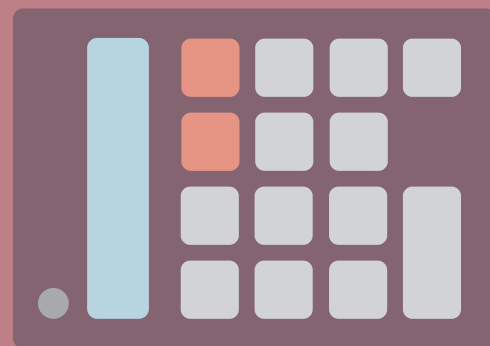




# MATH

Student Book



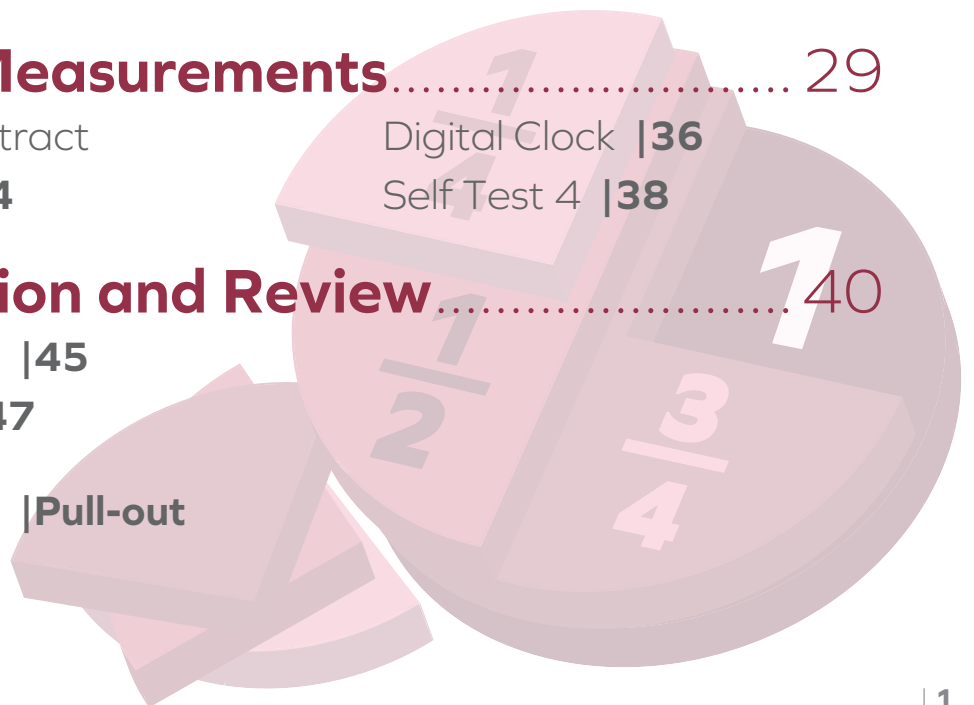
▶ **4th Grade | Unit 8**

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# MATH 408

## WHOLE NUMBERS AND FRACTIONS

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# 1. SIGNS AND FRACTIONS

## Objectives

**Read these objectives.** When you have completed this section, you should be able to:

- Multiply by a 2-digit number.
- Recognize operation signs.
- Simplify fractions.



### Complete these activities.

- 1.1** A prime number can be divided only by 1 and itself. Circle the prime numbers.  
6      11      17      20      27      29      32
- 1.2** A composite number can be divided by 1, itself, and other numbers. Circle the composite numbers.  
7      19      21      24      31      35      36
- 1.3** Factors are numbers that when multiplied together produce a given number. Write all of the factors of these numbers.  
6 \_\_\_\_\_      12 \_\_\_\_\_
- 1.4** Multiples are the multiplication facts for a given number. Write five multiples of each number.  
3 \_\_\_\_\_      7 \_\_\_\_\_

**1.5** Follow the steps to multiply to tens' place by two-digits. Solve.

$$\begin{array}{r} 48 \\ \times 63 \\ \hline 144 \\ 2,880 \\ \hline 3,024 \end{array}$$

1. Multiply 48 by 3 ones.
2. Put a 0 place holder in the ones' place below the 4.
3. Multiply 48 by 6 tens.
4. Total the products.

$$\begin{array}{r} 68 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \times 38 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ \times 67 \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ \times 26 \\ \hline \end{array}$$

**1.6** Follow the steps to multiply to tens' place by two-digits. Solve.

$$\begin{array}{r} 752 \\ \times 45 \\ \hline 3,760 \\ 30,080 \\ \hline 33,840 \end{array}$$

1. Multiply 752 by 5 ones.
2. Put a 0 place holder in the ones' place below the 0.
3. Multiply 752 by 4 tens.
4. Total the products.

$$\begin{array}{r} 630 \\ \times 85 \\ \hline \end{array}$$

$$\begin{array}{r} 189 \\ \times 36 \\ \hline \end{array}$$

$$\begin{array}{r} 782 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 936 \\ \times 12 \\ \hline \end{array}$$

**1.7** Write the largest number possible using the digits 3, 2, 5, 9, 1, 0.

\_\_\_\_\_

**1.8** Write the numbers in order from smallest to largest.

352,649    325,649    25,469    525,694    52,699    365,649

\_\_\_\_\_

**1.9** Write the number in number words. Remember hyphens and commas.

a. 325,462 \_\_\_\_\_

b. 405,650 \_\_\_\_\_

**1.10** Write the number words in digits.

three hundred thousand, fifty-six \_\_\_\_\_

seventeen thousand, two hundred three \_\_\_\_\_

## Operation Signs

**1.11** Perform the operations and circle the correct operation sign. (not all of these signs are equality / inequality signs some are  $>$   $<$ ).

a.  $14 \div 7$  ( $=$ ,  $\neq$ ) 3

$12 \times 2$  ( $=$ ,  $\neq$ )  $4 \times 6$

b.  $8 \times 1$  ( $=$ ,  $\neq$ )  $56 \div 7$

$24 - 2$  ( $=$ ,  $\neq$ )  $5 \times 4$

c.  $6 \times 6$  ( $>$ ,  $<$ )  $7 \times 5$

$16 - 3$  ( $>$ ,  $<$ )  $4 + 8$

d.  $5 + 7$  ( $>$ ,  $<$ )  $5 \times 3$

$66 \div 11$  ( $>$ ,  $<$ )  $6 \times 2$

**1.12** Write the answer to the number sentence.

a.  $3 + 8 - 6 =$  \_\_\_\_\_

$5 + 9 + 6 + 2 =$  \_\_\_\_\_

b.  $22 + 5 - 3 =$  \_\_\_\_\_

$63 - 2 + 8 =$  \_\_\_\_\_

c.  $9 + 3 + 8 + 4 =$  \_\_\_\_\_

$12 - 3 + 6 - 2 =$  \_\_\_\_\_

d.  $18 + 5 - 4 + 2 =$  \_\_\_\_\_

$4 + 4 + 2 + 10 =$  \_\_\_\_\_

**1.13** Circle the number ...

a. in the hundreds' place.

6 3 8, 7 4 2

b. in the ten thousands' place.

8 9 0, 3 6 1

c. in the ones' place.

2 5 6, 1 8 3

d. in the hundred thousands' place.

7 4 5, 1 0 2

**1.14** What is the value of the underlined number?

a. 362,491 \_\_\_\_\_

b. 462,108 \_\_\_\_\_

c. 775,036 \_\_\_\_\_

d. 963,482 \_\_\_\_\_

**1.15** Find the product.

a.  $7 \times 3 \times 0 =$  \_\_\_\_\_

b.  $5 \times 0 \times 2 =$  \_\_\_\_\_

c.  $4 \times 4 \times 2 \times 0 =$  \_\_\_\_\_

d.  $3 \times 6 \times 0 \times 8 =$  \_\_\_\_\_

# Fractions

Proper fractions have smaller numerators than denominators. They are less than a whole number.

$$\frac{2}{3} < 1$$

Improper fractions have larger numerators than denominators. They are greater than a whole number.

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

Mixed numbers are written with a whole number and a fraction. They are greater than a whole number.

$$1\frac{1}{3} > 1$$



## Complete this activity.

**1.16** Describe each one of the following as:

- a) a proper fraction,
- b) an improper fraction, or
- c) a mixed number.

$$\frac{15}{8}$$

$$\frac{5}{9}$$

$$\frac{7}{4}$$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

$$1\frac{3}{5}$$

$$\frac{1}{8}$$

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Fractions can be simplified by:

- changing improper fractions to whole numbers or mixed numbers.  
(Divide denominator into numerator.)
- changing proper fractions to the smallest equivalent fraction.  
(Divide numerator and denominator by same factor.)

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

$$\frac{3}{9} \div \frac{3}{3} = \frac{1}{3}$$



**Complete these activities.**

**1.17** Simplify or reduce these fractions to lowest terms. Show your work.

a.  $\frac{4}{12} =$

$\frac{10}{20} =$

$\frac{12}{18} =$

b.  $\frac{13}{8} =$

$\frac{11}{6} =$

$\frac{9}{7} =$



We add or subtract fractions by drawing the fraction bar, writing the denominator, adding or subtracting the numerators, and simplifying the answers.

**1.18** Add or subtract.

a.

$\frac{7}{9}$	$\frac{3}{4}$	$\frac{4}{5}$	$\frac{7}{10}$
$+$	$+$	$+$	$+$
$\frac{1}{9}$	$\frac{2}{4}$	$\frac{3}{5}$	$\frac{2}{10}$
_____	_____	_____	_____

b.

$\frac{3}{8}$	$\frac{6}{12}$	$\frac{5}{8}$	$\frac{3}{7}$
$+$	$+$	$+$	$+$
$\frac{2}{8}$	$\frac{4}{12}$	$\frac{4}{8}$	$\frac{2}{7}$
_____	_____	_____	_____

c.

$\frac{10}{12}$	$\frac{14}{15}$	$\frac{5}{9}$	$\frac{6}{8}$
$-$	$-$	$-$	$-$
$\frac{5}{12}$	$\frac{6}{15}$	$\frac{2}{9}$	$\frac{4}{8}$
_____	_____	_____	_____

d.

$\frac{10}{12}$	$\frac{8}{9}$	$\frac{7}{9}$	$\frac{6}{10}$
$-$	$-$	$-$	$-$
$\frac{6}{12}$	$\frac{6}{9}$	$\frac{2}{9}$	$\frac{4}{10}$
_____	_____	_____	_____



**Review the material in this section to prepare for the Self Test.** The Self Test will check your understanding of this section. Any items you miss on this test will show you what areas you will need to restudy in order to prepare for the unit test.

# SELF TEST 1

**Complete these activities** (each question, 1 point).

**1.01** Circle the prime numbers.

3    8    14    19    25    31    35

**1.02** Circle the composite numbers.

6    14    17    21    25    29    33

**Fill in the blanks** (each question, 2 points).

**1.03** Write all of the factors of these numbers.

9 \_\_\_\_\_ 14 \_\_\_\_\_

**1.04** Write five multiples of each number.

6 \_\_\_\_\_ 8 \_\_\_\_\_

**Solve these problems** (each answer, 2 points).

**1.05** Find the product

a.

$$\begin{array}{r} 67 \\ \times 35 \\ \hline \end{array}$$

b.

$$\begin{array}{r} 18 \\ \times 28 \\ \hline \end{array}$$

c.

$$\begin{array}{r} 372 \\ \times 63 \\ \hline \end{array}$$

d.

$$\begin{array}{r} 515 \\ \times 76 \\ \hline \end{array}$$

**Write the answer for these questions** (each question, 1 point).

**1.06** Write the number in number words. Remember hyphens and commas.

402,391 \_\_\_\_\_

**1.07** Write the number word in digits.

three hundred thousand, fifty-six \_\_\_\_\_





MAT\_Gr3-5



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