

SAXON Math™
HOMESCHOOL

7/6

H a k e
S a x o n

Solutions Manual



Stephen Hake
John Saxon

Lessons and Investigations.....	1
Appendix Topic.....	263
Supplemental Practice	267
Facts Practice Tests	297
Tests	313



Saxon Publishers gratefully acknowledges the contributions of the following individuals in the completion of this project:

Authors: Stephen Hake, John Saxon

Editorial: Chris Braun, Bo Björn Johnson, Dana Nixon, Brian E. Rice

Editorial Support Services: Christopher Davey, Jay Allman, Jenifer Sparks, Shelley Turner, Jean Van Vleck, Darlene Terry

Production: Alicia Britt, Karen Hammond, Donna Jarrel, Brenda Lopez, Adriana Maxwell, Cristi D. Whiddon

Project Management: Angela Johnson, Becky Cavnar

© 2005 Saxon Publishers, Inc., and Stephen Hake

All rights reserved. No part of *Saxon Math 7/6—Homeschool, Fourth Edition, Solutions Manual* may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher.

Printed in the United States of America

ISBN: 978-1-59-141327-1

33 0928 20

4500814641

Solutions for
Lessons and Investigations

LESSON 1, WARM-UP

- a. 60
- b. 600
- c. 120
- d. 1200
- e. 90
- f. 900

Problem Solving

2's: 10, 12, 14, 16, 18, 20
 3's: 12, 15, 18
 4's: 12, 16, 20
 18

LESSON 1, LESSON PRACTICE

a.
$$\begin{array}{r} ^{111} \\ 3675 \\ + 426 \\ + 1357 \\ \hline 5458 \end{array}$$

b.
$$\begin{array}{r} \$6.25 \\ \$18.23 \\ + \$12.00 \\ \hline \$26.48 \end{array}$$

c.
$$\begin{array}{r} ^6 \\ 537^{14} \\ - 168 \\ \hline 5206 \end{array}$$

d.
$$\begin{array}{r} ^4 ^9 \\ \$8.0^{10} \\ - \$1.35 \\ \hline \$3.65 \end{array}$$

e.
$$\begin{array}{r} 6 \\ + 8 \\ \hline 14 \end{array} \quad \begin{array}{r} 8 \\ + 6 \\ \hline 14 \end{array} \quad \begin{array}{r} 14 \\ - 6 \\ \hline 8 \end{array} \quad \begin{array}{r} 14 \\ - 8 \\ \hline 6 \end{array}$$

f. $25 - 15 = 10$
 $10 + 15 = 25$
 $15 + 10 = 25$

LESSON 1, MIXED PRACTICE

1.
$$\begin{array}{r} 25 \\ + 40 \\ \hline 65 \end{array}$$

2.
$$\begin{array}{r} ^{12} \\ 137 \\ 89 \\ + 9 \\ \hline 235 \text{ seeds} \end{array}$$

3.
$$\begin{array}{r} ^2 \\ 8^{18} 7 \\ - 93 \\ \hline 294 \end{array}$$

4.
$$\begin{array}{r} ^4 ^9 \\ \$8.0^{10} \\ - \$3.75 \\ \hline \$1.25 \end{array}$$

5.
$$\begin{array}{r} \$1.15 \\ + \$5.22 \\ \hline \$6.37 \end{array}$$

6.
$$\begin{array}{r} ^1 \\ \$1.25 \\ \$0.70 \\ + \$0.60 \\ \hline \$2.55 \end{array}$$

7.
$$\begin{array}{r} ^1 \\ 63 \\ 47 \\ + 50 \\ \hline 160 \end{array}$$

8.
$$\begin{array}{r} ^{11} \\ 632 \\ 57 \\ + 198 \\ \hline 887 \end{array}$$

9.
$$\begin{array}{r} ^2 \\ 78 \\ ^9 \\ + 967 \\ \hline 1054 \end{array}$$

10.
$$\begin{array}{r} ^{11} \\ 432 \\ ^1 579 \\ + 3604 \\ \hline 4615 \end{array}$$

11.
$$\begin{array}{r} ^2^3 \\ 2\overline{)415} \\ \underline{-67} \\ 278 \end{array}$$

$$\begin{array}{r} 12. \quad 678 \\ - 416 \\ \hline 262 \end{array}$$

13.
$$\begin{array}{r} ^6^5 \\ 3\cancel{7}^1\cancel{4}^1 \\ - 96 \\ \hline 3668 \end{array}$$

$$\begin{array}{r} 14. \quad \begin{array}{r} 21 \\ 1875 \\ 1086 \\ + 980 \\ \hline 2941 \end{array} \end{array}$$

15.
$$\begin{array}{r} 10 \\ 156 \\ 8 \\ + 27 \\ \hline 201 \end{array}$$

16.
$$\begin{array}{r} ^2 \\ \$2.147 \\ - \$0.92 \\ \hline \$2.55 \end{array}$$

17.
$$\begin{array}{r} \$2 \overset{3}{\cancel{4}} 15 \\ - \$1.45 \\ \hline \$22.70 \end{array}$$

$$\begin{array}{r} \text{18.} \quad \begin{array}{r} ^{\text{1}} ^{\text{1}} \\ \$0.75 \\ + \$0.75 \\ \hline \$1.50 \end{array} \end{array}$$

$$\begin{array}{r} ^1 \\ 19. \quad \$0.12 \\ \$0.46 \\ + \$0.50 \\ \hline \$1.08 \end{array}$$

20. Sum

21. Difference

$$\begin{array}{r} 22. \quad \begin{array}{r} 5 \\ + 6 \\ \hline 11 \end{array} \quad \begin{array}{r} 6 \\ + 5 \\ \hline 11 \end{array} \quad \begin{array}{r} 11 \\ - 6 \\ \hline 5 \end{array} \quad \begin{array}{r} 11 \\ - 5 \\ \hline 6 \end{array} \end{array}$$

23. $16 + 27 = 43$

$$43 - 16 = 27$$

$$43 - 27 = 16$$

24. $50 - 29 = 21$

$$29 + 21 = 50$$

$$21 + 29 = 50$$

25. One way to check is to add the answer (difference) to the amount subtracted. The total should equal the starting amount.

LESSON 2, WARM-UP

a. 540

b. 260

c. 270

d. 770

e. 480

f. 480

Problem Solving

$$1 + 2 + 3 + 4 + 5 = 15 \text{ coins}$$

$$1 + 2 + 3 + 4 + 5 + 6 = 21 \text{ coins}$$

LESSON 2, LESSON PRACTICE

$$\begin{array}{r} \text{a.} \quad \begin{array}{r} 1 \\ 37\text{¢} \\ \times 20 \\ \hline 740\text{¢ or } \$7.40 \end{array} \end{array}$$

b.
$$\begin{array}{r} 37 \\ \times 0 \\ \hline 0 \end{array}$$

c.
$$\begin{array}{r} 407 \\ \times 37 \\ \hline 2849 \\ 12210 \\ \hline 15,059 \end{array}$$

SOLUTIONS

$$\begin{array}{r} 11. \quad 100 \\ \times 100 \\ \hline 10,000 \end{array}$$

$$\begin{array}{r} 12. \quad 12 \overline{)144} \\ \underline{12} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

$$\begin{array}{r} 13. \quad 12 \\ \times 5 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 14. \quad \begin{array}{r} 221 \\ 3627 \\ 598 \\ + 4881 \\ \hline 9106 \end{array} \end{array}$$

$$\begin{array}{r} 15. \quad \begin{array}{r} 4910 \\ 8810 \\ - 1376 \\ \hline 3634 \end{array} \end{array}$$

$$\begin{array}{r} 16. \quad \begin{array}{r} 099 \\ \$18.80 \\ - \$0.26 \\ \hline \$9.74 \end{array} \end{array}$$

$$\begin{array}{r} 17. \quad 48 \\ - 16 \\ \hline 32 \\ A = 32 \end{array}$$

$$\begin{array}{r} 18. \quad \begin{array}{r} 4 \\ 812 \\ - 23 \\ \hline 29 \\ B = 29 \end{array} \end{array}$$

$$\begin{array}{r} 19. \quad 31 \\ + 17 \\ \hline 48 \\ C = 48 \end{array}$$

$$\begin{array}{r} 20. \quad \begin{array}{r} 3 \\ 12 \\ - 25 \\ \hline 17 \\ D = 17 \end{array} \end{array}$$

$$\begin{array}{l} 21. \quad 75 - 38 = 37 \\ x = 37 \end{array}$$

$$\begin{array}{l} 22. \quad 38 + 75 = 113 \\ x = 113 \end{array}$$

$$\begin{array}{l} 23. \quad 75 - 38 = 37 \\ y = 37 \end{array}$$

$$\begin{array}{l} 24. \quad \underbrace{6 + 8 + 5} + w = 32 \\ 19 + w = 32 \\ \text{check: } 32 - 19 = 13 \\ w = 13 \end{array}$$

$$\begin{array}{l} 25. \quad 48 + 24 = 72 \\ 72 - 24 = 48 \\ 72 - 48 = 24 \end{array}$$

$$\begin{array}{l} 26. \quad 15 \times 6 = 90 \\ 90 \div 6 = 15 \\ 90 \div 15 = 6 \end{array}$$

$$\begin{array}{r} 27. \quad \begin{array}{r} 10 \\ 20 \overline{)200} \\ \underline{20} \\ 00 \\ \underline{00} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 28. \quad 15 \\ \times 8 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 29. \quad \begin{array}{r} 1 \\ 144 \overline{)144} \\ \underline{144} \\ 0 \end{array} \end{array}$$

30. To find a missing addend, subtract the known addend(s) from the sum.

LESSON 4, WARM-UP

a. 2920

b. 8420

c. 7740

d. 2850

e. 1490

f. 9050

Problem Solving

315, 351, 513, 531

LESSON 4, LESSON PRACTICE

a. $\begin{array}{r} 13 \\ 7 \overline{)91} \\ A = 13 \end{array}$

check: $\begin{array}{r} 13 \\ \times 7 \\ \hline 91 \end{array}$

b. $\begin{array}{r} 22 \\ 20 \overline{)440} \\ B = 22 \end{array}$

check: $\begin{array}{r} 22 \\ \times 20 \\ \hline 440 \end{array}$

c. $\begin{array}{r} 15 \\ \times 7 \\ \hline 105 \\ C = 105 \end{array}$

check: $\begin{array}{r} 15 \\ 7 \overline{)105} \end{array}$

d. $\begin{array}{r} 18 \\ 8 \overline{)144} \\ D = 18 \end{array}$

check: $\begin{array}{r} 18 \\ 8 \overline{)144} \end{array}$

e. $\begin{array}{r} 12 \\ 7 \overline{)84} \\ w = 12 \end{array}$

check: $\begin{array}{r} 12 \\ \times 7 \\ \hline 84 \end{array}$

f. $\begin{array}{r} 14 \\ 8 \overline{)112} \\ m = 14 \end{array}$

check: $\begin{array}{r} 14 \\ \times 8 \\ \hline 112 \end{array}$

g. $\begin{array}{r} 12 \\ 30 \overline{)360} \\ x = 12 \end{array}$

check: $\begin{array}{r} 12 \\ 30 \overline{)360} \end{array}$

h. $\begin{array}{r} 60 \\ \times 5 \\ \hline 300 \\ n = 300 \end{array}$

check: $\begin{array}{r} 60 \\ 5 \overline{)300} \end{array}$

LESSON 4, MIXED PRACTICE

1. $\begin{array}{r} 4 \text{ carrot sticks} \\ 15 \overline{)60} \\ 60 \\ \hline 0 \end{array}$

2. $\begin{array}{r} 25 \text{ pennies} \\ 4 \overline{)100} \\ 8 \\ \hline 20 \\ 20 \\ \hline 0 \end{array}$

3. $\begin{array}{r} 20 \text{ stacks} \\ 5 \overline{)100} \\ 10 \\ \hline 00 \\ 00 \\ \hline 0 \end{array}$

4. $\begin{array}{r} 21 \text{ teams} \\ 14 \overline{)294} \\ 28 \\ \hline 14 \\ 14 \\ \hline 0 \end{array}$

5. $\begin{array}{r} 28 \\ - 156 \\ \hline 124 \text{ pages} \end{array}$

6. $\begin{array}{r} \$0.75 \\ \times 42 \\ \hline 150 \\ 3000 \\ \hline \$31.50 \end{array}$

7. $\begin{array}{r} 12 \\ 5 \overline{)60} \\ 5 \\ \hline 10 \\ 10 \\ \hline 0 \\ J = 12 \end{array}$ check: $\begin{array}{r} 12 \\ \times 5 \\ \hline 60 \end{array}$

8. $\begin{array}{r} 6 \\ 7 \overline{)42} \\ - 27 \\ \hline 45 \\ K = 45 \end{array}$ check: $\begin{array}{r} 12 \\ + 45 \\ \hline 72 \end{array}$

9. $\begin{array}{r} 37 \\ - 36 \\ \hline 1 \\ L = 1 \end{array}$ check: $\begin{array}{r} 1 \\ + 36 \\ \hline 37 \end{array}$

SOLUTIONS

10. $\begin{array}{r} 5 \\ 6 \overline{)14} \\ - 46 \\ \hline 18 \end{array}$ check: $\begin{array}{r} 5 \\ 6 \overline{)18} \\ - 18 \\ \hline 46 \end{array}$
 $M = 18$

11. $\begin{array}{r} 1 \\ 48 \\ + 84 \\ \hline 132 \end{array}$ check: $\begin{array}{r} 0 \ 12 \\ 1 \overline{)132} \\ - 48 \\ \hline 84 \end{array}$
 $n = 132$

12. $\begin{array}{r} 13 \\ 7 \overline{)91} \\ 7 \\ \hline 21 \\ 21 \\ \hline 0 \end{array}$ check: $\begin{array}{r} 13 \\ \times 7 \\ \hline 91 \end{array}$
 $p = 13$

13. $\begin{array}{r} 7 \\ \times 0 \\ \hline 0 \end{array}$ check: $\begin{array}{r} 0 \\ 7 \overline{)0} \\ 0 \\ \hline 0 \end{array}$
 $q = 0$

14. $\begin{array}{r} 24 \\ 6 \overline{)144} \\ 12 \\ \hline 24 \\ 24 \\ \hline 0 \end{array}$ check: $\begin{array}{r} 6 \\ 24 \overline{)144} \\ 144 \\ \hline 0 \end{array}$
 $r = 24$

15. $\begin{array}{r} \$2.06 \\ 6 \overline{)\$12.36} \\ 12 \\ \hline 03 \\ 00 \\ \hline 36 \\ 36 \\ \hline 0 \end{array}$

16. $\begin{array}{r} 720 \\ 8 \overline{)5760} \\ 56 \\ \hline 16 \\ 16 \\ \hline 00 \\ 00 \\ \hline 0 \end{array}$

17. $\begin{array}{r} 29 \text{ R } 4 \\ 18 \overline{)526} \\ 36 \\ \hline 166 \\ 162 \\ \hline 4 \end{array}$

18. $\begin{array}{r} 21 \\ 563 \\ 563 \\ 563 \\ + 563 \\ \hline 2252 \end{array}$

19. $\begin{array}{r} \$3.75 \\ \times 16 \\ \hline 2250 \\ 3750 \\ \hline \$60.00 \end{array}$

20. $\begin{array}{r} 1 \ 1 \\ \$3.00 \\ \$2.86 \\ + \$0.98 \\ \hline \$6.84 \end{array}$

21. $\begin{array}{r} 0 \ 9 \ 9 \\ \$1 \ 0. \ 010 \\ - \$6. \ 4 \ 3 \\ \hline \$3. \ 5 \ 7 \end{array}$

22. $\begin{array}{r} 12 \\ 3 \overline{)n} \\ \times 3 \\ \hline 36 \end{array}$

The dividend is 36.

23. $5 \times m = 100$ $\begin{array}{r} 20 \\ 5 \overline{)100} \\ 10 \\ \hline 00 \\ 00 \\ \hline 0 \end{array}$

The other factor is 20.

24. $17 - 8 = 9$
 $9 + 8 = 17$
 $8 + 9 = 17$

25. $72 \div 9 = 8$
 $8 \times 9 = 72$
 $9 \times 8 = 72$

26. $w + \underbrace{6 + 8 + 10}_{24} = 40$

$w + 24 = 40$

$40 - 24 = 16$

$w = 16$

27. $\begin{array}{r} 23\text{¢} \\ \times 7 \\ \hline 161\text{¢} \text{ or } \$1.61 \end{array}$

28. $\begin{array}{r} 1 \\ 25 \overline{)25} \\ \underline{25} \\ 0 \end{array}$
 $m = 1$

29. $\begin{array}{r} 0 \\ 15 \overline{)0} \\ \underline{0} \\ 0 \end{array}$
 $n = 0$

30. To find a missing factor, divide the product by the known factor.

LESSON 5, WARM-UP

- a. 760
b. 870
c. 7200
d. 790
e. 5800
f. 640

Problem Solving

First think, "5 plus what number equals 13?" (8). Then think, "What number plus 3 plus 1 (from regrouping) equals 9?" (5). Next think, "1 plus what one-digit number equals a two-digit number?" (9). What is the two-digit number? (10).

$$\begin{array}{r} 155 \\ + 938 \\ \hline 1093 \end{array}$$

LESSON 5, LESSON PRACTICE

a. $\begin{array}{r} 16 - 3 \\ \hline 13 + 4 \\ \hline 17 \end{array}$

b. $\begin{array}{r} 16 - (3 + 4) \\ \hline 16 - 7 \\ \hline 9 \end{array}$

c. $\begin{array}{r} 24 \div (4 \times 3) \\ \hline 24 \div 12 \\ \hline 2 \end{array}$

d. $\begin{array}{r} 24 \div 4 \times 3 \\ \hline 6 \times 3 \\ \hline 18 \end{array}$

e. $\begin{array}{r} 24 \div 6 \div 2 \\ \hline 4 \div 2 \\ \hline 2 \end{array}$

f. $\begin{array}{r} 24 \div (6 \div 2) \\ \hline 24 \div 3 \\ \hline 8 \end{array}$

g. $\frac{6 + 9}{3} = \frac{15}{3} = 5$

h. $\frac{12 + 8}{12 - 8} = \frac{20}{4} = 5$

LESSON 5, MIXED PRACTICE

1. $\begin{array}{r} \$1.25 \\ + \$0.60 \\ \hline \$1.85 \end{array} \quad \begin{array}{r} \$8.00 \\ - \$1.85 \\ \hline \$6.15 \end{array}$

2. $\begin{array}{r} 82 \\ + 12 \\ \hline 102 \text{ pounds} \end{array}$

3. $\begin{array}{r} 85 \\ - 25 \\ \hline 60 \end{array}$

SOLUTIONS

$$\begin{array}{r} 4. \quad 25¢ \\ \times 12 \\ \hline 50 \\ 250 \\ \hline 300¢ \text{ or } \$3.00 \end{array}$$

$$\begin{array}{r} 5. \quad \begin{array}{r} 4 \text{ } ^{10} \\ 5 \text{ } ^{16} \\ - 149 \\ \hline 367 \end{array} \end{array}$$

6. To find the average number of pages she needs to read each day, divide 235 pages by 5.

$$\begin{array}{r} 7. \quad 5 + (3 \times 4) \\ \quad 5 + 12 \\ \quad 17 \end{array}$$

$$\begin{array}{r} 8. \quad (5 + 3) \times 4 \\ \quad 8 \times 4 \\ \quad 32 \end{array}$$

$$\begin{array}{r} 9. \quad 800 - (450 - 125) \\ \quad 800 - 325 \\ \quad 475 \end{array}$$

$$\begin{array}{r} 10. \quad 600 \div (20 \div 5) \\ \quad 600 \div 4 \\ \quad 150 \end{array}$$

$$\begin{array}{r} 11. \quad 800 - 450 - 125 \\ \quad 350 - 125 \\ \quad 225 \end{array}$$

$$\begin{array}{r} 12. \quad 600 \div 20 \div 5 \\ \quad 30 \div 5 \\ \quad 6 \end{array}$$

$$\begin{array}{r} 13. \quad 144 \div (8 \times 6) \\ \quad 144 \div 48 \\ \quad 3 \end{array}$$

$$\begin{array}{r} 14. \quad 144 \div 8 \times 6 \\ \quad 18 \times 6 \\ \quad 108 \end{array}$$

$$\begin{array}{r} 15. \quad \$5 - (\$1.25 + \$0.60) \\ \quad \$5 - \$1.85 \\ \quad \$3.15 \end{array}$$

$$\begin{array}{l} 16. \quad 7 \times 9 = 63 \\ \quad 9 \times 7 = 63 \\ \quad 63 \div 7 = 9 \\ \quad 63 \div 9 = 7 \end{array}$$

$$\begin{array}{r} 17. \quad \begin{array}{r} 24 \\ 12 \overline{)288} \\ \underline{24} \\ 48 \\ \underline{48} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 18. \quad \begin{array}{r} \$0.40 \\ 25 \overline{) \$10.00} \\ \underline{100} \\ 00 \\ \underline{00} \\ 0 \end{array} \end{array}$$

$$\begin{array}{r} 19. \quad \begin{array}{r} 378 \\ \times 64 \\ \hline 1512 \\ 2268 \\ \hline 24,192 \end{array} \end{array}$$

$$\begin{array}{r} 20. \quad \begin{array}{r} 506 \\ \times 370 \\ \hline 35420 \\ 15180 \\ \hline 187,220 \end{array} \end{array}$$

$$\begin{array}{r} 21. \quad \begin{array}{r} 0 \text{ } ^9 \text{ } ^{10} \\ \$1 \text{ } ^{10} \text{ } ^{10} \\ - \$9.89 \\ \hline \$0.21 \end{array} \end{array}$$

$$\begin{array}{r} 22. \quad \begin{array}{r} 63 \\ + 36 \\ \hline 99 \end{array} \quad \text{check:} \quad \begin{array}{r} 99 \\ - 36 \\ \hline 63 \end{array} \\ n = 99 \end{array}$$

$$\begin{array}{r} 23. \quad \begin{array}{r} 5 \text{ } ^{13} \\ 6 \text{ } ^{13} \\ - 36 \\ \hline 27 \end{array} \quad \text{check:} \quad \begin{array}{r} 5 \text{ } ^{13} \\ 6 \text{ } ^{13} \\ - 27 \\ \hline 36 \end{array} \\ p = 27 \end{array}$$

$$\begin{array}{r} 24. \quad \begin{array}{r} 3 \text{ } ^{12} \\ 4 \text{ } ^{12} \\ - 56 \\ \hline 376 \end{array} \quad \text{check:} \quad \begin{array}{r} 11 \\ 376 \\ + 56 \\ \hline 432 \end{array} \\ m = 376 \end{array}$$

$$\begin{array}{r} 60 \\ 8 \overline{)480} \\ \underline{48} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$w = 60$$

check: $\begin{array}{r} 60 \\ \times 8 \\ \hline 480 \end{array}$

$$\begin{aligned} 26. \quad & 5 + 12 + 27 + y = 50 \\ & 44 + y = 50 \\ & 50 - 44 = 6 \\ & y = 6 \end{aligned}$$

check: $\begin{array}{r} 5 \\ 12 \\ 27 \\ + 6 \\ \hline 50 \end{array}$

$$\begin{array}{r} 9 \\ 4 \overline{)36} \\ \underline{36} \\ 0 \end{array}$$

$$a = 9$$

check: $\begin{array}{r} 4 \\ 9 \overline{)36} \\ \underline{36} \\ 0 \end{array}$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$$

$$x = 32$$

check: $\begin{array}{r} 8 \\ 4 \overline{)32} \\ \underline{32} \\ 0 \end{array}$

$$\begin{aligned} 29. \quad & 7 + 11 = 18 \\ & 11 + 7 = 18 \\ & 18 - 11 = 7 \\ & 18 - 7 = 11 \end{aligned}$$

$$\begin{array}{r} 3 \cdot 4 \cdot 5 \\ 12 \cdot 5 \\ 60 \end{array}$$

LESSON 6, WARM-UP

a. 2900

b. 8400

c. 770

d. 9740

e. 1560

f. 2980

Problem Solving

$$\begin{array}{r} 3Q = 75¢ \\ 1D = 10¢ \\ + 3N = 15¢ \\ \hline 100¢ \text{ or } \$1.00 \end{array}$$

$$\begin{array}{r} 2Q = 50¢ \\ + 5D = 50¢ \\ \hline 100¢ \text{ or } \$1.00 \end{array}$$

$$\begin{array}{r} 1HD = 50¢ \\ 1Q = 25¢ \\ + 5N = 25¢ \\ \hline 100¢ \text{ or } \$1.00 \end{array}$$

$$\begin{array}{r} 1HD = 50¢ \\ 4D = 40¢ \\ + 2N = 10¢ \\ \hline 100¢ \text{ or } \$1.00 \end{array}$$

4 combinations are possible: 3Q, 1D, 3N;
2Q, 5D; 1HD, 1Q, 5N; 1HD, 4D, 2N.

LESSON 6, LESSON PRACTICE

a. Three fourths; $\frac{3}{4}$

b. Two fifths; $\frac{2}{5}$

c. Three eighths; $\frac{3}{8}$

d. $\begin{array}{r} 36 \\ 2 \overline{)72} \\ \underline{6} \\ 12 \\ \underline{12} \\ 0 \end{array}$ $\frac{1}{2}$ of 72 is 36.

e. $\begin{array}{r} 500 \\ 2 \overline{)1000} \\ \underline{10} \\ 00 \\ \underline{00} \\ 00 \\ \underline{00} \\ 0 \end{array}$ $\frac{1}{2}$ of 1000 is 500.

SOLUTIONS

f.
$$\begin{array}{r} 60 \\ 3 \overline{)180} \\ \underline{18} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \frac{1}{3} \text{ of } 180 \text{ is } 60.$$

g.
$$\begin{array}{r} \$1.20 \\ 3 \overline{)\$3.60} \\ \underline{3} \\ 06 \\ \underline{06} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \frac{1}{3} \text{ of } \$3.60 \text{ is } \$1.20.$$

h.

5.
$$\begin{array}{r} 1 \\ 52 \\ \times 7 \\ \hline 364 \text{ days} \end{array}$$

6.
$$\begin{array}{r} 50 \text{ bills} \\ \$20 \overline{)\$1000} \\ \underline{100} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

7. Five sixths; $\frac{5}{6}$

8.
$$\begin{array}{r} 11 \\ 3604 \\ 5186 \\ + 7145 \\ \hline 15,935 \end{array}$$

9.
$$\begin{array}{r} 2 \quad 9 \quad 9 \\ \$2 \text{ } \cancel{0} \text{ } \cancel{0} \text{ } ^11 \\ - \$1 \text{ } 5 \text{ } 7 \text{ } 6 \\ \hline \$1 \text{ } 4 \text{ } 2 \text{ } 5 \end{array}$$

10.
$$\begin{array}{r} 376 \\ \times 87 \\ \hline 2632 \\ 30080 \\ \hline 32,712 \end{array}$$

11.
$$\begin{array}{r} 470 \\ \times 203 \\ \hline 1410 \\ 0000 \\ 94000 \\ \hline 95,410 \end{array}$$

12.
$$\begin{array}{r} 1 \quad 9 \quad 9 \\ \$2 \text{ } \cancel{0} \text{ } \cancel{0} \text{ } ^10 \\ - \$1 \text{ } 1 \text{ } 9 \text{ } 8 \\ \hline \$8 \text{ } 0 \text{ } 2 \end{array}$$

13.
$$\begin{array}{r} 596 - (400 - 129) \\ 596 - 271 \\ 325 \end{array}$$

14.
$$\begin{array}{r} 32 \div (8 \times 4) \\ 32 \div 32 \\ 1 \end{array}$$

LESSON 6, MIXED PRACTICE

1.
$$\begin{array}{r} 270 \\ 2 \overline{)540} \\ \underline{4} \\ 14 \\ \underline{14} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \frac{1}{2} \text{ of } 540 \text{ is } 270.$$

2.
$$\begin{array}{r} 180 \\ 3 \overline{)540} \\ \underline{3} \\ 24 \\ \underline{24} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \frac{1}{3} \text{ of } 540 \text{ is } 180.$$

3.
$$\begin{array}{r} 346 \text{ miles} \\ 417 \text{ miles} \\ 289 \text{ miles} \\ + 360 \text{ miles} \\ \hline 1412 \text{ miles} \end{array}$$

4.
$$\begin{array}{r} 1 \quad 9 \quad 9 \\ \$2 \text{ } \cancel{0} \text{ } \cancel{0} \text{ } ^10 \\ - \$1 \text{ } 2 \text{ } 0 \text{ } 8 \\ \hline \$7 \text{ } 9 \text{ } 2 \end{array}$$

$$15. \begin{array}{r} 502 \\ 8 \overline{)4016} \\ \underline{40} \\ 01 \\ \underline{00} \\ 16 \\ \underline{16} \\ 0 \end{array}$$

$$16. \begin{array}{r} 400 \text{ R } 9 \\ 15 \overline{)6009} \\ \underline{60} \\ 00 \\ \underline{00} \\ 09 \\ \underline{00} \\ 9 \end{array}$$

$$17. \begin{array}{r} 250 \\ 36 \overline{)9000} \\ \underline{72} \\ 180 \\ \underline{180} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$18. \begin{array}{r} 60 \\ 8 \overline{)480} \\ \underline{48} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 60 \\ \times 8 \\ \hline 480 \end{array}$$

$w = 60$

$$19. \begin{array}{r} 64 \\ + 46 \\ \hline 110 \end{array} \quad \text{check:} \quad \begin{array}{r} 0 10 \\ \cancel{X} \cancel{X} 10 \\ - 64 \\ \hline 46 \end{array}$$

$x = 110$

$$20. \begin{array}{r} 7 \\ 7 \overline{)49} \\ \underline{49} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 7 \\ 7 \overline{)49} \\ \underline{49} \\ 0 \end{array}$$

$N = 7$

$$21. \begin{array}{r} 3 \\ \times 15 \\ \hline 105 \end{array} \quad \text{check:} \quad \begin{array}{r} 15 \\ 7 \overline{)105} \\ \underline{7} \\ 35 \\ \underline{35} \\ 0 \end{array}$$

$M = 105$

$$22. \begin{array}{r} 5 14 \\ \cancel{6} \cancel{8} 13 \\ - 365 \\ \hline 288 \end{array} \quad \text{check:} \quad \begin{array}{r} 11 \\ 365 \\ + 288 \\ \hline 653 \end{array}$$

$P = 288$

$$23. \underbrace{36\text{¢} + 25\text{¢}} + m = 99\text{¢} \quad \text{check:} \quad \begin{array}{r} 1 \\ 36\text{¢} \\ 25\text{¢} \\ + 38\text{¢} \\ \hline 99\text{¢} \end{array}$$

$$61\text{¢} + m = 99\text{¢}$$

$$99\text{¢} - 61\text{¢} = 38\text{¢}$$

$m = 38\text{¢}$

$$24. \frac{1}{4}$$

$$25. \begin{array}{|c|c|c|c|} \hline \text{shaded} & \text{shaded} & & \\ \hline & & & \\ \hline \end{array}$$

$$26. \begin{array}{r} \$6.35 \\ \times 12 \\ \hline 1270 \\ 6350 \\ \hline \$76.20 \end{array}$$

$$27. \begin{array}{l} 2 + 4 = 6 \\ 4 + 2 = 6 \\ 6 - 4 = 2 \\ 6 - 2 = 4 \end{array}$$

$$28. \begin{array}{l} 2 \times 4 = 8 \\ 4 \times 2 = 8 \\ 8 \div 2 = 4 \\ 8 \div 4 = 2 \end{array}$$

$$29. \begin{array}{r} 38 \\ \times 10 \\ \hline 380 \end{array}$$

30. Sample answer: How much money is $\frac{1}{2}$ of \$3.60?

$$\begin{array}{r} \$1.80 \\ 2 \overline{) \$3.60} \\ \underline{2} \\ 16 \\ \underline{16} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \frac{1}{2} \text{ of } \$3.60 \text{ is } \$1.80.$$

LESSON 7, WARM-UP

- 500
- 1000
- 350
- 2200
- 400
- 500

Problem Solving

$$5 \times 5 = 25 \text{ coins}$$

$$6 \times 6 = 36 \text{ coins}$$

LESSON 7, LESSON PRACTICE

- $1\frac{3}{4}$ in.
- 25 mm
- 2 in.; 5 cm
- Ray
- Line
- Segment

LESSON 7, MIXED PRACTICE

$$\begin{array}{r} 1. \quad \$0.25 \\ \times \quad 100 \\ \hline \$25.00 \end{array}$$

$$\begin{array}{r} 2. \quad \overset{2}{8} 65 \text{ days} \\ - \quad 91 \text{ days} \\ \hline 274 \text{ days} \end{array}$$

$$\begin{array}{r} 3. \quad \overset{1}{5}96 \\ + \quad 612 \\ \hline 1208 \text{ miles} \end{array} \quad \begin{array}{r} \overset{8}{1}8\overset{0}{0} \\ - \quad 1208 \\ \hline 682 \text{ miles} \end{array}$$

$$\begin{array}{r} 4. \quad \overset{117}{2}\overline{)234} \\ \underline{2} \\ 03 \\ \underline{2} \\ 14 \\ \underline{14} \\ 0 \end{array}$$

$$\begin{array}{r} 5. \quad \overset{\$0.78}{3}\overline{)\$2.34} \\ \underline{21} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

$$6. \quad \text{Three eighths; } \frac{3}{8}$$

$$\begin{array}{r} 7. \quad \overset{211}{3654} \\ 2893 \\ + 5614 \\ \hline 12,161 \end{array}$$

$$\begin{array}{r} 8. \quad \overset{3109}{\$47.81} \\ - \quad \$15.76 \\ \hline \$25.25 \end{array}$$

$$\begin{array}{r} 9. \quad 28¢ \\ \times 74 \\ \hline 112 \\ 1960 \\ \hline 2072¢ \text{ or } \$20.72 \end{array}$$

$$\begin{array}{r} 10. \quad 906 \\ \times 47 \\ \hline 6342 \\ 36240 \\ \hline 42,582 \end{array}$$

$$\begin{array}{r} 11. \quad \overset{833 \text{ R } 2}{6}\overline{)5000} \\ \underline{48} \\ 20 \\ \underline{18} \\ 20 \\ \underline{18} \\ 2 \end{array}$$

$$\begin{array}{r} 12. \quad \overset{50}{16}\overline{)800} \\ \underline{80} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$\begin{array}{r} 52 \text{ R } 54 \\ 60 \overline{)3174} \\ \underline{300} \\ 174 \\ \underline{120} \\ 54 \end{array}$$

$$14. \quad \underbrace{3 + 6 + 5 + 4} + w = 30$$

$$18 + w = 30$$

$$30 - 18 = 12$$

$$w = 12$$

$$\begin{array}{r} 15. \quad \underline{300 - 30} + 3 \\ 270 + 3 \\ 273 \end{array}$$

$$\begin{array}{r} 16. \quad 300 - (30 + 3) \\ 300 - 33 \\ 267 \end{array}$$

$$\begin{array}{r} 17. \quad \$4.32 \\ \times \quad 20 \\ \hline \$86.40 \end{array}$$

$$\begin{array}{r} 18. \quad 48¢ \\ \times 24 \\ \hline 192 \\ 960 \\ \hline 1152¢ \text{ or } \$11.52 \end{array}$$

$$\begin{array}{r} 19. \quad \underline{\$0.35} \\ 25 \overline{) \$8.75} \\ \underline{75} \\ 125 \\ \underline{125} \\ 0 \end{array}$$

$$\begin{array}{r} 20. \quad 7 \\ \times 6 \\ \hline 42 \\ W = 42 \end{array} \quad \text{check: } \begin{array}{r} 7 \\ 6 \overline{)42} \\ \underline{42} \\ 0 \end{array}$$

$$\begin{array}{r} 21. \quad \underline{16} \\ 6 \overline{)96} \\ \underline{6} \\ 36 \\ \underline{36} \\ 0 \\ n = 16 \end{array} \quad \text{check: } \begin{array}{r} 3 \\ 6 \overline{)96} \\ \underline{18} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

$$\begin{array}{r} 22. \quad \begin{array}{r} 1 \text{ } 0 \\ 2 \overline{)13} \\ \underline{10} \\ 3 \end{array} \quad \text{check: } \begin{array}{r} 11 \\ 155 \\ + 58 \\ \hline 213 \end{array} \\ r = 155 \end{array}$$

$$\begin{array}{l} 23. \quad 60 - 36 = 24 \\ 36 + 24 = 60 \\ 24 + 36 = 60 \end{array}$$

$$24. \quad 1\frac{1}{2} \text{ in.}$$

$$25. \quad 3 \text{ cm; } 30 \text{ mm}$$

$$\begin{array}{l} 26. \quad 9 \times 10 = 90 \\ 10 \times 9 = 90 \\ 90 \div 9 = 10 \\ 90 \div 10 = 9 \end{array}$$

27. To find a missing dividend, multiply the quotient by the divisor.

$$\begin{array}{r} 28. \quad \begin{array}{r} 1 \\ 12 \\ + 8 \\ \hline 20 \\ w = 20 \end{array} \quad \text{check: } \begin{array}{r} 1 \\ 20 \\ - 12 \\ \hline 8 \end{array} \end{array}$$

$$\begin{array}{r} 29. \quad \begin{array}{r} 0 \\ 12 \\ - 8 \\ \hline 4 \\ x = 4 \end{array} \quad \text{check: } \begin{array}{r} 0 \\ 12 \\ - 4 \\ \hline 8 \end{array} \end{array}$$

$$30. \quad 1000 \text{ millimeters}$$

LESSON 8, WARM-UP

a. 2800

b. 786

c. 8920

d. 920

e. 2400

f. 360

Problem Solving
Answers will vary.

LESSON 8, ACTIVITY

- a. Probably not. Different-size steps will result in different counts.
- b. No; the perimeter does not change. A uniform unit of measure is needed for consistent measurements.
- c. 2. The molding along the base of the wall.

LESSON 8, LESSON PRACTICE

- a. $12 \text{ mm} + 12 \text{ mm} + 12 \text{ mm} + 12 \text{ mm}$
 $= 48 \text{ mm}$
- b. $15 \text{ mm} + 20 \text{ mm} + 15 \text{ mm} + 20 \text{ mm}$
 $= 70 \text{ mm}$
- c. $1 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 1 \text{ cm} + 1 \text{ cm}$
 $= 5 \text{ cm}$
- d. $2 \text{ cm} + 2 \text{ cm} + 2 \text{ cm} = 6 \text{ cm}$
- e. $10 \text{ mm} + 15 \text{ mm} + 10 \text{ mm} + 20 \text{ mm}$
 $= 55 \text{ mm}$

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

LESSON 8, MIXED PRACTICE

1.
$$\begin{array}{r} 25 \\ \times 18 \\ \hline 200 \\ 250 \\ \hline 450 \text{ chairs} \end{array}$$

2.
$$\begin{array}{r} 0 \text{ } ^{0} \text{ } ^{1} \text{ } ^{4} \\ 7780 \\ - 765 \\ \hline 985 \text{ fewer horses} \end{array}$$

3.
$$\begin{array}{r} 28 \text{ suffragettes} \\ 5 \overline{)140} \\ \underline{10} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

4. $20 \text{ mm} + 15 \text{ mm} + 25 \text{ mm} = 60 \text{ mm}$

5.
$$\begin{array}{r} \$3.27 \\ 2 \overline{) \$6.54} \\ \underline{6} \\ 05 \\ \underline{04} \\ 14 \\ \underline{14} \\ 0 \end{array}$$

6.
$$\begin{array}{r} 218 \\ 3 \overline{)654} \\ \underline{6} \\ 05 \\ \underline{03} \\ 24 \\ \underline{24} \\ 0 \end{array}$$

7. $\frac{3}{10}$

8.
$$\begin{array}{r} \$2.25 \\ 4 \overline{) \$9.00} \\ \underline{8} \\ 10 \\ \underline{8} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

9.
$$\begin{array}{r} 37 \text{ R } 3 \\ 10 \overline{)373} \\ \underline{30} \\ 73 \\ \underline{70} \\ 3 \end{array}$$

10.
$$\begin{array}{r} 125 \\ 12 \overline{)1500} \\ \underline{12} \\ 30 \\ \underline{30} \\ 0 \end{array}$$

$$\begin{array}{r} 20 \text{ R } 20 \\ 39 \overline{)800} \\ \underline{78} \\ 20 \\ \underline{00} \\ 20 \end{array}$$

$$\begin{array}{r} 12. \quad 400 \div 20 \div 4 \\ \underline{20 \div 4} \\ 5 \end{array}$$

$$\begin{array}{r} 13. \quad 400 \div (20 \div 4) \\ \underline{400 \div 5} \\ 80 \end{array}$$

$$\begin{array}{l} 14. \quad 20 \times 12 = 240 \\ \quad 12 \times 20 = 240 \\ \quad 240 \div 20 = 12 \\ \quad 240 \div 12 = 20 \end{array}$$

$$\begin{array}{l} 15. \quad 80 \times 60 = 140 \\ \quad 140 - 80 = 60 \\ \quad 140 - 60 = 80 \end{array}$$

$$16. \quad 12 \text{ in.} + 12 \text{ in.} + 12 \text{ in.} + 12 \text{ in.} = 48 \text{ in.}$$

$$\begin{array}{r} 17. \quad (a) \quad \begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array} \quad (b) \quad \begin{array}{r} 6 \\ \times 4 \\ \hline 24 \end{array} \end{array}$$

$$\begin{array}{r} 18. \quad \begin{array}{r} \$3. \overset{4}{\cancel{0}} \overset{9}{\cancel{0}} \\ - \$1.48 \\ \hline \$3.52 \end{array} \\ M = \$3.52 \end{array}$$

$$\begin{array}{r} 19. \quad \underline{10 \times 20} \times 30 \\ \underline{200 \times 30} \\ 6000 \end{array}$$

$$\begin{array}{r} 20. \quad \begin{array}{r} 103 \text{ R } 1 \\ 8 \overline{)825} \\ \underline{8} \\ 02 \\ \underline{0} \\ 25 \\ \underline{24} \\ 1 \end{array} \end{array}$$

$$\begin{array}{r} 21. \quad \begin{array}{r} 63 \\ + 36 \\ \hline 99 \end{array} \quad \text{check:} \quad \begin{array}{r} 99 \\ - 63 \\ \hline 36 \end{array} \\ w = 99 \end{array}$$

$$\begin{array}{r} 22. \quad \underline{150 + 165} + a = 397 \\ \quad 315 + a = 397 \\ \quad 397 - 315 = 82 \\ \quad a = 82 \\ \quad \text{check:} \quad \begin{array}{r} 150 \\ 165 \\ + 82 \\ \hline 397 \end{array} \end{array}$$

$$\begin{array}{r} 23. \quad \begin{array}{r} 10 \\ 12 \overline{)120} \\ \underline{12} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 12 \\ \times 10 \\ \hline 120 \end{array} \\ w = 10 \end{array}$$

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

25. (a) About 3 centimeters
(b) 28 millimeters

$$26. \quad \underline{\hspace{10cm}}$$

$$\begin{array}{r} 27. \quad \begin{array}{r} 1 \\ 27 \\ + 18 \\ \hline 45 \end{array} \\ w = 45 \end{array}$$

$$\begin{array}{r} 28. \quad \begin{array}{r} 1 \\ 2 \overline{)17} \\ \underline{18} \\ 9 \end{array} \\ x = 9 \end{array}$$

$$\begin{array}{r} 29. \quad \begin{array}{r} 2 \\ 35 \\ \times 4 \\ \hline 140 \end{array} \end{array}$$

30. One way to calculate the perimeter of a rectangle is to add the lengths of the four sides.

LESSON 9, WARM-UP

- a. 168
- b. 89
- c. 7720
- d. 810
- e. 360
- f. 165

Problem Solving

246, 264, 426, 462, 624, 642

LESSON 9, LESSON PRACTICE

- a. 12¢, \$1.20, \$12
- b. $\frac{16 - 8 - 2}{6} \leq \frac{16 - (8 - 2)}{10}$
- c. $\frac{8 \div 4 \times 2}{4} \geq \frac{8 \div (4 \times 2)}{1}$
- d. $\frac{2 \times 3}{6} \geq \frac{2 + 3}{5}$
- e. $\frac{1 \times 1 \times 1}{1} \leq \frac{1 + 1 + 1}{3}$
- f. $\frac{1}{2} > \frac{1}{4}$

LESSON 9, MIXED PRACTICE

1. $\begin{array}{r} 18 \text{ books} \\ 8 \overline{)144} \\ \underline{8} \\ 64 \\ \underline{64} \\ 0 \end{array}$
2. $\begin{array}{r} 1 \overline{)111} \\ - 1492 \\ \hline 111 \text{ years} \end{array}$

$$\begin{array}{r} 4 \text{ R } 1 \\ 2 \overline{)9} \\ \underline{8} \\ 1 \end{array}$$

5 trips

4. length = 2 cm
width = 1 cm
perimeter = 2 cm + 2 cm + 1 cm + 1 cm
= 6 cm

$$\begin{array}{r} \$2.90 \\ 2 \overline{) \$5.80} \\ \underline{4} \\ 18 \\ \underline{18} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$\begin{array}{r} \$0.25 \rightarrow 25\text{¢} \\ 4 \overline{) \$1.00} \\ \underline{0} \\ 10 \\ \underline{8} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

7. One fourth; $\frac{1}{4}$
8. 5012 $\leq$ 5120
9. 0, $\frac{1}{2}$, 1
10. $\frac{100 - 50 - 25}{25} \leq \frac{100 - (50 - 25)}{75}$

$$\begin{array}{r} 21 \\ 1 \overline{)478} \\ \underline{36} \\ 92 \\ \underline{92} \\ 0 \end{array}$$

$$\begin{array}{r} 4 9 9 0 \\ \$8 8 8 0 \\ - \$3 1 7 6 \\ \hline \$1 8 2 4 \end{array}$$

$$\begin{array}{r} \$4.20 \\ \times 60 \\ \hline \$252.00 \end{array}$$

$$\begin{array}{r} 14. \quad 78 \\ \times 36 \\ \hline 468 \\ 2340 \\ \hline 2808 \end{array}$$

$$\begin{array}{r} 15. \quad 9 \overline{)7227} \\ \underline{72} \\ 02 \\ \underline{00} \\ 27 \\ \underline{27} \\ 0 \end{array}$$

$$\begin{array}{r} 16. \quad 25 \overline{)7600} \\ \underline{75} \\ 10 \\ \underline{00} \\ 100 \\ \underline{100} \\ 0 \end{array}$$

$$\begin{array}{r} 17. \quad 20 \overline{)8014} \quad 400 \text{ R } 14 \\ \underline{80} \\ 01 \\ \underline{00} \\ 14 \\ \underline{00} \\ 14 \end{array}$$

$$\begin{array}{r} 18. \quad 100 \overline{)7136} \quad 71 \text{ R } 36 \\ \underline{700} \\ 136 \\ \underline{100} \\ 36 \end{array}$$

$$\begin{array}{r} 19. \quad 736 \overline{)736} \quad 1 \\ \underline{736} \\ 0 \end{array}$$

$$\begin{array}{r} 20. \quad \begin{array}{r} 29 \\ 3 \end{array} \overline{)165} \quad \text{check:} \quad \begin{array}{r} 11 \\ 165 \\ + 135 \\ \hline 300 \end{array} \\ \underline{- 165} \\ 135 \\ a = 135 \end{array}$$

$$\begin{array}{r} 21. \quad \begin{array}{r} 1 \\ 68 \\ + 86 \\ \hline 154 \end{array} \quad \text{check:} \quad \begin{array}{r} 0 \frac{1}{4} \\ 154 \\ - 68 \\ \hline 86 \end{array} \\ b = 154 \end{array}$$

$$\begin{array}{r} 22. \quad \begin{array}{r} 16 \\ 9 \overline{)144} \\ \underline{9} \\ 54 \\ \underline{54} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 5 \\ 16 \\ \times 9 \\ \hline 144 \end{array} \\ c = 16 \end{array}$$

$$\begin{array}{r} 23. \quad \begin{array}{r} 3 \\ 15 \\ \times 7 \\ \hline 105 \end{array} \quad \text{check:} \quad \begin{array}{r} 7 \\ 15 \overline{)105} \\ \underline{105} \\ 0 \end{array} \\ d = 105 \end{array}$$

$$24. \quad \underline{\hspace{2cm}} \\ 5 \text{ cm}$$

$$25. \quad C. \longrightarrow$$

$$26. \quad \frac{1}{2} > \frac{1}{3}$$

$$\begin{array}{l} 27. \quad 9 \times 11 = 99 \\ \quad 11 \times 9 = 99 \\ \quad 99 \div 11 = 9 \\ \quad 99 \div 9 = 11 \end{array}$$

$$28. \quad \frac{25 + 0}{25} \bigcirc \frac{25 \times 0}{0}$$

$$\begin{array}{l} 29. \quad 100 = \underline{20 + 30 + 40} + x \\ \quad 100 = 90 + x \\ \quad 100 - 90 = x \\ \quad \quad x = 10 \end{array}$$

$$30. \quad \text{Since 5012 is less than 5120, point the small end of the symbol to the smaller number, 5012.}$$

LESSON 10, WARM-UP

$$a. \quad 68$$

$$b. \quad 870$$

$$c. \quad 279$$

$$d. \quad 50$$

SOLUTIONS

e. 250

f. 3200

Problem Solving

There are two possible solutions. Begin with the ones column. Fill the column with digits from the set 5, 6, 7, and 8 that when added to 9 produce numbers that end with another digit from the set. Use all the digits 5, 6, 7, and 8 once each.

$$\begin{array}{r} 58 \\ + 9 \\ \hline 67 \end{array} \quad \begin{array}{r} 76 \\ + 9 \\ \hline 85 \end{array}$$

LESSON 10, LESSON PRACTICE

- ..., 54, 63, 72, ... Addition sequence. Add 9 to the value of a term to find the next term.
- ..., 16, 32, 64, ... Multiplication sequence. Multiply the value of a term by 2 to find the next term.
- Odd
- 72°F; 22°C

LESSON 10, MIXED PRACTICE

- Add 8 to the value of a term to find the next term. ..., 40, 48, 56, ...
- $$\begin{array}{r} 1776 \\ - 1620 \\ \hline 156 \text{ years} \end{array}$$
- The number 1492 is even because the last digit, 2, is even.
- 154 pounds

$$\begin{array}{r} 10 \text{ mm} \\ 5. \quad 4 \overline{)40} \\ \underline{4} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$\begin{array}{r} \$3.25 \\ 6. \quad 2 \overline{) \$6.50} \\ \underline{6} \\ 05 \\ \underline{04} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

$$7. \quad \frac{4 \times 3 + 2}{14} \leq \frac{4 \times (3 + 2)}{20}$$

8. Three fourths; $\frac{3}{4}$

$$9. \quad (a) \quad \begin{array}{r} 100 \\ \times 100 \\ \hline 10,000 \end{array}$$

$$(b) \quad \begin{array}{r} 100 \\ + 100 \\ \hline 200 \end{array}$$

$$10. \quad \begin{array}{r} 365 \\ \times 100 \\ \hline 36,500 \end{array}$$

$$11. \quad \begin{array}{r} 146 \\ \times 240 \\ \hline 5840 \\ 29200 \\ \hline 35,040 \end{array}$$

$$12. \quad \begin{array}{r} 78¢ \\ \times 48 \\ \hline 624 \\ 3120 \\ \hline 3744¢ \text{ or } \$37.44 \end{array}$$

$$13. \quad \begin{array}{r} 907 \\ \times 36 \\ \hline 5442 \\ 27210 \\ \hline 32,652 \end{array}$$

$$14. \quad \begin{array}{r} 426 \\ 10 \overline{)4260} \\ \underline{40} \\ 26 \\ \underline{20} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

$$\begin{array}{r} 213 \\ 15. \quad 20 \overline{)4260} \\ \underline{40} \\ 26 \\ \underline{20} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

$$\begin{array}{r} 284 \\ 15 \overline{)4260} \\ \underline{30} \\ 126 \\ \underline{120} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

$$\begin{array}{r} 17. \quad \overset{1}{2} \overset{17}{8}, 13 \ 4 \ 7 \\ - \quad \quad 9, 6 \ 3 \ 7 \\ \hline \quad \quad 1 \ 8, 7 \ 1 \ 0 \end{array}$$

$$\begin{array}{r} 18. \quad \$\overset{0}{x}1.49 \\ - \quad \$8.00 \\ \hline \quad \$3.49 \\ w = \$3.49 \end{array}$$

19.
$$\begin{array}{r} \$9\overset{0}{\cancel{0}}.\overset{9}{\cancel{0}}\overset{9}{\cancel{0}} \\ - \$0.75 \\ \hline \$9.25 \end{array}$$

20.
$$\begin{array}{r} \$0.56 \\ \times \quad 60 \\ \hline \$33.60 \end{array}$$

$$\begin{array}{r} \text{\$1.55} \\ 21. \quad 4 \overline{) \$6.20} \\ \underline{4} \\ 22 \\ \underline{20} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

22. $\underbrace{56 + 28 + 37}_{121} + n = 200$
 $121 + n = 200$
 $200 - 121 = 79$
 $n = 79$
 check: $56 + 28 + 37 + 79 = 200$

23. $\begin{array}{r} 67 \\ + 49 \\ \hline 116 \end{array}$ check: $\begin{array}{r} 00 \\ 11 \\ \hline 16 \\ - 67 \\ \hline 49 \end{array}$
 $a = 116$

24. $\begin{array}{r} 5 \\ 6 \overline{) 17} \\ - 49 \\ \hline 18 \end{array}$ check: $\begin{array}{r} 5 \\ 6 \overline{) 17} \\ - 18 \\ \hline 49 \end{array}$
 $b = 18$

$$\begin{array}{r} 15 \\ 8 \overline{)120} \\ \underline{8} \\ 40 \\ \underline{40} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 15 \\ \times 8 \\ \hline 120 \end{array}$$

$c = 15$

26.
$$\begin{array}{r} 3 \\ 24 \\ \times 8 \\ \hline 192 \\ d = 192 \end{array}$$
 check:
$$\begin{array}{r} 24 \\ 8 \overline{)192} \\ \underline{16} \\ 32 \\ \underline{32} \\ 0 \end{array}$$

27. $5 \overline{)20}$; $20 \div 5$; $\frac{20}{5}$

28.
$$\begin{array}{r} 12 \\ 3 \overline{)36} \\ \underline{3} \\ 06 \\ \underline{6} \\ 0 \end{array}$$

29. $346 + 463 = 809$
 $463 + 346 = 809$
 $809 - 463 = 346$
 $809 - 346 = 463$

30. 32°F

INVESTIGATION 1

1. No. In the frequency table, the number of tests with 20 correct answers is combined with the number of tests with 18 and 19 correct answers.
2. Each interval is 2 or 3 scores wide. One reason he might have arranged the scores in these intervals is to group the scores by A's, B's, C's, and D's.

3. IIII IIII II

4. Answers will vary.

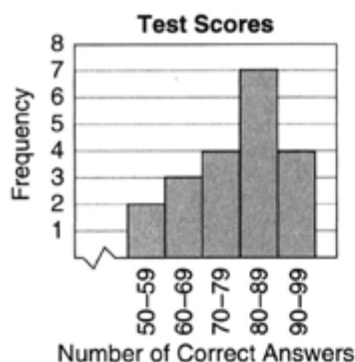
5. 12–13

6. 18–20

7. 14–15

8. **Frequency Table**

Number Correct	Tally	Frequency
90–99	IIII	4
80–89	IIII II	7
70–79	IIII	4
60–69	III	3
50–59	II	2



9. Softball

10. Since girls' preferences are not separated from boys' preferences, the answer **D. cannot be determined from information provided.**

11. Different sample groups can have different preferences. Therefore, changing the sample group might produce different survey results.

12. The percents of the responses might change.

Extension

The size of the sample may vary. Students should choose an appropriate method of display (for example, a table or a graph).

LESSON 11, WARM-UP

a. 120

b. 1200

c. \$5.75

d. 691

e. 4100

f. \$3.50

g. 2

Problem Solving

Begin with the largest stamp denomination and work down.

$$\begin{array}{r}
 3(37\text{¢}) = 111\text{¢} \\
 1(10\text{¢}) = 10\text{¢} \\
 2(3\text{¢}) = 6\text{¢} \\
 + 1(2\text{¢}) = 2\text{¢} \\
 \hline
 129\text{¢ or } \$1.29
 \end{array}$$

7 stamps total

LESSON 11, LESSON PRACTICE

a. Step 1: Subtraction pattern

Step 2: $B - A = R$

314 pages – 129 pages = remaining pages

Step 3: $314 - 129 = R$

$$\begin{array}{r}
 \overset{2}{\cancel{3}} \overset{10}{\cancel{1}} 4 \text{ pages} \\
 - 129 \text{ pages} \\
 \hline
 185 \text{ pages}
 \end{array}$$

Step 4: **Tim has 185 pages to read.**

b. Step 1: Addition pattern

Step 2: $S + M = T$

19 points + M points = 42 points

Step 3: $19 + M = 42$

$$\begin{array}{r}
 \overset{3}{\cancel{4}} 2 \text{ points} \\
 - 19 \text{ points} \\
 \hline
 23 \text{ points}
 \end{array}$$

check:

$$\begin{array}{r}
 19 \text{ points} \\
 + 23 \text{ points} \\
 \hline
 42 \text{ points}
 \end{array}$$

Step 4: **The team scored 23 points in the second half.**

LESSON 11, MIXED PRACTICE

1. $8 + L = 21$

$$\begin{array}{r} 1 \\ 21 \\ - 8 \\ \hline 13 \text{ laps} \end{array}$$

2. (a) $\begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$ (b) $\begin{array}{r} 8 \\ + 4 \\ \hline 12 \end{array}$

3. $\frac{(6 \times 4)}{24} \div \frac{(8 - 5)}{3}$
8

4. $\$20.00 - M = \7.75
 $\begin{array}{r} 199 \\ \$20.00 \\ - 7.75 \\ \hline \$12.25 \end{array}$

5. $1 + B = 1000$
 $\begin{array}{r} 999 \\ 1000 \\ - 1 \\ \hline 999 \text{ meters} \end{array}$

6. $\begin{array}{r} 1 \\ \$0.65 \\ + \$0.40 \\ \hline \$1.05 \end{array}$

7. $\begin{array}{r} 014 \\ 1815 \\ - 87 \\ \hline 68 \end{array}$ check: $\begin{array}{r} 1 \\ 87 \\ + 68 \\ \hline 155 \end{array}$
 $w = 68$

8. $\begin{array}{r} 099 \\ 1880 \\ - 386 \\ \hline 614 \end{array}$ check: $\begin{array}{r} 099 \\ 1880 \\ - 614 \\ \hline 386 \end{array}$
 $x = 614$

9. $\begin{array}{r} 1000 \\ + 386 \\ \hline 1386 \end{array}$ check: $\begin{array}{r} 1386 \\ - 1000 \\ \hline 386 \end{array}$
 $y = 1386$

10. $42 + 596 + m = 700$
 $638 + m = 700$
 $700 - 638 = 62$
 $m = 62$
check: $42 + 596 + 62 = 700$

11. $\frac{1000 - (100 - 10)}{910} \geq 1000 - 100 - 10$
890

12. $\begin{array}{r} 125 \\ 8 \overline{)1000} \\ \underline{8} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$

13. $\begin{array}{r} 98 \text{ R } 7 \\ 10 \overline{)987} \\ \underline{90} \\ 87 \\ \underline{80} \\ 7 \end{array}$

14. $\begin{array}{r} 35 \\ \times 12 \\ \hline 70 \\ 350 \\ \hline 420 \end{array}$

15. $\begin{array}{r} 600 \\ \times 300 \\ \hline 180,000 \end{array}$

16. $\begin{array}{r} 1 \\ 365 \overline{)365} \\ \underline{365} \\ 0 \end{array}$
 $w = 1$

17. Add 4 to the value of a term to find the next term.
2, 6, 10, 14, 18, 22, ...

18. $2 \times 3 \times 4 \times 5$
 $6 \times 4 \times 5$
 24×5
120

19. $\begin{array}{r} 180 \\ 2 \overline{)360} \\ \underline{2} \\ 16 \\ \underline{16} \\ 00 \\ \underline{00} \\ 0 \end{array}$

$$\begin{array}{r} 90 \\ 20. \quad 4 \overline{)360} \\ \underline{36} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$\begin{array}{r} 24 \\ 21. \quad \times 8 \\ \hline 1000 \end{array}$$

$$22. \quad 2\frac{1}{4} \text{ in.}$$

$$23. \quad \frac{5}{8}$$

$$24. \quad 9 \text{ mm} + 9 \text{ mm} + 9 \text{ mm} + 9 \text{ mm} = 36 \text{ mm}$$

$$25. \quad 1 + 3 + 5 + 7 + 9 = 25$$

$$26. \quad 6 \overline{)30}, 30 \div 6, \frac{30}{6}$$

$$\begin{array}{r} 2 \\ 27. \quad \overline{2}10 \\ - 17 \\ \hline 13 \text{ coupes} \end{array} \quad \frac{13}{30}$$

$$28. \quad 0^{\circ}\text{C}$$

$$\begin{array}{l} 29. \quad 6 \times 4 = 24 \\ \quad 4 \times 6 = 24 \\ \quad 24 \div 4 = 6 \\ \quad 24 \div 6 = 4 \end{array}$$

30. Answers may vary. Sample answer: Before he went to work, Pham had \$24.50. He earned some money putting up a fence at work. Then Pham had \$37.00. How much money did Pham earn putting up the fence?

LESSON 12, WARM-UP

$$a. \quad 240$$

$$b. \quad 2400$$

$$c. \quad \$17.50$$

$$d. \quad 475$$

$$e. \quad 2500$$

$$f. \quad \$7.50$$

$$g. \quad 0$$

Problem Solving

$$1 + 2 + 3 + 4 + 5 + 6 = 21 \text{ dots}$$

LESSON 12, LESSON PRACTICE

$$a. \quad 3$$

$$b. \quad \text{Ten billions}$$

$$c. \quad \text{Twenty-one million, three hundred fifty thousand, six hundred eight}$$

$$d. \quad 4,520,000,000$$

$$e. \quad \frac{(6 \times 4)}{(6 - 4)} = \frac{24}{2} = 12$$

LESSON 12, MIXED PRACTICE

$$1. \quad \begin{array}{r} (1 \times 2 \times 3) \\ 6 \\ - (1 + 2 + 3) \\ 6 \\ \hline 0 \end{array}$$

$$2. \quad 93,000,000 \text{ miles}$$

$$3. \quad 167 + K = 342$$

$$\begin{array}{r} 2 13 \\ \overline{2}412 \\ - 167 \\ \hline 175 \text{ pancakes} \end{array}$$

$$4. \quad 59 + L = 102$$

$$\begin{array}{r} 0 9 \\ \overline{X}812 \\ - 59 \\ \hline 43 \text{ points} \end{array}$$

$$5. \quad 10 \text{ mm} + 10 \text{ mm} + 18 \text{ mm} + 18 \text{ mm} = 56 \text{ mm}$$

$$\begin{array}{r} 10 \\ 6. \quad 6 \overline{)60} \\ \underline{6} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$m = 10$$

$$7. \quad (a) \begin{array}{r} 50 \\ 2 \overline{)100} \\ \underline{10} \\ 00 \\ \underline{00} \\ 0 \end{array} \quad (b) \begin{array}{r} 25 \\ 4 \overline{)100} \\ \underline{8} \\ 20 \\ \underline{20} \\ 0 \end{array}$$

$$8. \quad \frac{300 \times 1}{300} = \frac{300 \div 1}{300}$$

$$9. \quad \begin{array}{r} (3 \times 3) - (3 + 3) \\ 9 \quad \quad - \quad 6 \\ \hline 3 \end{array}$$

10. Multiply the value of the previous term by 2 to find the next term.
2, 4, 8, 16, 32, 64, ...

$$11. \quad \begin{array}{l} 1 + 456 + m = 480 \\ 457 + m = 480 \\ 480 - 457 = 23 \\ m = 23 \end{array}$$

$$12. \quad \begin{array}{r} \overset{0}{x} \overset{0}{1} \overset{0}{x} \overset{0}{1} 0 \\ - \quad 1 \ 0 \ 1 \\ \hline 9 \ 0 \ 9 \\ n = 909 \end{array}$$

$$13. \quad \begin{array}{r} 123 \text{ R } 4 \\ 10 \overline{)1234} \\ \underline{10} \\ 23 \\ \underline{20} \\ 34 \\ \underline{30} \\ 4 \end{array}$$

$$14. \quad \begin{array}{r} 102 \text{ R } 10 \\ 12 \overline{)1234} \\ \underline{12} \\ 03 \\ \underline{00} \\ 34 \\ \underline{24} \\ 10 \end{array}$$

$$15. \quad 2 + 4 + 6 + 8 + 10 = 30$$

$$16. \quad 32 \text{ mm}$$

$$17. \quad 2$$

$$18. \quad \text{Millions}$$

$$19. \quad 6$$

$$20. \quad 1 \times 10 \times 100 \times 1000 = 1,000,000$$

$$21. \quad \begin{array}{r} \overset{2}{\$} \overset{1}{3}.75 \\ \times \quad 3 \\ \hline \$11.25 \end{array}$$

$$22. \quad \begin{array}{r} 0 \\ 22 \overline{)0} \\ \underline{0} \\ 0 \\ y = 0 \end{array}$$

$$23. \quad \begin{array}{l} 100 + 200 + 300 + 400 + w = 2000 \\ 1000 + w = 2000 \\ 2000 - 1000 = 1000 \\ w = 1000 \end{array}$$

$$24. \quad \begin{array}{r} 24 \\ \times 26 \\ \hline 144 \\ 480 \\ \hline 624 \end{array}$$

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

$$26. \quad \begin{array}{r} 8 \\ \times 4 \\ \hline 32 \end{array}$$

$$27. \quad 3 \overline{)27}, 27 \div 3, \frac{27}{3}$$

$$28. \quad \begin{array}{r} 10 \\ - 7 \\ \hline 3 \end{array} \quad \frac{3}{10}$$

$$29. \quad 4,000,000,000,000$$

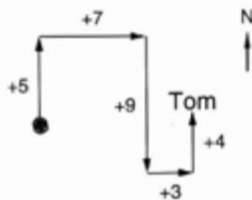
30. Answers may vary. Sample answer: What is the difference between the product of 2 and 5 and the sum of 2 and 5?

$$\begin{array}{r} (2 \times 5) - (2 + 5) \\ 10 \quad - \quad 7 \\ \hline 3 \end{array}$$

LESSON 13, WARM-UP

- 1500
- 15,000
- \$9.25
- 3830
- 4000
- \$15.00

Problem Solving



Tom was facing north. He was 10 steps directly east of the big tree.

LESSON 13, LESSON PRACTICE

- Step 1: Subtraction pattern
Step 2: $C - W = D$
Step 3: $26,290 - 18,962 = D$

$$\begin{array}{r} \overset{1}{2} \overset{15}{8}, \overset{8}{12} \overset{10}{0} \\ - 18,962 \\ \hline 7,328 \text{ people} \end{array}$$

Step 4: 7,328 people

- Step 1: Subtraction pattern
Step 2: $L - E = D$
Step 3: $1215 - 1066 = D$

$$\begin{array}{r} \overset{1}{1} \overset{10}{2} \overset{15}{1} \overset{5}{5} \\ - 1066 \\ \hline 149 \text{ years} \end{array}$$

Step 4: 149 years

LESSON 13, MIXED PRACTICE

$$\begin{array}{r} 1. \quad (8 \times 5) - (8 + 5) \\ \quad 40 \quad - \quad 13 \\ \quad \quad 27 \end{array}$$

2. 250,000 miles

3. Five hundred twenty-one billion

4. 5,200,000

$$\begin{array}{r} 5. \quad 20 \\ \times 7 \\ \hline 140 \text{ merry men} \end{array}$$

$$\begin{array}{r} 6. \quad 1000 - 487 = R \\ \quad \overset{0}{1} \overset{9}{0} \overset{9}{0} \overset{1}{0} \\ \quad - 487 \\ \hline \quad 513 \text{ meters} \end{array}$$

$$\begin{array}{r} 7. \quad 503 - 478 = d \\ \quad \overset{4}{5} \overset{9}{0} \overset{3}{3} \\ \quad - 478 \\ \hline \quad 25 \text{ more girls} \end{array}$$

$$\begin{array}{r} 8. \quad \overset{1}{99} \\ \quad 100 \\ + 101 \\ \hline \quad 300 \end{array}$$

$$\begin{array}{r} 9. \quad \underbrace{9 \times 10}_{90} \times 11 \\ \quad 90 \times 11 \\ \quad 990 \end{array}$$

10. 4

11. Billions

$$12. \quad 18 \text{ mm} + 18 \text{ mm} + 18 \text{ mm} = 54 \text{ mm}$$

$$\begin{array}{r} 13. \quad \begin{array}{r} 54 \text{ R } 32 \\ 100 \overline{)5432} \\ \underline{500} \\ 432 \\ \underline{400} \\ 32 \end{array} \end{array}$$

$$14. \begin{array}{r} 2,000 \\ 30 \overline{)60,000} \\ \underline{60} \\ 00 \\ \underline{00} \\ 00 \\ \underline{00} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$15. \begin{array}{r} 142 \text{ R } 6 \\ 7 \overline{)1000} \\ \underline{7} \\ 30 \\ \underline{28} \\ 20 \\ \underline{14} \\ 6 \end{array}$$

$$16. \begin{array}{r} \$1.52 \\ 3 \overline{)\$4.56} \\ \underline{3} \\ 15 \\ \underline{15} \\ 06 \\ \underline{6} \\ 0 \end{array}$$

$$17. \begin{array}{c} 3 + 2 + 1 + 0 \\ 6 \end{array} \begin{array}{c} \textcircled{>} \\ 0 \end{array} \begin{array}{c} 3 \times 2 \times 1 \times 0 \\ 0 \end{array}$$

$$18. 7$$

$$19. \begin{array}{r} 2640 \\ 2 \overline{)5280} \\ \underline{4} \\ 12 \\ \underline{12} \\ 08 \\ \underline{08} \\ 00 \\ \underline{00} \\ 0 \end{array}$$

$$20. \begin{array}{r} 1 \\ 365 \overline{)365} \\ \underline{365} \\ 0 \end{array}$$

$w = 1$

$$21. \begin{array}{c} (5 + 6 + 7) \div 3 \\ 18 \div 3 \\ 6 \end{array}$$

$$22. 1 \frac{3}{4} \text{ in.}$$

23. To find the perimeter of a square, either add the lengths of the four sides or multiply the length of one side by four.

$$24. \begin{array}{r} 13 \\ 125 \\ \times 6 \\ \hline 750 \end{array}$$

$$25. 212^{\circ}\text{F}$$

$$26. 7 \overline{)21}, 21 \div 7, \frac{21}{7}$$

$$27. \begin{array}{r} 102 \\ 8 \overline{)816} \\ \underline{8} \\ 01 \\ \underline{0} \\ 16 \\ \underline{16} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 102 \\ \times 8 \\ \hline 816 \end{array}$$

$$a = 102$$

$$28. \begin{array}{r} 12 \\ \times 4 \\ \hline 48 \end{array} \quad \text{check:} \quad \begin{array}{r} 12 \\ 4 \overline{)48} \\ \underline{4} \\ 08 \\ \underline{8} \\ 0 \end{array}$$

$b = 48$

$$29. \begin{array}{r} 3 \\ 4 \overline{)12} \\ \underline{12} \\ 0 \end{array} \quad \text{check:} \quad \begin{array}{r} 4 \\ 3 \overline{)12} \\ \underline{12} \\ 0 \end{array}$$

$c = 3$

$$30. \begin{array}{r} 61 \\ + 16 \\ \hline 77 \end{array} \quad \text{check:} \quad \begin{array}{r} 77 \\ - 16 \\ \hline 61 \end{array}$$

$d = 77$

LESSON 14, WARM-UP

- a. 3200
- b. 18,000
- c. \$15.00
- d. 590
- e. 250
- f. \$2.50
- g. 11

Problem Solving

Andy, Bob, Carol; Andy, Carol, Bob;
 Bob, Andy, Carol; Bob, Carol, Andy;
 Carol, Andy, Bob; Carol, Bob, Andy

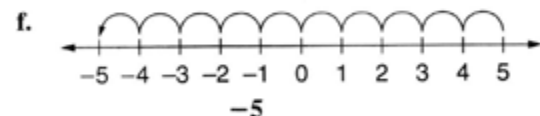
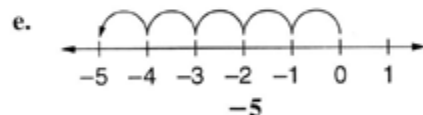
LESSON 14, LESSON PRACTICE

a. $-8 \leq -6$

b. Negative eight

c. -3

d. $-3, -1, 0, 2$



- i. True
- j. -12°F
- k. -186 ft

l.
$$\begin{array}{r} \$18.810 \\ - \$16.25 \\ \hline 2.25 \text{ or } -\$2.25 \end{array}$$

LESSON 14, MIXED PRACTICE

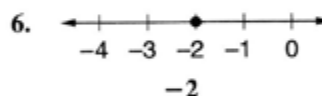
1. $\frac{(15 + 12)}{(15 - 12)} = \frac{27}{3} = 9$

2. Billions

3. 186,000 miles per second

4. -1

5. $-3, -2, 0, 1, 5$



7. $140 - a = 72$

$$\begin{array}{r} 140 \\ - 72 \\ \hline 68 \text{ merry men} \end{array}$$

8. $1 + 2 + 3 + 4 \leq 1 \times 2 \times 3 \times 4$
 $10 \qquad 24$

9. $25\text{ mm} + 15\text{ mm} + 20\text{ mm} = 60\text{ mm}$

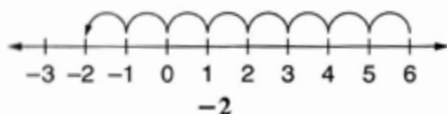
10. Divide the previous term by 2 to find the next term.
 $16, 8, 4, 2, 1, \dots$

11. $500 - 365 = d$

$$\begin{array}{r} 500 \\ - 365 \\ \hline 135 \end{array}$$

 $d = 135$

12.



13. $\begin{array}{r} 10 \text{ R } 20 \\ 100 \overline{)1020} \\ \underline{100} \\ 20 \\ \underline{00} \\ 20 \end{array}$

14. $\begin{array}{r} 3,015 \\ 12 \overline{)36,180} \\ \underline{36} \\ 01 \\ \underline{00} \\ 18 \\ \underline{12} \\ 60 \\ \underline{60} \\ 0 \end{array}$

15. $\begin{array}{r} 31 \text{ R } 6 \\ 18 \overline{)564} \\ \underline{54} \\ 24 \\ \underline{18} \\ 6 \end{array}$

16. $\begin{array}{r} 12 \\ 1234 \\ 567 \\ + 89 \\ \hline 1890 \end{array}$

17. $\begin{array}{r} 310 \\ + 186 \\ \hline 496 \\ n = 496 \end{array}$

18. $\begin{array}{r} 11 \\ \times 10 \\ \hline 110 \end{array} \quad \begin{array}{r} 110 \\ \times 12 \\ \hline 220 \\ \underline{1100} \\ 1320 \end{array}$

19. $\begin{array}{r} \$3.015 \\ - \$2.98 \\ \hline \$0.07 \\ m = \$0.07 \end{array}$

20. 4 cm; 40 mm

21. $\begin{array}{r} 100 \\ \times 100 \\ \hline 10,000 \end{array} \quad \begin{array}{r} 10,000 \\ \times 100 \\ \hline 1,000,000 \end{array}$

22. 5

23. To find the length of the object in millimeters, multiply its length in centimeters by 10.

24. $19 \times 21 = 399$
 $21 \times 19 = 399$
 $399 \div 19 = 21$
 $399 \div 21 = 19$

25. $\frac{12 \div 6 \times 2}{2 \times 2} \geq \frac{12 \div (6 \times 2)}{12 \div 12}$
 $\frac{4}{4} \geq \frac{1}{1}$

26. $6\overline{)60}, 60 \div 6, \frac{60}{6}$

27. 9,000,000,000,000 nerve cells

28. $\begin{array}{r} 4 \text{ eggs} \\ 3 \overline{)12} \\ \underline{12} \\ 0 \end{array}$

29. -10

30. -1, 0, $\frac{1}{2}$, 1

LESSON 15, WARM-UP

a. 28,000

b. 2400

c. \$25.00

d. 92

e. 6100

f. \$17.50

g. 0

ISBN 978-1-59141-327-1
ISBN 1-59141-327-3



9 781591 413271