



MATHEMATICS 502

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I. Part One

Objectives

To multiply by a two-digit number
To learn about improper fractions and mixed numbers
To simplify fractions

▲ Multiples are the products of multiplication facts.

1.1 Write the multiples of 5 and 9. Begin with 0.

a. _____

b. _____

1.2 Write a multiplication fact for each product.

a.

$$\begin{array}{r} \times \\ \hline 14 \end{array}$$

$$\begin{array}{r} \times \\ \hline 25 \end{array}$$

$$\begin{array}{r} \times \\ \hline 54 \end{array}$$

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

$$\begin{array}{r} \times \\ \hline 9 \end{array}$$

$$\begin{array}{r} \times \\ \hline 15 \end{array}$$

$$\begin{array}{r} \times \\ \hline 72 \end{array}$$

$$\begin{array}{r} \times \\ \hline 15 \end{array}$$

b.

$$\begin{array}{r} \times \\ \hline 42 \end{array}$$

$$\begin{array}{r} \times \\ \hline 16 \end{array}$$

$$\begin{array}{r} \times \\ \hline 81 \end{array}$$

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

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

$$\begin{array}{r} \times \\ \hline 56 \end{array}$$

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

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

1.3 Write the largest multiple ...

a. of 6 that is less than ... 49 _____ 20 _____ 37 _____ 59 _____

b. of 8 that is less than ... 69 _____ 47 _____ 51 _____ 22 _____

c. of 4 that is less than ... 15 _____ 38 _____ 21 _____ 35 _____

1.4 Circle the correct answer.

a. $3 \times 8 (>, <) 25$ $6 \times 6 (>, <) 35$ $4 \times 4 (>, <) 14$

b. $9 \times 2 (>, <) 19$ $7 \times 6 (>, <) 40$ $8 \times 3 (>, <) 26$

c. $3 \times 7 (>, <) 28$ $5 \times 4 (>, <) 24$ $9 \times 7 (>, <) 64$

▲ We can solve multiplication problems with two-digit multipliers.

■ Multiply two small problems. Add the answers.

$$\begin{array}{r} 58 \\ \times 36 \\ \hline 348 \\ + 1740 \\ \hline 2,088 \end{array}$$

$$\begin{array}{r} 58 \\ \times 6 \\ \hline 348 \end{array}$$

Multiply 58 by 6 ones.

Write a zero (0) place holder in ones' place below the 8.

$$\begin{array}{r} 58 \\ \times 3 \\ \hline 174 \end{array}$$

Multiply 58 by 3 tens.
Total the products.

1.5 Follow the steps. Solve the problem.

$$\begin{array}{r} 436 \\ \times 27 \\ \hline \\ + \\ \hline \end{array}$$

$$\begin{array}{r} 436 \\ \times 7 \\ \hline \end{array}$$

Multiply 436 by 7 ones.

Write the answer in the problem.

Write a zero (0) place holder.

Multiply 436 by 2 tens.

Write the answer in the problem.

$$\begin{array}{r} 436 \\ \times 2 \\ \hline \end{array}$$

Add.

1.6 Multiply.

a.
$$\begin{array}{r} 34 \\ \times 47 \\ \hline \\ + \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 7 \\ \hline \end{array} \quad \begin{array}{r} 34 \\ \times 4 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 81 \\ \times 25 \\ \hline \\ + \\ \hline \end{array}$$

$$\begin{array}{r} 81 \\ \times 5 \\ \hline \end{array} \quad \begin{array}{r} 81 \\ \times 2 \\ \hline \end{array}$$

c.
$$\begin{array}{r} 213 \\ \times 35 \\ \hline \\ + \\ \hline \end{array}$$

$$\begin{array}{r} 213 \\ \times 5 \\ \hline \end{array} \quad \begin{array}{r} 213 \\ \times 3 \\ \hline \end{array}$$

d.
$$\begin{array}{r} 3,508 \\ \times 42 \\ \hline \\ + \\ \hline \end{array}$$

$$\begin{array}{r} 3,508 \\ \times 2 \\ \hline \end{array} \quad \begin{array}{r} 3,508 \\ \times 4 \\ \hline \end{array}$$

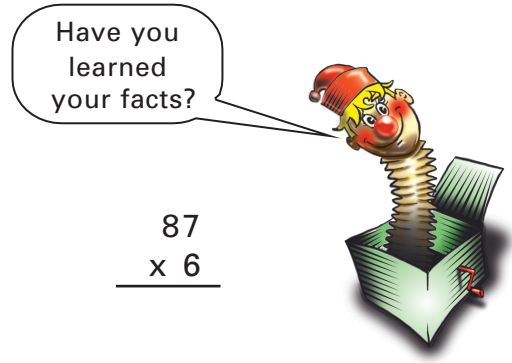
1.7 Multiply.

a.

$$\begin{array}{r} 24 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 76 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 87 \\ \times 6 \\ \hline \end{array}$$



b.

$$\begin{array}{r} 83 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \times 25 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ \times 58 \\ \hline \end{array}$$

c.

$$\begin{array}{r} 74 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} 638 \\ \times 62 \\ \hline \end{array}$$

$$\begin{array}{r} 126 \\ \times 53 \\ \hline \end{array}$$

d.

$$\begin{array}{r} 249 \\ \times 74 \\ \hline \end{array}$$

$$\begin{array}{r} 385 \\ \times 54 \\ \hline \end{array}$$

$$\begin{array}{r} 496 \\ \times 87 \\ \hline \end{array}$$

e.

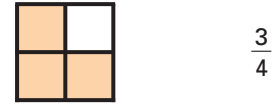
$$\begin{array}{r} 7,645 \\ \times 72 \\ \hline \end{array}$$

$$\begin{array}{r} 4,785 \\ \times 93 \\ \hline \end{array}$$

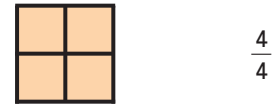
$$\begin{array}{r} 6,356 \\ \times 73 \\ \hline \end{array}$$

▲ Fractions show a relationship between two numbers.

When the numerator is less than the denominator, the fraction is *less than* one whole. This is a **proper fraction**.



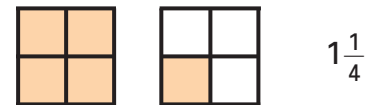
When the numerator and denominator are the same number, the fraction is *equal to* one whole. This is an **improper fraction**.



When the numerator is greater than the denominator, the fraction is *more than* one whole. This is an **improper fraction**.



A whole number may be written with a proper fraction. This is a **mixed number**.



1.8 Describe each number as ...

a. proper fraction b. improper fraction c. mixed number

- a. $\frac{9}{8}$ _____ $\frac{3}{8}$ _____ $\frac{8}{5}$ _____ $\frac{8}{17}$ _____
- b. $\frac{6}{3}$ _____ $4\frac{1}{9}$ _____ $\frac{16}{4}$ _____ $\frac{2}{3}$ _____
- c. $2\frac{1}{4}$ _____ $\frac{4}{7}$ _____ $\frac{9}{9}$ _____ $\frac{12}{6}$ _____

1.9 Shade the part of the illustration that represents the fraction.

