



MATHEMATICS 503

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I. Part One

Objectives

To review multiplication, mixed numbers, and fractions

To learn about irregular polygons

To solve missing number problems

▲ We can multiply with a two-digit multiplier.

1.1 Follow the steps. Solve the problem.

$$\begin{array}{r} 2,840 \\ \times 59 \\ \hline \\ + \underline{\hspace{2cm}} \end{array}$$

$$\begin{array}{r} 2,840 \\ \times 9 \\ \hline \end{array}$$

Multiply 2,840 by 9 ones.
Write the answer in the problem.
Write a zero place holder.

$$\begin{array}{r} 2,840 \\ \times 5 \\ \hline \end{array}$$

Multiply 2,840 by 5 tens.
Write the answer in the problem.
Add.

1.2 Multiply.

$$\begin{array}{r} 360 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 830 \\ \times 48 \\ \hline \end{array}$$

$$\begin{array}{r} 4,750 \\ \times 53 \\ \hline \end{array}$$

$$\begin{array}{r} 6,410 \\ \times 81 \\ \hline \end{array}$$

▲ Mixed numbers are written and spoken with the word "and" joining the whole number and fraction.

$5\frac{3}{8}$ is read "five and three-eighths."

1.3 Write mixed numbers in words.

a. $4\frac{2}{3}$ _____

b. $7\frac{4}{9}$ _____

c. $18\frac{1}{2}$ _____

d. $45\frac{11}{12}$ _____

▲ Improper fractions may be simplified.

Divide the denominator into the numerator.
Write the remainder as a fraction.

$$\frac{13}{8} = 13 \div 8 = 1\frac{5}{8}$$

1.4 Simplify.

$$\frac{13}{7} =$$

$$\frac{18}{9} =$$

$$\frac{13}{6} =$$

$$\frac{14}{3} =$$

$$\frac{8}{4} =$$

$$\frac{7}{2} =$$

▲ Proper fractions may be reduced to lowest terms.

Divide the numerator and denominator
by the largest common factor.

$$\frac{15}{20} \div \frac{5}{5} = \frac{3}{4}$$

To find the largest common factor for two numbers,
first, find all of the factors; then, circle the largest factor they have in common.

1.5 Write facts for 8 and 12.

$$\begin{array}{cccccccccccc} \times & \times & \times & \times & & \times & \times & \times & \times & \times & \times \\ \hline & & & & & & & & & & & \\ 8 & 8 & 8 & 8 & & 12 & 12 & 12 & 12 & 12 & 12 \end{array}$$

The factors of 8 are _____, _____, _____, _____.

The factors of 12 are _____, _____, _____, _____, _____, _____.

The largest factor they have in common is _____.

1.6 Write facts for 9 and 15.

$$\begin{array}{cccccccc} \times & \times & \times & & \times & \times & \times & \times \\ \hline & & & & & & & & & & \\ 9 & 9 & 9 & & 15 & 15 & 15 & 15 \end{array}$$

The factors of 9 are _____, _____, _____.

The factors of 15 are _____, _____, _____, _____.

The largest factor they have in common is _____.

1.7 Find the largest common factor. Reduce to lowest terms.

$$\frac{8}{12} =$$

$$\frac{9}{15} =$$

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

$$\frac{6}{8} =$$

$$\frac{8}{10} =$$

$$\frac{2}{8} =$$

When improper fractions are simplified, there may be a proper fraction that can be reduced to lowest terms.

$$\frac{18}{4}$$

$$18 \div 4 = 4\frac{2}{4}$$

$$\frac{2}{4} \div \frac{2}{2} = \frac{1}{2}$$

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

1.8 Simplify. Reduce to lowest terms.

a. $\frac{14}{8} =$

$$\frac{8}{6} =$$

$$\frac{10}{4} =$$

b. $\frac{16}{6} =$

$$\frac{15}{10} =$$

$$\frac{12}{9} =$$

1.9 Add or subtract. Simplify. Reduce to lowest terms.

$$\begin{array}{r} \frac{3}{5} \\ + \frac{2}{5} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{7}{8} \\ + \frac{3}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{5}{9} \\ + \frac{7}{9} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{3}{4} \\ + \frac{2}{4} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{8}{12} \\ + \frac{6}{12} \\ \hline \end{array}$$

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

$$\begin{array}{r} \frac{1}{2} \\ - \frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{5}{12} \\ - \frac{3}{12} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{4}{6} \\ - \frac{2}{6} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{7}{9} \\ - \frac{4}{9} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{3}{10} \\ + \frac{9}{10} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{7}{8} \\ + \frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{3}{16} \\ + \frac{7}{16} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{9}{14} \\ - \frac{3}{14} \\ \hline \end{array}$$

$$\begin{array}{r} \frac{7}{10} \\ - \frac{2}{10} \\ \hline \end{array}$$

▲ Polygons are closed plane shapes with three or more sides.

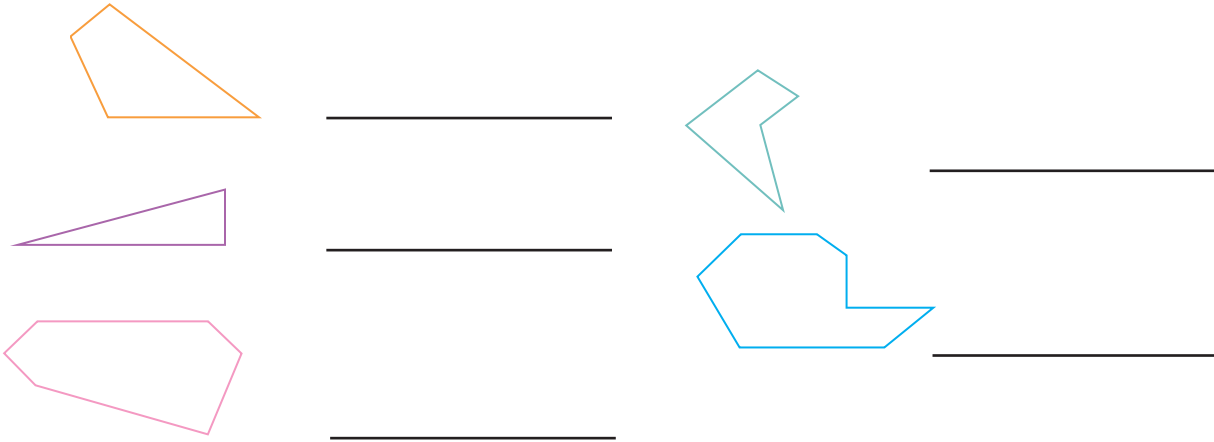
■ A regular polygon has sides of equal length and angles of equal measure.

■ Not all polygons are regular polygons.

■ *Note:* A **quadrilateral** is a four-sided figure.

1.10 Write the name of the polygon by the shape.

triangle quadrilateral pentagon hexagon octagon



1.11 Circle or write the correct symbols.

a. $(3 + 5) - 2$ (= , ≠) $(9 + 6) - 8$ $(7 + 3) - 6$ (= , ≠) $(14 - 9) + 3$

b. 8×7 (> , <) 9×6 $14 \div 2$ (> , <) $15 \div 3$

c. 9 _____ $8 = 72$ 6 _____ $4 = 8$ _____ 3

d. 49 _____ $7 = 3$ _____ 4 18 _____ $3 = 54$ _____ 9

1.12 Write the answer.

a. $(27 \div 9) + 8 =$ _____ $(41 - 5) \div 6 =$ _____

b. $(52 + 4) \div 7 =$ _____ $(13 - 7) \times 4 =$ _____

c. $(\frac{18}{6}) \times 5 =$ _____ $(27 \div 3) \times 0 =$ _____

d. $(38 \times 1) + 1 =$ _____ $(98 - 27) + (3 + 9) =$ _____