}{2} = \frac{11}{2}$

n. $6\frac{3}{4} = \frac{4 \times 6 + 3}{4} = \frac{27}{4}$

o. $10\frac{2}{5} = \frac{5 \times 10 + 2}{5} = \frac{52}{5}$

LESSON 10, MIXED PRACTICE

1. **Answers will vary. One answer is** $(\frac{1}{2} \cdot \frac{1}{3}) \cdot \frac{1}{6} = \frac{1}{2} \cdot (\frac{1}{3} \cdot \frac{1}{6})$.

2. (a) **Parallel**

(b) **Perpendicular**

3. $2 + 3 + 4 = 9$

$2 \times 3 \times 4 = 24$

$24 - 9 = \mathbf{15}$

4. (a) $100\% \div 10 = 10\%$

$10\% \times 3 = \mathbf{30\%}$

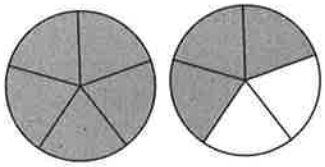
(b) **70%**

5. $3\frac{2}{3} = \frac{3 \times 3 + 2}{3} = \frac{\mathbf{11}}{\mathbf{3}}$

6. (a) $2 - 2 < 2 \div 2$

(b) $\frac{1}{2} + \frac{1}{2} > \frac{1}{2} \times \frac{1}{2}$

7. $\mathbf{9\frac{5}{6}}$

8. 

9. $8\overline{)420}$ $\quad 52$

$\underline{40}$

20

$\underline{16}$

4

$7\overline{)420}$ $\quad 60$

$\underline{42}$

00

$\underline{0}$

0

$4 + 2 + 0 = 6$

1, 2, 3, 4, 5, 6, 7

10. $36{,}275$

$- \ 12{,}500$

$23{,}775$

$x =$ **23,775**

11. $18\overline{)396}$ $\quad 22$

$\underline{36}$

36

$\underline{36}$

0

$y =$ **22**

12. $77{,}000$

$- \ 39{,}400$

37,600

$z =$ **37,600**

13. $\$1.25$

$\times \quad 8$

$\$10.00$

$a =$ **$10.00**

14. $\$8.75$

$+ \ \$16.25$

$\$25.00$

$b =$ **$25.00**

15.
$$\begin{array}{r} \$75.00 \\ -\ \$37.50 \\ \hline \$37.50 \end{array}$$
$c = \$37.50$

16.
$$\begin{array}{r} 8 \\ 7 \\ 5 \\ 6 \\ 4 \\ 3 \\ +\ 7 \\ \hline 40 \end{array} \qquad \begin{array}{r} 50 \\ -\ 40 \\ \hline 10 \end{array}$$
$n = 10$

17. $\frac{5}{2} \times \frac{5}{4} = \frac{25}{8}$ $\qquad 8\overline{)25}$ $\qquad 3\frac{1}{8}$

$\frac{24}{1}$

18. $\frac{5}{8} - \frac{5}{8} = \frac{0}{8} = 0$

19. $\frac{11}{20} + \frac{18}{20} = \frac{29}{20} = \frac{20}{20} + \frac{9}{20} = 1\frac{9}{20}$

20.
$$\begin{array}{r} 680 \\ -\ 59 \\ \hline 621 \end{array} \qquad \begin{array}{r} 2000 \\ -\ 621 \\ \hline 1379 \end{array}$$

21. $9\overline{)100\%}$ $\qquad 11\frac{1}{9}\%$

$\frac{9}{10}$

$\frac{9}{1}$

22.
$$\begin{array}{r} \$0.89 \\ \$0.57 \\ +\ \$15.74 \\ \hline \$17.20 \end{array}$$

23.
$$\begin{array}{r} 800 \\ \times\ 300 \\ \hline 240{,}000 \end{array}$$

24. $2\frac{2}{3} + 2\frac{2}{3} = 4\frac{4}{3} = 4\frac{1}{3} + \frac{3}{3}$

$= 4\frac{1}{3} + 1 = 5\frac{1}{3}$

25. $\frac{8}{27}$

26. (a) **Ray;** $\overrightarrow{MC}$

(b) **Line;** $\overleftrightarrow{PM}$ or $\overleftrightarrow{MP}$

(c) **Segment;** $\overline{FH}$ or $\overline{HF}$

27. $\frac{9}{5}$

28. $\frac{1}{2}$ of $2 = 1$

$\frac{1}{2}$ of $1 = \frac{1}{2}$

$\frac{1}{2}$ of $\frac{1}{2} = \frac{1}{4}$

29. C. $\frac{1}{2}$

30. (a) -5

(b) $\frac{1}{3}$

LESSON 11, LESSON PRACTICE

a. $118 + N = 230$

$$\begin{array}{r} 230 \\ -\ 118 \\ \hline 112 \end{array} \qquad \begin{array}{r} 118 \text{ pounds} \\ +\ 112 \text{ pounds} \\ \hline 230 \text{ pounds} \end{array}$$ check

112 pounds

b. $T + 216 = 400$

$$\begin{array}{r} 400 \\ -\ 216 \\ \hline 184 \end{array} \qquad \begin{array}{r} 216 \text{ turns} \\ +\ 184 \text{ turns} \\ \hline 400 \text{ turns} \end{array}$$ check

184 turns

c. $254 - H = 126$

$$\begin{array}{r} 254 \\ -\ 126 \\ \hline 128 \end{array} \qquad \begin{array}{r} 126 \text{ horses} \\ +\ 128 \text{ horses} \\ \hline 254 \text{ horses} \end{array}$$ check

128 horses

d. $P - 36 = 164$

$$\begin{array}{r} 164 \\ +\ 36 \\ \hline 200 \end{array} \qquad \begin{array}{r} 200 \text{ sheets} \\ -\ 36 \text{ sheets} \\ \hline 164 \text{ sheets} \end{array}$$ check

200 sheets