

Section 10 Lessons 91–100, Investigation 10

Lesson Practice 91

- a. $1\frac{1}{2}$; to convert $\frac{6}{4}$ to a mixed number, we divide 6 by 4 and get $1\frac{2}{4}$. Then we reduce $1\frac{2}{4}$ by dividing both terms of the fraction by 2 and get $1\frac{1}{2}$.
- b. $1\frac{2}{3}$; to convert $\frac{10}{6}$ to a mixed number, we divide 10 by 6 and get $1\frac{4}{6}$. Then we reduce $1\frac{4}{6}$ by dividing both terms of the fraction by 2 and get $1\frac{2}{3}$.
- c. $3\frac{1}{3}$; we divide the fraction 8 by 6 and get $1\frac{2}{6}$. Then you add $2 + 1\frac{2}{6}$, which is equal to $3\frac{2}{6}$. Then we reduce $\frac{2}{6}$ by dividing both terms of the fraction by 2 and get $3\frac{1}{3}$.
- d. $5\frac{1}{2}$; we divide the fraction 10 by 4 and get $2\frac{2}{10}$. Then you add $3 + 2\frac{2}{10}$, which is equal to $5\frac{2}{10}$. Then we reduce $\frac{2}{10}$ by dividing both terms of the fraction by 5 and get $5\frac{1}{5}$.
- e. $2\frac{1}{2}$; to convert $\frac{10}{4}$ to a mixed number, we divide 10 by 4 and get $2\frac{2}{10}$. Then we reduce $2\frac{2}{4}$ by dividing both terms of the fraction by 2 and get $2\frac{1}{2}$.
- f. $1\frac{1}{2}$; to convert $\frac{12}{8}$ to a mixed number, we divide 12 by 8 and get $1\frac{4}{8}$. Then we reduce $1\frac{4}{8}$ by dividing both terms of the fraction by 4 and get $1\frac{1}{2}$.
- g. $5\frac{3}{4}$; we divide the fraction 14 by 8 and get $1\frac{6}{8}$. Then you add $4 + 1\frac{6}{8}$, which is equal to $5\frac{6}{8}$. Then we reduce $\frac{6}{8}$ by dividing both terms of the fraction by 2 and get $5\frac{3}{4}$.
- h. $2\frac{1}{4}$; we divide the fraction 10 by 8 and get $1\frac{2}{8}$. Then you add $1 + 1\frac{2}{8}$, which is equal to $2\frac{2}{8}$. Then we reduce $\frac{2}{8}$ by dividing both terms of the fraction by 2 and get $2\frac{1}{4}$.
- i. $3\frac{2}{3}$; we add $1\frac{5}{6}$ and $1\frac{5}{6}$ to get $2\frac{10}{6}$. We convert the improper fraction $\frac{10}{6}$ to $1\frac{4}{6}$ and add it to the 2 to get $3\frac{4}{6}$. Finally, we reduce the fraction to get $3\frac{2}{3}$.

- j. $7\frac{1}{2}$; we add $2\frac{3}{4}$ and $4\frac{3}{4}$ to get $6\frac{6}{4}$. We convert the improper fraction $\frac{6}{4}$ to $1\frac{2}{4}$ and add it to the 6 to get $7\frac{2}{4}$. Finally, we reduce the fraction to get $7\frac{1}{2}$.
- k. $2\frac{1}{2}$; we multiply $\frac{5}{3}$ and $\frac{3}{2}$ to get $\frac{15}{6}$. We convert the fraction $\frac{15}{6}$ to $2\frac{3}{6}$. Then we reduce $2\frac{3}{6}$ by dividing both terms of the fraction by 3 and $2\frac{1}{2}$.
- l. $2\frac{1}{2}$ inches; $\frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} = \frac{20}{8}$; $\frac{20}{8} = 2\frac{4}{8}$; $2\frac{4}{8} = 2\frac{1}{2}$

Written Practice 91

1. **60 feet**; one fathom is 6 feet deep so 10 fathoms is $10 \times 6 = 60$ feet.
2. **\$32.50; 10:30 to 3:30 is 5 hrs; $5 \times \$6.50 = \32.50 .**
3. **154,343,515**
4. a. **4 laps**; there are 4 quarter-miles in one mile.
b. **20 laps**; $5 \times 4 = 20$ laps
5. $\frac{6}{8}$; $1\frac{3}{8}$
6. $1\frac{1}{3}$; $1\frac{2}{6} = 1\frac{1}{3}$
7. **C**
8. $1 = 1$; $\frac{1}{2}$ of 2 $\bigcirc 2 \times \frac{1}{2}$
 $\downarrow \quad \downarrow \quad \downarrow$
 $\frac{1}{2} \times 2 \bigcirc 2 \times \frac{1}{2}$
 $\frac{2}{2} \bigcirc \frac{2}{2}$
 $1 = 1$
9. **10**
10. **6.8 cm**; $3.2 + 1.8 + 1.8 = 6.8$ cm
11. $3\frac{1}{2}$; we add $1\frac{3}{4}$ and $1\frac{3}{4}$ to get $2\frac{6}{4}$. We convert the improper fraction $\frac{6}{4}$ to $1\frac{2}{4}$ and add it to the 2 to get $3\frac{2}{4}$. Finally, we reduce the fraction to get $3\frac{1}{2}$.

12. $4\frac{1}{2}$; we subtract $5\frac{7}{8}$ and $1\frac{3}{8}$ to get $4\frac{4}{8}$. Then we reduce the fraction to get $4\frac{1}{2}$.

13. $1\frac{1}{8}$; we multiply 3 and $\frac{3}{8}$ to get $\frac{9}{8}$. We convert the improper fraction $\frac{9}{8}$ to $1\frac{1}{8}$.

14. \$8.40; $\$10 - \$1.60 = \$8.40$

$$\begin{array}{r} 15. \$21.60; \quad \$4.32 \\ \times \quad 5 \\ \hline \$21.60 \end{array}$$

$$\begin{array}{r} 16. 307,840; \quad \quad \quad 416 \\ \times 740 \\ \hline 16640 \\ + 291200 \\ \hline 307,840 \end{array}$$

17. 1.56; $4.51 - (2.3 + 0.65)$

$$\begin{array}{r} 2.3 \\ + 0.65 \\ \hline 2.95 \\ 4.51 - \quad 2.95 \\ \hline 1.56 \end{array}$$

$$\begin{array}{r} 3\frac{1}{4} \\ 4.51 \\ - 2.95 \\ \hline 1.56 \end{array}$$

$$\begin{array}{r} 18. 120; \quad \quad \quad 120 \\ 8 \overline{)960} \\ \underline{-8} \\ 16 \\ \underline{-16} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

$$\begin{array}{r} 19. 120; \quad \quad \quad 120 \\ 80 \overline{)9600} \\ \underline{-80} \\ 160 \\ \underline{-160} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

$$\begin{array}{r} 20. \$2.40; m = \frac{\$12.00}{5}; \quad \quad \quad \$2.40 \\ 5 \overline{) \$12.00} \\ \underline{-10} \\ 20 \\ \underline{-20} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

21. $1\frac{2}{3}$; we multiply $\frac{5}{2}$ and $\frac{2}{3}$ to get $\frac{10}{6}$. We convert the improper fraction $\frac{10}{6}$ to $1\frac{4}{6}$. We then reduce the fraction to get $1\frac{2}{3}$.

22. 2; there are 2 one-thirds in two thirds.

23. 4; there are 4 one-sixths in two thirds.

24. a. 5; $1 + 5, 5 + 1, 4 + 2, 2 + 4, 3 + 3$

b. $\frac{3}{36} = \frac{1}{6}$

c. A sum of 9; there are 4 combinations that total 9, but only 3 that total 4.

25. 1, 4, 4, 1, 4

26. 6, 6, 7, 9, 8, 6, 8

a. 7

b. 6

c. 3; $9 - 6 = 3$

d. $7\frac{1}{7}; \frac{(6 + 6 + 7 + 9 + 8 + 6 + 8)}{7} = \frac{50}{7} = 7\frac{1}{7}$

27. C

28. 15°F ; $34^\circ\text{F} - 19^\circ\text{F} = 15^\circ\text{F}$

29. $\frac{1}{2}$ hr; $\frac{1}{4} + \frac{1}{4} = \frac{2}{4} = \frac{1}{2}$

30. 28 feet; $\sqrt{784}$ sq. ft = 28 ft

Early Finishers

a. See student work.

b. $1\frac{1}{4}$ gallons of paint; $\frac{15}{8} = \frac{17}{8}$ rolls of border

Lesson Practice 92

a. $300 \div 10 = 30$

b. $240 \div 20 = 12$

c. 13;

$$\begin{array}{r} 13 \\ 31 \overline{)403} \\ \underline{-31} \\ 93 \\ \underline{-93} \\ 0 \end{array}$$

d. 21 R 1;
$$\begin{array}{r} 21 \overline{)253} \\ \underline{-24} \\ 13 \\ \underline{-12} \\ 1 \end{array}$$

e. 25;
$$\begin{array}{r} 25 \overline{)300} \\ \underline{-24} \\ 60 \\ \underline{-60} \\ 0 \end{array}$$

f. 22 R 4;
$$\begin{array}{r} 22 \overline{)510} \\ \underline{-46} \\ 50 \\ \underline{-46} \\ 4 \end{array}$$

g. 12 players; $144 \div 12 = 12$

h. 22 R 22;
$$\begin{array}{r} 22 \overline{)682} \\ \underline{-60} \\ 82 \\ \underline{-60} \\ 22 \end{array}$$

i. 22 R 5;
$$\begin{array}{r} 22 \overline{)709} \\ \underline{-64} \\ 69 \\ \underline{-64} \\ 5 \end{array}$$

j. 20 R 20;
$$\begin{array}{r} 20 \overline{)880} \\ \underline{-80} \\ 20 \\ \underline{-20} \\ 20 \end{array}$$

k. 42;
$$\begin{array}{r} 42 \overline{)924} \\ \underline{-88} \\ 44 \\ \underline{-44} \\ 0 \end{array}$$

l. 34 R 2;
$$\begin{array}{r} 34 \overline{)750} \\ \underline{-66} \\ 90 \\ \underline{-88} \\ 2 \end{array}$$



m. 6;
$$\begin{array}{r} 6 \overline{)126} \\ \underline{-126} \\ 0 \end{array}$$

n. 31 R 3;
$$\begin{array}{r} 31 \overline{)654} \\ \underline{-63} \\ 24 \\ \underline{-21} \\ 3 \end{array}$$

o. 22 R 8;
$$\begin{array}{r} 22 \overline{)910} \\ \underline{-82} \\ 90 \\ \underline{-82} \\ 8 \end{array}$$

p. 61 R 9;
$$\begin{array}{r} 61 \overline{)1290} \\ \underline{-126} \\ 30 \\ \underline{-21} \\ 9 \end{array}$$

Written Practice 92

- Sample:  and 
- 150 minutes; $2\frac{1}{2}$ hours is equal to 150 minutes
- 3.9
- 36 eggs; each carton can hold 12 eggs, so 3 cartons can hold $3 \times 12 = 36$ eggs.
- 64 cubes; $4 \times 4 \times 4 = 64$
- a. 3 apples; there are 3 one-thirds in one.
b. 12 apples; $3 \text{ one-thirds} \times 4 = 12$ or 12 apples
- Pyramid; 8 edges
- 0.50; $\frac{1}{2}$; 50%
- D
- 80 millimeters; BC and CD both equal 20 mm. This means AD is equal to $40 + 20 + 20 = 80$.

11. 14.95;
$$\begin{array}{r} 8.7 \\ + 6.25 \\ \hline 14.95 \end{array}$$

12. 8.55;
$$\begin{array}{r} 12.75 \\ - 4.2 \\ \hline 8.55 \end{array}$$

13. 64; $4 \times 4 \times 4 = 64$

14. \$1000;
$$\begin{array}{r} \$125 \\ \times 8 \\ \hline \$1000 \end{array}$$

15. $2; \sqrt{100} - \sqrt{64}$

$$\begin{array}{cc} \downarrow & \downarrow \\ 10 & - 8 = 2 \end{array}$$

16. 22 R 7;
$$\begin{array}{r} 22 \text{ R } 7 \\ 13 \overline{)293} \\ \underline{-26} \\ 33 \\ \underline{-26} \\ 7 \end{array}$$

17. 21 R 6;
$$\begin{array}{r} 21 \text{ R } 6 \\ 24 \overline{)510} \\ \underline{-48} \\ 30 \\ \underline{-24} \\ 6 \end{array}$$

18. $5\frac{1}{2}$; we add $3\frac{5}{8}$ and $1\frac{7}{8}$ to get $4\frac{12}{8}$. We convert the improper fraction $\frac{12}{8}$ to $1\frac{4}{8}$ and add it to the 4 to get $5\frac{4}{8}$. Finally, we reduce the fraction to get $5\frac{1}{2}$.

19. $3\frac{3}{5}$; $4\frac{5}{5} - 1\frac{2}{5} = 3\frac{3}{5}$

20. $1\frac{2}{3}$; $\frac{5}{3} = 1\frac{2}{3}$

21. 1 ; $\frac{12}{12} = 1$

22. 3; there are 3 one-fifths in six tenths.

23. $\frac{4}{10}$; $\frac{1}{2}$; the fraction $\frac{2}{5}$ can be rewritten with a denominator of 10 as $\frac{4}{10}$. $\frac{4}{10} + \frac{1}{10} = \frac{5}{10} = \frac{1}{2}$

24. 12 sq. ft; round 3 ft 10 in. to 4 ft and 2 ft 11 in. to 3 ft. $4 \text{ ft} \times 3 \text{ ft} = 12 \text{ sq. ft}$

25. a. Unlikely

b. Likely

c. Impossible

26. 0.47 second; $21.81 - 21.34 = 0.47$

27. a. Round each price to the nearest dollar and then add; \$8.

b. \$8.64;
$$\begin{array}{r} \$2.19 \\ \$1.19 \\ \$3.87 \\ + \$1.39 \\ \hline \$8.64 \end{array}$$

c. \$2.88;
$$\begin{array}{r} \$2.88 \\ 3 \overline{) \$8.64} \\ \underline{-6} \\ 26 \\ \underline{-24} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

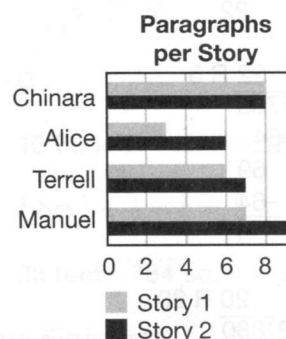
28. 4, 4, 1, 4, 4

29. Bar graph; see student work.

30. 14°F ; $75^\circ\text{F} - 61^\circ\text{F} = 14^\circ\text{F}$

Lesson Practice 93

a.



b. See student work.

Written Practice 93

1. **About 4 pounds**; 2 quarts equal 4 pints or about 4 pounds

2. **\$3.40**; Step 1: Find the price of each pound.

$$\begin{array}{r} \$0.85 \\ 3 \overline{) \$2.55} \\ \underline{-24} \\ 15 \\ \underline{-15} \\ 0 \end{array}$$

Step 2: Find the price of 4 pounds.

$$\begin{array}{r} \$0.85 \\ \times 4 \\ \hline \$3.40 \end{array}$$

3. **150 marbles;** $\frac{1}{2} \times 300 = \frac{300}{2} = 150$

4. **0.5; $\frac{1}{2}$; 50%; $\frac{5}{10}$** is the same as 0.5, $\frac{1}{2}$, and 50%.

5. **a. 5 plums;** there are 5 one-fifths in one pound.

b. 15 plums; $5 \times 3 = 15$ plums

6. $12 - 9 = 3$

7. $2 = 2; \frac{2}{3}$ of 3 $\bigcirc 3 \times \frac{2}{3}$

$$\begin{array}{ccc} \downarrow & \downarrow & \downarrow \\ \frac{2}{3} \times 3 & \bigcirc & 3 \times \frac{2}{3} \\ \frac{6}{3} & \bigcirc & \frac{6}{3} \\ 2 & = & 2 \end{array}$$

8. **B;** $n = 18 \div 3 = 6$, so $2n + 5 = 2(6) + 5 = 12 + 5 = 17$

9. 18

10. D

11. $4\frac{2}{5};$

$$\begin{array}{r} 1\frac{3}{5} \\ + 2\frac{4}{5} \\ \hline 3\frac{7}{5} = 3 + \frac{5}{5} + \frac{2}{5} = 4\frac{2}{5} \end{array}$$

12. $4\frac{1}{2};$

$$\begin{array}{r} 4\frac{5}{8} \\ - \frac{1}{8} \\ \hline 4\frac{4}{8} = 4\frac{1}{2} \end{array}$$

13. 5

14. **8;** there are 8 one-eighths in one.

15. $\frac{2}{5}; \frac{40}{100} = \frac{2}{5}$

16. **2;** there are 2 one-tenths in one fifth.

17. **7.47;** $12.34 - (5.67 - 0.8)$

$$\begin{array}{r} 12.34 \\ - 5.67 \\ + 0.8 \\ \hline 12.34 - 4.87 \end{array}$$

$$\begin{array}{r} 12.34 \\ - 4.87 \\ \hline 7.47 \end{array}$$

18. **2.69;** $(\$20 - \$6.55) \div 5$

$$\begin{array}{r} \$20.00 \\ - \$6.55 \\ \hline \$13.45 \end{array} \div 5$$

$$\begin{array}{r} \$2.69 \\ 5 \overline{) \$13.45} \\ -10 \\ \hline 34 \\ -30 \\ \hline 45 \\ -45 \\ \hline 0 \end{array}$$

19. **\$5.60;** $10 \times \$0.56 = \5.60

20. **421,200;** $6 \times 78 \times 900$

$$\begin{array}{r} 78 \\ \times 6 \\ \hline 468 \end{array} \times 900$$

$$\begin{array}{r} 468 \\ \times 900 \\ \hline 421,200 \end{array}$$

21. **31 R 9;**

$$\begin{array}{r} 31 \overline{) 970} \\ -93 \\ \hline 40 \\ -31 \\ \hline 9 \end{array}$$

22. **78;** $(9 \times 9) - \sqrt{9} = 81 - 3 = 78$

23. $\frac{9}{12}, \frac{2}{12}, \frac{11}{12};$ we multiply $\frac{3}{4}$ by $\frac{3}{3}$ and $\frac{1}{6}$ by $\frac{2}{2}$.
 $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$ and $\frac{1}{6} \times \frac{2}{2} = \frac{2}{12}$. Then we add
 $\frac{9}{12}$ and $\frac{2}{12}$ to find their sum. $\frac{9}{12} + \frac{2}{12} = \frac{11}{12}$

24. a. 3 cm

b. 10 cm; the width is equal to 2 cm, so the perimeter is equal to 3 cm + 2 cm + 3 cm + 2 cm = 10 cm

c. 6 sq. cm; $3 \text{ cm} \times 2 \text{ cm} = 6 \text{ sq. cm}$

25. a. **W**, **E**, **M**

b. 4

c. Rotation

26. a. About 15 times; 2 takes up $\frac{1}{4}$ of the spinner and $\frac{1}{4}$ of 60 is about 15.

b. 25%

c. 0.5; $\frac{1}{2} = 0.5$

27. 1896; Vermont: $1889 - 98 = 1791$;
Utah: $1791 + 105 = 1896$

28. 8 students; I used compatible numbers; since 31 is close to 32 and 32 is divisible by 4, a reasonable estimate is $32 \div 4$, or 8 students.

29. About 250 years; $2000 - 1750 = 250$

30. Enter 10,000 and press the square root key; 100 meters

Early Finishers

See student work.

Lesson Practice

94

a. 41 R 13; 41 R 13

$$\begin{array}{r} 19 \overline{)792} \\ -76 \\ \hline 32 \\ -19 \\ \hline 13 \end{array}$$

b. 20; 20

$$\begin{array}{r} 30 \overline{)600} \\ -60 \\ \hline 00 \\ -0 \\ \hline 0 \end{array}$$

c. 4 R 5; 4 R 5

$$\begin{array}{r} 29 \overline{)121} \\ -116 \\ \hline 5 \end{array}$$

d. 31 R 1; 31 R 1

$$\begin{array}{r} 29 \overline{)900} \\ -87 \\ \hline 30 \\ -29 \\ \hline 1 \end{array}$$

e. 17 R 13; 17 R 13

$$\begin{array}{r} 48 \overline{)829} \\ -48 \\ \hline 349 \\ -336 \\ \hline 13 \end{array}$$

f. 41 R 21; 41 R 21

$$\begin{array}{r} 29 \overline{)1210} \\ -116 \\ \hline 50 \\ -29 \\ \hline 21 \end{array}$$

g. 32; 32

$$\begin{array}{r} 28 \overline{)896} \\ -84 \\ \hline 56 \\ -56 \\ \hline 0 \end{array}$$

h. 43 R 8; 43 R 8

$$\begin{array}{r} 18 \overline{)782} \\ -72 \\ \hline 62 \\ -54 \\ \hline 8 \end{array}$$

i. 30 R 30; 30 R 30

$$\begin{array}{r} 39 \overline{)1200} \\ -117 \\ \hline 30 \\ -30 \\ \hline 0 \end{array}$$

Written Practice

94

- 11, 31, 41; 1 and 21 are not prime numbers.
- 192; check answer: $8 \times 24 = 192$
- 1320 yards; she would run twice as much.
 $660 \times 2 = 1320$ yards

4. 4.9

5. 19 trombone players; $76 \div 4 = 19$ 6. a. $\frac{1}{10}$; there are 10 dimes in one dollar.

b. 10 dimes

c. 40 dimes; $4 \times 10 = 40$

7. B

8. a. 4; there are 4 one-fourths in one.

b. 3; there are 3 one-thirds in one.

9. cone

10. B

$$\begin{array}{r}
 11. \$70.82; \quad \$63.75 \\
 \quad \quad \quad \$1.48 \\
 \quad \quad \quad \$0.59 \\
 \quad \quad \quad + \$5.00 \\
 \hline
 \quad \quad \quad \$70.82
 \end{array}$$

12. 919; $1010 - (101 - 10)$

$$1010 - 91$$

$$\begin{array}{r}
 1010 \\
 - 91 \\
 \hline
 919
 \end{array}$$

$$\begin{array}{r}
 13. \$24.36; \quad \$3.48 \\
 \quad \quad \quad \times 7 \\
 \hline
 \quad \quad \quad \$24.36
 \end{array}$$

14. 625; $25 \times 25 = 625$

15. 41 R 7; 41 R 7

$$\begin{array}{r}
 19 \overline{)786} \\
 \underline{-76} \\
 26 \\
 \underline{-19} \\
 7
 \end{array}$$

16. 14; $6 + 8 = 14$

17. 31 R 22;

$$\begin{array}{r}
 31 \text{ R } 22 \\
 38 \overline{)1200} \\
 \underline{-114} \\
 60 \\
 \underline{-38} \\
 22
 \end{array}$$

$$18. 2\frac{1}{2}; \frac{15}{6} = 2\frac{3}{6} = 2\frac{1}{2}$$

$$19. 2\frac{1}{2}; \frac{15}{6} = 2\frac{3}{6} = 2\frac{1}{2}$$

$$20. \frac{2}{3}; \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$$

$$21. 1\frac{1}{4}; 3 - \left(2 - \frac{1}{4}\right)$$

$$3 - \left(1\frac{4}{4} - \frac{1}{4}\right)$$

$$3 - 1\frac{3}{4}$$

$$2\frac{4}{4} - 1\frac{3}{4} = 1\frac{1}{4}$$

$$22. \frac{1}{4}; \frac{3}{12}; \frac{1}{4}$$

23. $\frac{8}{12}; \frac{1}{4}$; the fraction $\frac{2}{5}$ can be rewritten with a denominator of 12 as $\frac{8}{12}$. Subtract the fraction from $\frac{11}{12}$: $\frac{11}{12} - \frac{8}{12} = \frac{3}{12} = \frac{1}{4}$.

24. a. 7 inches; $67 - 60 = 7$ inches

b. 12; 5 feet is equal to 60 inches

25. a. C

b. 12 ft; 4 yd; $3 \text{ ft} + 3 \text{ ft} + 3 \text{ ft} + 3 \text{ ft} = 12 \text{ ft}$;
 $1 \text{ yd} + 1 \text{ yd} + 1 \text{ yd} + 1 \text{ yd} = 4 \text{ yd}$.

c. 9 sq. ft; 1 sq. yd; $3 \text{ ft} \times 3 \text{ ft} = 9 \text{ sq. ft}$;
 $1 \text{ yd} \times 1 \text{ yd} = 1 \text{ sq. yd}$

26. a. 1 yd = 3 ft

b. 1 sq. yd = 9 sq. ft

27. $\frac{1}{8}; \frac{7}{8}$ represents almost the whole class, so only a very small fraction of the class did not wear sneakers.

28. 40 objects; I used compatible numbers; since 152 is close to 160 and 160 is divisible by 4, a reasonable estimate is $160 \div 4$, or about 40 objects.

29. About 51°F ; $95^\circ\text{F} - 44^\circ\text{F} = 51^\circ\text{F}$

30. 33 days

Lesson Practice 95

$$a. \frac{5}{4}$$

$$b. \frac{5}{6}$$

- c. $\frac{1}{3}$
 d. $\frac{8}{7}$
 e. $\frac{8}{3}$
 f. $\frac{1}{5}$
 g. $\frac{10}{3}$
 h. $\frac{12}{5}$
 i. $\frac{1}{2}$
 j. $\frac{5}{1}$
 k. $\frac{1}{10}$
 l. $\frac{1}{1}$
 m. $\frac{5}{3}$ or $1\frac{2}{3}$; when we divide 1 by any number other than zero, the quotient is the reciprocal. So the answer to this division is the reciprocal of $\frac{3}{5}$, which is $\frac{5}{3}$, or $1\frac{2}{3}$.
 n. $\frac{5}{4}$ or $1\frac{1}{4}$; this problem means, "How many $\frac{4}{5}$ s are in 1?" When we divide 1 by any number other than zero, the quotient is the reciprocal. So the answer to this division is the reciprocal of $\frac{4}{5}$, which is $\frac{5}{4}$, or $1\frac{1}{4}$.
 o. 1; see student work.
 p. True

Written Practice

95

- 37 lb**; combine the weight of the boxes and divide by 3. $(35 + 42 + 34) \div 3 = 110 \div 3 = 37$
- 17 bones**; $3 + 3 + 3 + 3 + 5 = 17$
- 0.25; $\frac{1}{4}$; 25%**
- 1; $\frac{2}{3} \times \frac{3}{2} = \frac{6}{6} = 1$**
- a. $\frac{1}{4}$; there are 4 quarters in one dollar.
 b. 4 quarters
 c. 20 quarters; $4 \times 5 = 20$ quarters
- $\frac{4}{3}$; 1; $\frac{3}{4} \times \frac{4}{3} = \frac{12}{12} = 1$**
- B**

8. a. $\frac{1}{6}$
 b. $\frac{4}{1}$

9. C

10. **\$1.91**; $(\$20 - \$4.72) \div 8$

$$\begin{array}{r} \$20.00 \\ - \$4.72 \\ \hline \$15.28 \end{array} \div 8$$

$$\begin{array}{r} \$1.91 \\ 8 \overline{) \$15.28} \\ \underline{-8} \\ 72 \\ \underline{-72} \\ 08 \\ \underline{-8} \\ 0 \end{array}$$

11. **\$200.00**;

$$\begin{array}{r} \$1.25 \\ \times 160 \\ \hline 7500 \\ + 12500 \\ \hline \$200.00 \end{array}$$

12. **23.77**; $25.45 - (1.4 + 0.28)$

$$\begin{array}{r} 25.45 \\ - 1.68 \\ \hline 23.77 \end{array}$$

13. **10,000**; $100 \times 100 = 10,000$

14. **4 R 16**;

$$\begin{array}{r} 4 \text{ R } 16 \\ 31 \overline{) 140} \\ \underline{-124} \\ 16 \end{array}$$

15. **21**; $x = \frac{567}{27}$;

$$\begin{array}{r} 21 \\ 27 \overline{) 567} \\ \underline{-54} \\ 27 \\ \underline{-27} \\ 0 \end{array}$$

16. **$\frac{3}{5}$** ; $\frac{15 \div 5}{25 \div 5} = \frac{3}{5}$

17. **$3\frac{2}{3}$** ; $2\frac{10}{6} = 3\frac{4}{6} = 3\frac{2}{3}$

18. **$3\frac{2}{3}$** ; $3\frac{4}{6} = 3\frac{2}{3}$

19. **9**; $\frac{720}{8} = 9$

20. $2\frac{2}{5}; \frac{12}{5} = 2\frac{2}{5}$

21. 9; there are 9 one tenths in nine tenths.

22. $\frac{9}{12}; \frac{2}{12}; \frac{7}{12}$; we multiply $\frac{3}{4}$ by $\frac{3}{3}$ and $\frac{1}{6}$ by $\frac{2}{2}$.
 $\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$ and $\frac{1}{6} \times \frac{2}{2} = \frac{2}{12}$. Then we subtract $\frac{9}{12}$ and $\frac{2}{12}$ to find their difference.
 $\frac{9}{12} - \frac{2}{12} = \frac{7}{12}$.

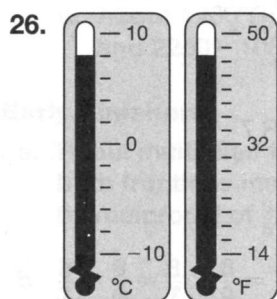
23. $12\frac{3}{10}$; $12\frac{3}{10}$ sec

$$\begin{array}{r} 10 \overline{)123} \\ \underline{-10} \\ 23 \\ \underline{-20} \\ 3 \end{array}$$

24. a. 14 toothpicks

b. 12 small squares

25. 8°C ; each tick mark represents 2°C .



27. 4; $10 - 6 = 4$

28. C

29. a. D

b. Sample: Every square is a rhombus, but some rhombuses are not squares.

30. 85.7 square miles; Step 1: Find the area of Denver.

$$\begin{array}{r} 292.5 \\ -139.1 \\ \hline 153.4 \end{array}$$

Step 2: Find the area of Honolulu.

$$\begin{array}{r} 153.4 \\ -67.7 \\ \hline 85.7 \end{array}$$

Early Finishers

a. 4 blocks

b. Both distances are equal.

Lesson Practice 96

a. $\frac{2}{3}; \frac{1}{3} \div \frac{1}{2}$

$$\frac{1}{3} \times \frac{2}{1} = \frac{2}{3}$$

b. $\frac{8}{9}; \frac{2}{3} \div \frac{3}{4}$

$$\frac{2}{3} \times \frac{4}{3} = \frac{8}{9}$$

c. $2\frac{2}{3}; \frac{2}{3} \div \frac{1}{4}$

$$\frac{2}{3} \times \frac{4}{1} = \frac{8}{3} = 2\frac{2}{3}$$

d. $1\frac{1}{2}; \frac{1}{2} \div \frac{1}{3}$

$$\frac{1}{2} \times \frac{3}{1} = \frac{3}{2} = 1\frac{1}{2}$$

e. $1\frac{1}{8}; \frac{3}{4} \div \frac{2}{3}$

$$\frac{3}{4} \times \frac{3}{2} = \frac{9}{8} = 1\frac{1}{8}$$

f. $4; 3 \div \frac{3}{4}$

$$3 \times \frac{4}{3} = \frac{12}{3} = 4$$

g. $6; 2 \div \frac{1}{3}$

$$2 \times \frac{3}{1} = \frac{6}{1} = 6$$

h. $4\frac{1}{2}; 3 \div \frac{2}{3}$

$$3 \times \frac{3}{2} = \frac{9}{2} = 4\frac{1}{2}$$

i. $12; 10 \div \frac{5}{6}$

$$10 \times \frac{6}{5} = \frac{60}{5} = 12$$

j. $2\frac{1}{4}; \frac{3}{4} \div \frac{1}{3}$

$$\frac{3}{4} \times \frac{3}{1} = \frac{9}{4} = 2\frac{1}{4}$$