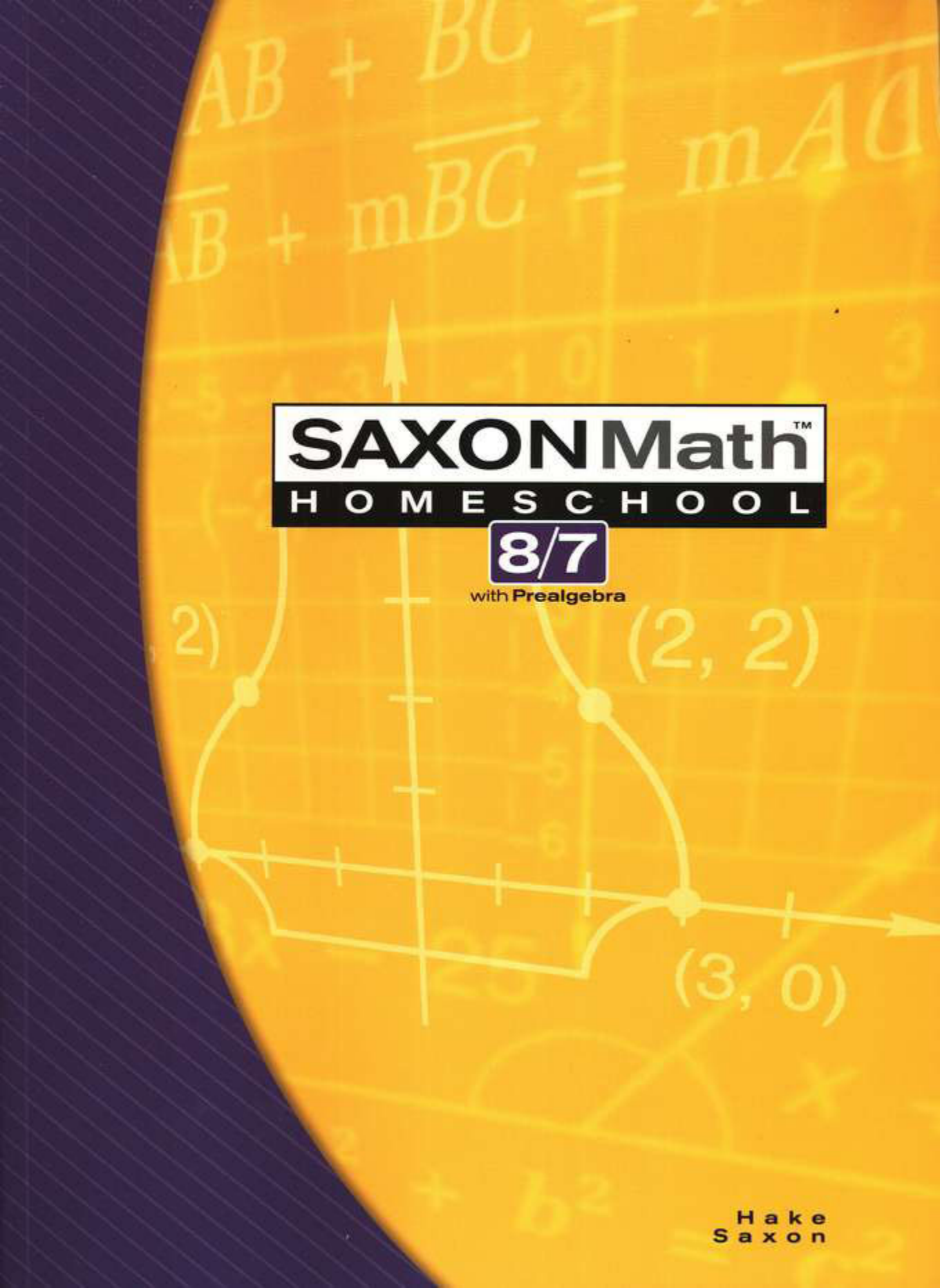
SAXON Math™
HOMESCHOOL
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with Prealgebra
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CONTENTS

LESSON

1 Arithmetic with Whole Numbers and Money • Variables and Evaluation

WARM-UP†

Facts Practice: 64 Multiplication Facts (Test A)

Mental Math: A score is 20. Two score and 4 is 44. How many is

a. 3 score **b.** 4 score **c.** 4 score and 7

d. Half a dozen **e.** 2 dozen **f.** 4 dozen

g. Start with a score. Add a dozen; divide by 4; add 2; then divide by 2. What is the answer?

Problem Solving:

What are the next three numbers in this pattern?

1, 3, 6, 10, 15, ...

NEW CONCEPTS

Arithmetic with whole numbers and money

The numbers we say when we count are called **counting numbers** or **natural numbers.** We can show the set of counting numbers this way:

{1, 2, 3, 4, 5, ...}

The three dots, called an *ellipsis,* mean that the list is infinite (goes on without end). The symbols { } are called *braces.* One use of braces is to designate a set. Including zero with the set of counting numbers forms the set of **whole numbers.**

{0, 1, 2, 3, 4, ...}

The set of whole numbers does not include any numbers less than zero, between 0 and 1, or between any **consecutive** counting numbers.

The four fundamental **operations of arithmetic** are addition, subtraction, multiplication, and division. In this lesson we will review the operations of arithmetic with whole numbers and with money. Amounts of money are sometimes indicated with a dollar sign ($) or with a cent sign (¢), but not both. We can show 50 cents either of these two ways:

$0.50 or 50¢

†For instructions on how to use the Warm-up activities, please consult the preface.

Occasionally we will see a dollar sign or cent sign used incorrectly.

This sign is incorrect because it uses a **decimal point** with a cent sign. This incorrect sign literally means that soft drinks cost not half a dollar but half a cent! Take care to express amounts of money in the proper form when performing arithmetic with money.

Numbers that are added are called **addends**, and the result of their addition is the **sum**.

addend + addend = sum

Example 1 Add:

(a) 36 + 472 + 3614

(b) \$1.45 + \$6 + 8¢

Solution (a) We align the digits in the ones place and add in columns. Looking for combinations of digits that total 10 may speed the work.

$$\begin{array}{r} {}^{111}\\ 36\\ 472\\ +\ 3614\\ \hline \mathbf{4122} \end{array}$$

(b) We write each amount of money with a dollar sign and two places to the right of the decimal point. We align the decimal points and add.

$$\begin{array}{r} {}^{1}\\ \$1.45\\ \$6.00\\ +\ \$0.08\\ \hline \mathbf{\$7.53} \end{array}$$

In subtraction the **subtrahend** is taken from the **minuend**. The result is the **difference**.

minuend − subtrahend = difference

Example 2 Subtract:

(a) 5207 − 948

(b) \$5 − 25¢

Solution (a) We align the digits in the ones place. We must follow the correct order of subtraction by writing the minuend (first number) above the subtrahend (second number).

$$\begin{array}{r} 5207\\ -\ 948\\ \hline \mathbf{4259} \end{array}$$

(b) We write each amount in dollar form. We align decimal points and subtract.

$$\begin{array}{r} {\scriptstyle 4\ 9\ 1} \\ \$5.\cancel{0}0 \\ -\ \$0.25 \\ \hline \$4.75 \end{array}$$

Numbers that are multiplied are called **factors.** The result of their multiplication is the **product.**

$$\text{factor} \times \text{factor} = \text{product}$$

We can indicate the multiplication of two factors with a times sign, with a center dot, or by writing the factors next to each other with no sign between them.

$$4 \times 5 \qquad 4 \cdot 5 \qquad 4(5) \qquad ab$$

The parentheses in 4(5) clarify that 5 is a quantity separate from 4 and that the two digits do not represent the number 45. The expression ab means "a times b."

Example 3 Multiply:

(a) $164 \cdot 23$

(b) $\$4.68 \times 20$

(c) $5(29¢)$

Solution (a) We usually write the number with the most digits on top. We first multiply by the 3 of 23. Then we multiply by the 20 of 23. We add the partial products to find the final product.

$$\begin{array}{r} 164 \\ \times\ 23 \\ \hline 492 \\ 328 \\ \hline \mathbf{3772} \end{array}$$

(b) We can let the zero in 20 "hang out" to the right. We write 0 below the line and then multiply by the 2 of 20. We write the product with a dollar sign and two decimal places.

$$\begin{array}{r} \$4.68 \\ \times\ \ \ 20 \\ \hline \mathbf{\$93.60} \end{array}$$

(c) We can multiply 29¢ by 5 or write 29¢ as \$0.29 first. Since the product is greater than \$1, we use a dollar sign to write the answer.

$$\begin{array}{r} 29¢ \\ \times\ \ 5 \\ \hline 145¢ = \mathbf{\$1.45} \end{array}$$

A

64 Multiplication Facts

For use with Lesson 1

Name _____

Time _____

Multiply.

6 × 8	5 × 7	3 × 3	6 × 2	4 × 7	9 × 3	8 × 5	2 × 4
7 × 2	4 × 5	8 × 2	8 × 6	2 × 9	5 × 6	9 × 7	4 × 9
8 × 9	7 × 9	2 × 6	3 × 8	7 × 8	9 × 6	3 × 2	6 × 7
5 × 2	3 × 7	8 × 7	6 × 3	2 × 2	7 × 7	9 × 8	4 × 3
7 × 6	8 × 8	4 × 8	3 × 5	8 × 3	9 × 5	2 × 7	5 × 8
6 × 6	2 × 3	4 × 4	5 × 3	9 × 9	3 × 9	8 × 4	7 × 3
4 × 6	7 × 5	3 × 6	6 × 9	5 × 4	9 × 4	2 × 5	6 × 4
5 × 9	3 × 4	6 × 5	2 × 8	7 × 4	4 × 2	5 × 5	9 × 2

LESSON 1, WARM-UP

a. **60**

b. **80**

c. **87**

d. **6**

e. **24**

f. **48**

g. **5**

Problem Solving

+2 +3 +4 +5 +6 +7 +8

1, 3, 6, 10, 15, **21, 28, 36**

LESSON 1, LESSON PRACTICE

a. **$0.45 per glass; 45¢ per glass**

b. **0**

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

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

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

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

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

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

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

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

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

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

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

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

LESSON 1, MIXED PRACTICE

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

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

3. $4\overline{)\text{dividend}}$; the dividend is **32.** $\quad \mathbf{8}$

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

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