

## Lesson Practice 51

a. 384;

$$\begin{array}{r} 32 \\ \times 12 \\ \hline 64 \\ + 320 \\ \hline 384 \end{array}$$

b. \$14.26;

$$\begin{array}{r} 1 \\ \$0.62 \\ \times 23 \\ \hline 1.86 \\ + 12.40 \\ \hline \$14.26 \end{array}$$

c. 3072;

$$\begin{array}{r} 48 \\ \times 64 \\ \hline 192 \\ + 2880 \\ \hline 3072 \end{array}$$

d. 5412;

$$\begin{array}{r} 246 \\ \times 22 \\ \hline 492 \\ + 4920 \\ \hline 5412 \end{array}$$

e. \$49.98;

$$\begin{array}{r} 1.47 \\ \times 34 \\ \hline 5.88 \\ + 44.10 \\ \hline \$49.98 \end{array}$$

f. 5481;

$$\begin{array}{r} 87 \\ \times 63 \\ \hline 261 \\ + 5220 \\ \hline 5481 \end{array}$$

g. 276;  $12(20 + 3)$  or  $(12 \times 20) + (12 \times 3)$   
 $12 \times 23$        $240 + 36$   
 276      276

h. Sample: Use rounding ( $10 \times 20$ ) or use compatible numbers ( $10 \times 25$ ); the product  $10 \times 25$  represents a better estimate because the actual number of bagels in each box is closer to 25 than to 20.

## Written Practice 51

1. 129 visitors;  $320 - (47 + 76 + 68)$ 

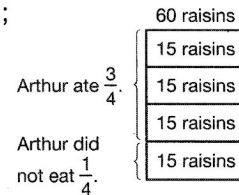
$$320 - 191 = 129 \text{ visitors}$$

2. 108 cents;  $39 + (3 \times 23)$ 

$$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \end{array}$$

$$39 + 69 = 108 \text{ cents}$$

3. 45 raisins; 75%;  $15 \times 3 = 45$  raisins;  
 $\frac{3}{4} = 75\%$ ;



4. 1001;

1000s	100s	10s	1s
1	0	0	1

5. One thousand, seven hundred sixty

6.  $16\frac{2}{3}\%$ ; 

7. 62,490

8. C; placing 2835 on the number line, we see that it falls between 2800 and 2900. Since 2835 is nearer to 2800 than to 2900 we round down to 2800.

9.  $2\frac{1}{2}$  inches

10. 6 coins; Step 1: Find the total number of coins.

$$4 + 8 = 12 \text{ coins}$$

Step 2: Divide the total by 2 to find the equal number.

$$12 \div 2 = 6 \text{ coins}$$

11.  $>$ ;  $\frac{1}{2}$  of 10 = 5;  $\frac{1}{3}$  of 12 = 4;  $5 > 4$

12. 3;  $(1 + 2 + 3 + 4 + 5) \div 5$

$$15 \div 5 = 3$$

13. 516;

$$\begin{array}{r} 43 \\ \times 12 \\ \hline 86 \\ + 430 \\ \hline 516 \end{array}$$

# Solutions

$$\begin{array}{r} 14. \$22.32; \quad \begin{array}{r} \$0.72 \\ \times \quad 31 \\ \hline 0.72 \\ + 21.60 \\ \hline \$22.32 \end{array} \end{array}$$

$$\begin{array}{r} 15. 5952; \quad \begin{array}{r} 248 \\ \times \quad 24 \\ \hline 992 \\ + 496 \\ \hline 5952 \end{array} \end{array}$$

$$\begin{array}{r} 16. \$103.88; \quad \begin{array}{r} \$1.96 \\ \times \quad 53 \\ \hline 5.88 \\ + 98.0 \\ \hline \$103.88 \end{array} \end{array}$$

$$\begin{array}{r} 17. 25,654; \quad \begin{array}{r} 8762 \\ 3624 \\ 4795 \\ + 8473 \\ \hline 25,654 \end{array} \end{array}$$

$$\begin{array}{r} 18. \$0.08; \quad \begin{array}{r} \$10.00 \\ - \$9.92 \\ \hline \$0.08 \end{array} \end{array}$$

$$\begin{array}{r} 19. 30,000; \quad \begin{array}{r} 600 \\ \times \quad 50 \\ \hline 30,000 \end{array} \end{array}$$

$$\begin{array}{r} 20. \$0.75; \quad \begin{array}{r} \$0.75 \\ 8 \overline{) \$6.00} \\ \underline{-0} \phantom{00} \\ 60 \\ \underline{-56} \phantom{00} \\ 40 \\ \underline{-40} \phantom{00} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 21. \$10.34; \quad \begin{array}{r} \$10.34 \\ 4 \overline{) \$41.36} \\ \underline{-4} \phantom{00} \\ 01 \\ \underline{-0} \phantom{00} \\ 13 \\ \underline{-12} \phantom{00} \\ 16 \\ \underline{-16} \phantom{00} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 22. 475; \quad \begin{array}{r} 475 \\ 9 \overline{) 4275} \\ \underline{-36} \phantom{00} \\ 67 \\ \underline{-63} \phantom{00} \\ 45 \\ \underline{-45} \phantom{00} \\ 0 \end{array} \end{array}$$

$$23. 5\frac{3}{4}; 3 + \frac{1}{4} + 2\frac{2}{4} = 3\frac{1}{4} + 2\frac{2}{4} = 5\frac{3}{4}$$

$$24. 1\frac{1}{8}; (5\frac{5}{8} - 3\frac{3}{8}) - 1\frac{1}{8} = 2\frac{2}{8} - 1\frac{1}{8} = 1\frac{1}{8}$$

$$25. 201 \text{ inches}; (16 \times 12) + 9$$

$$\begin{array}{r} 16 \\ \times 12 \\ \hline 32 \\ + 160 \\ \hline 192 \end{array}$$

$$192 + 9 = 201 \text{ inches}$$

$$26. 360; 15 \times 24 \text{ or } (15 \times 20) + (15 \times 4); 300 + 60 = 360$$

$$27. a. 70 \text{ mph and } 30 \text{ mph}$$

$$b. 45 \text{ mph; the median is between } 40 \text{ and } 50.$$

$$c. \text{ Lion}$$

$$28. (2 \times 100,000) + (5 \times 1000)$$

$$29. 11 \text{ in.}; \text{ placing } 11\frac{1}{4} \text{ inches on the number line, we see that it falls between 11 inches and 12 inches. Since } 11\frac{1}{4} \text{ inches is nearer to 11 than to 12 we round down to 11 in.}$$

$$30. 500 \text{ miles; sample: 9 round trips is the same as 18 one-way trips of 24 miles each. Since 18 is close to 20 and 24 miles is close to 25 miles, a reasonable estimate of the distance is } 20 \times 25 \text{ miles or } 500 \text{ miles.}$$

## Lesson Practice 52

$$a. \text{ hundreds; the value of a digit depends upon its place in the number; here the 0 means hundreds.}$$

- b. **millions**; the value of a digit depends upon its place in the number; here the 0 means millions.
- c. **hundred thousands**; the value of a digit depends upon its place in the number; here the 0 means hundred thousands.
- d. **ten millions**; the value of a digit depends upon its place in the number; here the 0 means ten millions.
- e. **7**; moving from right to left, the pattern of ones, tens, hundreds continues through the thousands, millions, and billions. The digit in the ten-billions place is 7.
- f. **B**; in the number 1,372,486 the number 7 is in the ten thousands place.
- g. **One million**
- h. **Twenty-one million, four hundred sixty-two thousand, three hundred**
- i. **Nineteen billion, six hundred fifty million**
- j. **Nineteen million, two hundred twenty five thousand, five hundred**
- k. **750,300,000,000**
- l. **206,712,934**

**Written Practice 52**

1. **36 baked apples**; Step 1: Find the total number of apples baked.  
 $5 \times 12 = 60$  baked apples  
 Step 2: Find the apples left by subtracting the apples given away from the total.  
 $60 - 24 = 36$  baked apples.
2. **60 pounds**;  $120 \div 2 = 60$  pounds
3. **\$2.40**; Step 1: Find the total spent on the items.  
 $\$3.60 + \$4 = \$7.60$

Step 2: Find the change by subtracting the total spent from \$10.

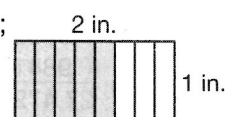
$$\begin{array}{r} \$10.00 \\ - \$7.60 \\ \hline \$2.40 \end{array}$$

4. **4 centuries**;  $2007 - 1607 = 400 = 4$  centuries

5. **148**;

100s	10s	1s
1	4	8

6.  $37\frac{1}{2}\%$ ;  $\frac{3}{8} = .375 = 37.5\%$ ;



7. **Two hundred fifty thousand**

8. **5 books**;  $15 \div 3 = 5$  books; sample: Count the total number of books and divide by 3 to make 3 equal stacks.

9. **7**; the value of a digit depends upon its place in the number; here the hundred million is in 7.

10. **1200**; placing 1236 on the number line, we see that it falls between 1200 and 1300. Since 1236 is nearer to 1200 than to 1300 we *round down* to 1200.

11. **ten millions**; the value of a digit depends upon its place in the number; here the 0 means ten millions.

12. **1254**;

$$\begin{array}{r} 1 \\ 57 \\ \times 22 \\ \hline 114 \\ + 1140 \\ \hline 1254 \end{array}$$

13. **\$39.01**;

$$\begin{array}{r} 3 \quad 1 \\ 5 \quad 2 \\ \$0.83 \\ \times 47 \\ \hline 5.81 \\ + 33.20 \\ \hline \$39.01 \end{array}$$

$$\begin{array}{r} 14. \ 14,863; \quad \begin{array}{r} 55 \\ 167 \\ \times 89 \\ \hline 1503 \\ + 13360 \\ \hline 14,863 \end{array} \end{array}$$

$$\begin{array}{r} 15. \ \$90.16; \quad \begin{array}{r} 35 \\ \$1.96 \\ \times 46 \\ \hline 11.76 \\ + 78.40 \\ \hline \$90.16 \end{array} \end{array}$$

$$\begin{array}{r} 16. \ 27,472; \quad \begin{array}{r} 212 \\ 8437 \\ 3429 \\ 5765 \\ + 9841 \\ \hline 27,472 \end{array} \end{array}$$

$$\begin{array}{r} 17. \ \$6.81; \quad \begin{array}{r} 15 \\ \$28.38 \\ - \$19.57 \\ \hline \$ 6.81 \end{array} \end{array}$$

$$\begin{array}{r} 18. \ 66; \quad \begin{array}{r} 293 \\ 3041 \\ - 2975 \\ \hline 66 \end{array} \end{array}$$

$$\begin{array}{r} 19. \ 1082; \quad \begin{array}{r} 1082 \\ 4 \overline{)4328} \\ \underline{-4} \phantom{00} \\ 03 \phantom{00} \\ \underline{-0} \phantom{00} \\ 32 \phantom{00} \\ \underline{-32} \phantom{00} \\ 08 \phantom{00} \\ \underline{-8} \phantom{00} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 20. \ 567; \quad \begin{array}{r} 567 \\ 10 \overline{)5670} \\ \underline{-50} \phantom{00} \\ 67 \phantom{00} \\ \underline{-60} \phantom{00} \\ 70 \phantom{00} \\ \underline{-70} \phantom{00} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 21. \ \$19.60; \quad \begin{array}{r} \$19.60 \\ 4 \overline{)78.40} \\ \underline{-4} \phantom{00} \\ 38 \phantom{00} \\ \underline{-36} \phantom{00} \\ 24 \phantom{00} \\ \underline{-24} \phantom{00} \\ 00 \phantom{00} \\ \underline{-0} \phantom{00} \\ 0 \end{array} \end{array}$$

$$22. \ 3\frac{7}{10}; \frac{3}{10} + 2 + 1\frac{4}{10} \\ 2\frac{3}{10} + 1\frac{4}{10} = 3\frac{7}{10}$$

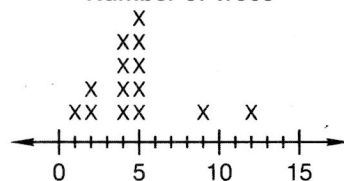
$$23. \ 5; 5\frac{3}{4} - (2\frac{3}{4} - 2) \\ 5\frac{3}{4} - \frac{3}{4} = 5$$

$$24. \ \$2.93; \$10 - (\$1.43 + \$2 + \$2.85 + \$0.79) \\ \$10 - \$7.07 \\ \begin{array}{r} 99 \\ \$10.00 \\ - \$ 7.07 \\ \hline \$ 2.93 \end{array}$$

25. **D**; each tick mark on the number line is a segment of 1. The arrow D is close to the 4<sup>th</sup> tick mark at about  $3\frac{9}{10}$ .

$$26. \ 25 \times 24 \text{ or } (25 \times 20) + (25 \times 4)$$

27. a. **Number of Trees**



b. **Median: 4.5; mode: 5; range: 11**

c. **9 and 12**

d. **4 and 5 (or 1 and 2)**

$$28. \ (3 \times 1,000,000) + (2 \times 100,000)$$

29. **1°F**; 17 degrees below zero is one degree colder than 16 degrees below zero.

30. **8 years old**; Step 1: Cameron's brother is  $10 \times 1 \text{ year} = 10 \text{ years old}$ .

Step 2: Cameron is 2 years younger than his brother.  
 $10 - 2 = 8 \text{ years old}$

**Early Finishers**

a. **1,352,550,000**

b. **3**

c. **1,352,550,000**

d. **One billion, three hundred fifty-two million, five hundred fifty thousand**



## Lesson Practice 53

- a. **5 in.;** the length is the larger dimension.
- b. **3 in.;** the width is the shorter dimension.
- c. **16 in.;** the perimeter is the distance around the rectangle. The rectangle has a length of 5 in. and a width of 3 in. The four sides measure 5 in., 3 in., 5 in., and 3 in. Add the lengths to determine the perimeter:  
 $5 \text{ in.} + 3 \text{ in.} + 5 \text{ in.} + 3 \text{ in.} = 16 \text{ in.}$
- d. **12 cm;** the perimeter is the total length of the three sides of the triangle. We can find this by adding the lengths of all three sides. The perimeter of the triangle is  
 $5 \text{ cm} + 3 \text{ cm} + 4 \text{ cm} = 12 \text{ cm.}$
- e. **16 ft;**  $P = 2l + 2w = 2(4 \text{ ft}) + 2(4 \text{ ft})$   
 $= 8 \text{ ft} + 8 \text{ ft} = 16 \text{ ft}$
- f. **Circumference, units**
- g. **diameter**
- h. **12 in.;**  $6 \times 2 = 12$  inches; the diameter is twice the radius.

## Written Practice 53

1. **21 eggs;** Step 1: Find the total number of eggs by multiplying.  
 $3 \times 12 = 36$  eggs  
 Step 2: Find the eggs not used by subtracting the amount used from the total.  
 $36 - 15 = 21$  eggs
2. **11 players;**  $22 \div 2 = 11$  players; sample: I added the number of players and divided by two.
3. **10 students;  $33\frac{1}{3}\%$ ;**
- |  |             |
|--|-------------|
| $\frac{1}{3}$ walked home.<br>$\frac{2}{3}$ did not walk home. | 30 students |
|  | 10 students |
|  | 10 students |
|  | 10 students |
4. **5 ounces;**  $15 \div 3 = 5$  ounces; sample: I added all the ounces together and divided by 3.

5. **B;** the number 2 means 20 billion because it is in the 10 billions place.
6. **1, 2, 4**  
 The factors of 8 are 1, 2, 4 and 8.  
 The factors of 12 are 1, 2, 3, 4, 6, and 12.  
 The common factors of 8 and 12 are 1, 2 and 4.
7. **7 decades;**  $1890 - 1820 = 70$  years  
 $= 7$  decades

8. **19,490,000**

9.  **$8\frac{2}{3}$ ;**  $6 + (4\frac{2}{3} - 2)$

$$6 + 2\frac{2}{3} = 8\frac{2}{3}$$

10. **0;**  $4\frac{2}{3} - (2\frac{2}{3} + 2)$

$$4\frac{2}{3} - 4\frac{2}{3} = 0$$

$$\begin{array}{r} 11. \text{ 60,000;} \quad 300 \\ \times \quad 200 \\ \hline 60,000 \end{array}$$

$$\begin{array}{r} 12. \text{ 56,000;} \quad 800 \\ \times \quad 70 \\ \hline 56,000 \end{array}$$

$$\begin{array}{r} 13. \text{ 100;} t = \frac{500}{5} \quad 100 \\ 5 \overline{)500} \\ \underline{-5} \phantom{00} \\ 00 \\ \underline{-0} \phantom{00} \\ 00 \\ \underline{-0} \phantom{00} \\ 0 \end{array}$$

$$\begin{array}{r} 14. \text{ \$439.92;} \quad \begin{array}{r} 4 \quad 2 \\ 5 \quad 3 \\ 55.64 \end{array} \\ \times \quad 78 \\ \hline 45.12 \\ + 394.80 \\ \hline \$439.92 \end{array}$$

$$\begin{array}{r} 15. \text{ 64,010;} \quad \begin{array}{r} 43 \\ 22 \\ 865 \end{array} \\ \times \quad 74 \\ \hline 3460 \\ + 60550 \\ \hline 64,010 \end{array}$$

$$\begin{array}{r} 16. \text{ 74,708;} \quad \begin{array}{r} 52 \\ 41 \\ 983 \end{array} \\ \times \quad 76 \\ \hline 5898 \\ + 68810 \\ \hline 74,708 \end{array}$$

17. \$20.27;

$$\begin{array}{r} 210 \\ \$63.14 \\ - \$42.87 \\ \hline \$20.27 \end{array}$$

18. 2231;

$$\begin{array}{r} 210 \\ 2706 \\ - 875 \\ \hline 2231 \end{array}$$

19. \$153.80;

$$\begin{array}{r} 213 \\ \$68.09 \\ \$43.56 \\ \$27.18 \\ + \$14.97 \\ \hline \$153.80 \end{array}$$

20. \$6.33;

$$\begin{array}{r} \$6.33 \\ 5 \overline{) \$31.65} \\ -30 \\ \hline 16 \\ -15 \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

21. 703;

$$\begin{array}{r} 703 \\ 6 \overline{) 4218} \\ -42 \\ \hline 01 \\ -0 \\ \hline 18 \\ -18 \\ \hline 0 \end{array}$$

22. 536 R 1;

$$\begin{array}{r} 536 \text{ R } 1 \\ 10 \overline{) 5361} \\ -50 \\ \hline 36 \\ -30 \\ \hline 61 \\ -60 \\ \hline 1 \end{array}$$

23. **B**; by placing 1236 on the number line, we see that it falls between 1230 and 1240. Since 1236 is nearer to 1240 than to 1230 we *round up* to 1240.

24. **3 cm**; the length is the larger dimension.

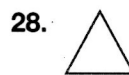
25. **10 cm**;

$$P = 2l + 2w = 2(3 \text{ cm}) + 2(2 \text{ cm})$$

$$6 \text{ cm} + 4 \text{ cm} = 10 \text{ cm}$$

26.  $35 \times 21$  or  $(35 \times 20) + (35 \times 1)$

27.  $(2 \times 1,000,000) + (5 \times 10,000)$



29. **9 in.**; placing  $8\frac{5}{8}$  inches on the number line, we see that it falls between 8 inches and 9 inches. Since  $8\frac{5}{8}$  inches is more than  $8\frac{1}{2}$  and nearer to 9 than to 8 we *round up* to 9.

30. **a. Michigan**

**b. 2000; 1800; 1200; 800**

**c. 800 feet**

**Lesson Practice 54**

a. \$0.14;

$$\begin{array}{r} \$0.14 \\ 30 \overline{) \$4.20} \\ -30 \\ \hline 120 \\ -120 \\ \hline 0 \end{array}$$

b. **12 R 5**;

$$\begin{array}{r} 12 \text{ R } 5 \\ 60 \overline{) 725} \\ -60 \\ \hline 125 \\ -120 \\ \hline 5 \end{array}$$

c. \$0.12;

$$\begin{array}{r} \$0.12 \\ 40 \overline{) \$4.80} \\ -40 \\ \hline 80 \\ -80 \\ \hline 0 \end{array}$$

d. \$0.16;

$$\begin{array}{r} \$0.16 \\ 20 \overline{) \$3.20} \\ -20 \\ \hline 120 \\ -120 \\ \hline 0 \end{array}$$

e. **12 R 10**;

$$\begin{array}{r} 12 \text{ R } 10 \\ 50 \overline{) 610} \\ -50 \\ \hline 110 \\ -100 \\ \hline 10 \end{array}$$

f. 34 R 5;

$$\begin{array}{r} 34 \text{ R } 5 \\ 10 \overline{)345} \\ \underline{-30} \phantom{0} \\ 45 \\ \underline{-40} \phantom{0} \\ 5 \end{array}$$

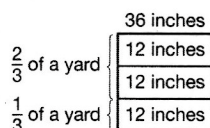
g. The answer is correct; 23

$$\begin{array}{r} \times 40 \\ 920 \\ + 5 \\ \hline 925 \end{array}$$


h. Sample:  $\$5.00 \div 20 = \$0.25$  per egg**Written Practice 54**

1. **\$1.05**; sample: Use compatible numbers;  
 $\$3.25 + \$1.00 = \$4.25$ , and  $\$5.25 - \$4.25 = \$1.00$

2. **1240**; by placing 1236 on the number line, we see that it falls between 1230 and 1240. Since 1236 is nearer to 1240 than to 1230 we *round up* to 1240.

3. **24 in.**;  $2 \times 12 = 24$  in.;

4. **B**; the number 7 means 7,000,000 because it is in the millions place.

5. **50%**; 6. a.  $100 \div 4 = 25\text{¢}$ b.  $100 \div 2 = 50\text{¢}$ 7. **three billion, one hundred fifty million**8. **1, 3**;

The factors of 9 are 1, 3, and 9.

The factors of 12 are 1, 2, 3, 4, 6, and 12.

The common factors of 9 and 12 are 1 and 3.

9. **15 R 4**;

$$\begin{array}{r} 15 \text{ R } 4 \\ 30 \overline{)454} \\ \underline{-30} \phantom{0} \\ 154 \\ \underline{-150} \phantom{0} \\ 4 \end{array}$$

10. **\$0.14**;

$$\begin{array}{r} \$0.14 \\ 40 \overline{)\$5.60} \\ \underline{-40} \phantom{0} \\ 160 \\ \underline{-160} \phantom{0} \\ 0 \end{array}$$

11. **15 R 10**;

$$\begin{array}{r} 15 \text{ R } 10 \\ 50 \overline{)760} \\ \underline{-50} \phantom{0} \\ 260 \\ \underline{-250} \phantom{0} \\ 10 \end{array}$$

12. **200,000**;

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

13. **25,898**;

$$\begin{array}{r} 25,898 \\ \times 46 \\ \hline 3378 \\ + 22520 \\ \hline 25,898 \end{array}$$

14. **\$293.76**;

$$\begin{array}{r} \$293.76 \\ \times 46 \\ \hline 34.56 \\ + 259.20 \\ \hline \$293.76 \end{array}$$

15.  **$33\frac{3}{4}$** ;  $25\frac{1}{4} + 8\frac{2}{4} = 33\frac{3}{4}$ 16. **19**;  $36\frac{2}{3} - 17\frac{2}{3} = 19$ 17. **368 R 3**;

$$\begin{array}{r} 368 \text{ R } 3 \\ 8 \overline{)2947} \\ \underline{-24} \phantom{0} \\ 54 \\ \underline{-48} \phantom{0} \\ 67 \\ \underline{-64} \phantom{0} \\ 3 \end{array}$$

18. **840 R 4**;  $7564 \div (90 \div 10)$ 

$$\begin{array}{r} 840 \text{ R } 4 \\ 9 \overline{)7564} \\ \underline{-72} \phantom{0} \\ 36 \\ \underline{-36} \phantom{0} \\ 04 \\ \underline{-0} \phantom{0} \\ 4 \end{array}$$


19. 5556; 
$$\begin{array}{r} 12,345 \\ - 6,789 \\ \hline 5,556 \end{array}$$
20. \$13.74; 
$$\begin{array}{r} \$3.65 \\ \$2.47 \\ \$4.83 \\ + \$2.79 \\ \hline \$13.74 \end{array}$$
21. 9 tables;  $36 \div 4 = 9$  tables
22. 15 mm;  $30 \div 2 = 15$  mm; the radius is half the diameter.
23. 24 cm; the perimeter is the total length of the three sides of the triangle. We can find this by adding the lengths of all three sides. The perimeter of the triangle is equal to  $10 \text{ cm} + 6 \text{ cm} + 8 \text{ cm} = 24 \text{ cm}$ .
24.  $1\frac{1}{2}$  inches
25. 1946;  $1896 + 50 = 1946$
26. 1800;  $150 \times 12$  or  $(150 \times 10) + (150 \times 2)$ ;  $1500 + 300 = 1800$
27. a. Multiply the position by six
- b. 120;  $20 \times 6 = 120$
28. \$175; 
$$\begin{array}{r} \$14 \\ \times 8 \\ \hline \$112 \end{array}$$
 
$$\begin{array}{r} \$21 \\ \times 3 \\ \hline \$63 \end{array}$$
 
$$\begin{array}{r} \$112 \\ + \$63 \\ \hline \$175 \end{array}$$
29. No; sample: the triangle could not be scalene because two of the sides have the same length; the sides of a scalene triangle all have different lengths.
30. 20; sample: 20 is a reasonable estimate because 776 rounds to 800, 38 rounds to 40, and  $800 \div 40 = 20$ .

**Lesson Practice 55**

- a. 122,484; 
$$\begin{array}{r} 346 \\ \times 354 \\ \hline \end{array}$$
 is the same as 
$$\begin{array}{r} 11 \\ 346 \\ \times 300 \\ \hline 103,800 \end{array}$$
 plus 
$$\begin{array}{r} 23 \\ 346 \\ \times 50 \\ \hline 17,300 \end{array}$$
 plus 
$$\begin{array}{r} 12 \\ 346 \\ \times 4 \\ \hline 1384 \end{array}$$
- $103,800 + 17,300 + 1384 = 122,484$

- b. 308,758; 
$$\begin{array}{r} 54 \\ 22 \\ 32 \\ 487 \\ \times 634 \\ \hline 1948 \\ 14610 \\ + 292200 \\ \hline 308,758 \end{array}$$
 ← First multiply 487 by 4 of 634  
← Then multiply by 3 of 634  
← Then multiply by 6 of 634
- c. 309,504; 
$$\begin{array}{r} 2 \\ 1 \\ 2 \\ 403 \\ \times 768 \\ \hline 3224 \\ 24180 \\ + 282100 \\ \hline 309,504 \end{array}$$
 ← First multiply 403 by 8 of 768  
← Then multiply by 6 of 768  
← Then multiply by 7 of 768
- d. 490,000;  $700 \times 700 = 490,000$
- e. 40; sample: since 20 is a factor of 800, I changed 739 to 800 and changed 18 to 20; a reasonable estimate is 40 because  $800 \div 20 = 40$ .

**Written Practice 55**

1. \$3.45;  $\$10 - (\$4.65 + \$1.90)$
- $$\begin{array}{r} \$4.65 \\ + \$1.90 \\ \hline \$6.55 \end{array}$$
- $$\begin{array}{r} \$10.00 \\ - \$6.55 \\ \hline \$3.45 \end{array}$$
- Sample: Use rounding;  $\$5 + \$2 = \$7$ , and  $\$10 - \$7 = \$3$ .
2. 207 pages;  $3 \times 69 = 207$  pages;
- Navarro has read  $\frac{3}{4}$ . Navarro has not read  $\frac{1}{4}$ .
- |           |
|-----------|
| 276 pages |
| 69 pages  |
| 69 pages  |
| 69 pages  |
3. 660 miles long;  $n - 634 = 26$ ;  $634 + 26 = 660$  miles long
4. 9; moving from right to left, the pattern of ones, tens, hundreds continues through the thousands, millions, and ten-millions. The digit in the ten-millions place is 9.
5. 75 inches;  $(2 \times 36) + 3$   
 $72 + 3 = 75$  inches
6.  $66\frac{2}{3}\%$ ; 



7. 679,542,500

8. \$0.12;

$$\begin{array}{r} \$0.12 \\ 60 \overline{) \$7.20} \\ \underline{-0} \phantom{00} \\ 72 \phantom{00} \\ \underline{-60} \phantom{00} \\ 120 \phantom{00} \\ \underline{-120} \phantom{00} \\ 0 \end{array}$$

9. 12 R 10;

$$\begin{array}{r} 12 \text{ R } 10 \\ 70 \overline{) 850} \\ \underline{-70} \phantom{00} \\ 150 \phantom{00} \\ \underline{-140} \phantom{00} \\ 10 \end{array}$$

10. 12 R 20;

$$\begin{array}{r} 12 \text{ R } 20 \\ 80 \overline{) 980} \\ \underline{-80} \phantom{00} \\ 180 \phantom{00} \\ \underline{-160} \phantom{00} \\ 20 \end{array}$$

11. 28,782;

$$\begin{array}{r} 11 \\ 234 \\ \times 123 \\ \hline 702 \\ 4680 \\ + 23400 \\ \hline 28,782 \end{array}$$

← First multiply 234 by 3 of 123  
 ← Then multiply by 2 of 123  
 ← Then multiply by 1 of 123

12. \$97.50;

$$\begin{array}{r} 1 \phantom{0} \phantom{0} \phantom{0} \\ 4 \phantom{0} \phantom{0} \phantom{0} \\ 3.75 \\ \times 26 \\ \hline 22.50 \\ + 75.00 \\ \hline \$97.50 \end{array}$$

13. 476,556;

$$\begin{array}{r} 2 \phantom{0} \phantom{0} \phantom{0} \\ 3 \phantom{0} \phantom{0} \phantom{0} \\ 3 \phantom{0} \phantom{0} \phantom{0} \\ 604 \\ \times 789 \\ \hline 5436 \\ 48320 \\ + 422800 \\ \hline 476,556 \end{array}$$

← First multiply 604 by 9 of 789  
 ← Then multiply by 8 of 789  
 ← Then multiply by 7 of 789

14. 40 mm;

$$P = 2l + 2w = 2(10 \text{ mm}) + 2(10 \text{ mm})$$

$$20 \text{ mm} + 20 \text{ mm} = 40 \text{ mm}$$

15. 320,000

16. 30,000

17. 81,000

18. 1200

19. 4000

20. 20

21.  $11\frac{9}{11}; 6\frac{5}{11} + 5\frac{4}{11} = 11\frac{9}{11}$

22.  $\frac{2}{3}; 3\frac{2}{3} - 3 = \frac{2}{3}$

23.  $7\frac{1}{3}; 7\frac{2}{3} - (3\frac{1}{3} - 3)$

$$7\frac{2}{3} - \frac{1}{3} = 7\frac{1}{3}$$

24. \$4300;

$$\begin{array}{r} 2150 \\ \times \$ 2 \\ \hline \$4,300 \end{array}$$

25. 2773 fans;  $3000 - 227 = 2773$

26.  $(1 \times 1,000,000) + (2 \times 100,000)$

27. See student work; check figure for at least two sides of equal length. Sample:



28. 2 dimes;  $10 \div 5 = 2$  dimes; there are 10 dimes in a dollar.

29. 6 in.; placing  $5\frac{7}{8}$  inches on the number line, we see that it falls between 5 inches and 6 inches. Since  $5\frac{7}{8}$  inches is nearer to 6 than to 5 we round up to 6.

30. Sample: 35 is a reasonable estimate because 689 is close to 700, 19 is close to 20, and  $700 \div 20 = 35$ .

### Early Finishers

209,976 people; Step 1: Find number of days the park will be open in one year.

$$\begin{array}{r} 1 \\ 52 \\ \times 2 \\ \hline 312 \end{array}$$