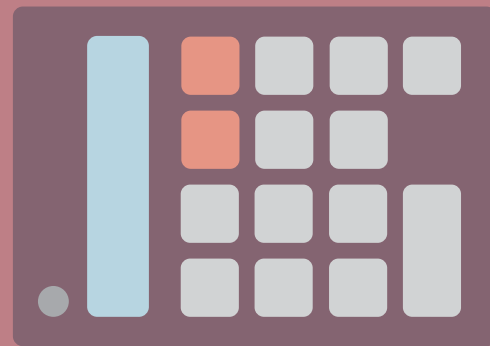




MATH

Student Book

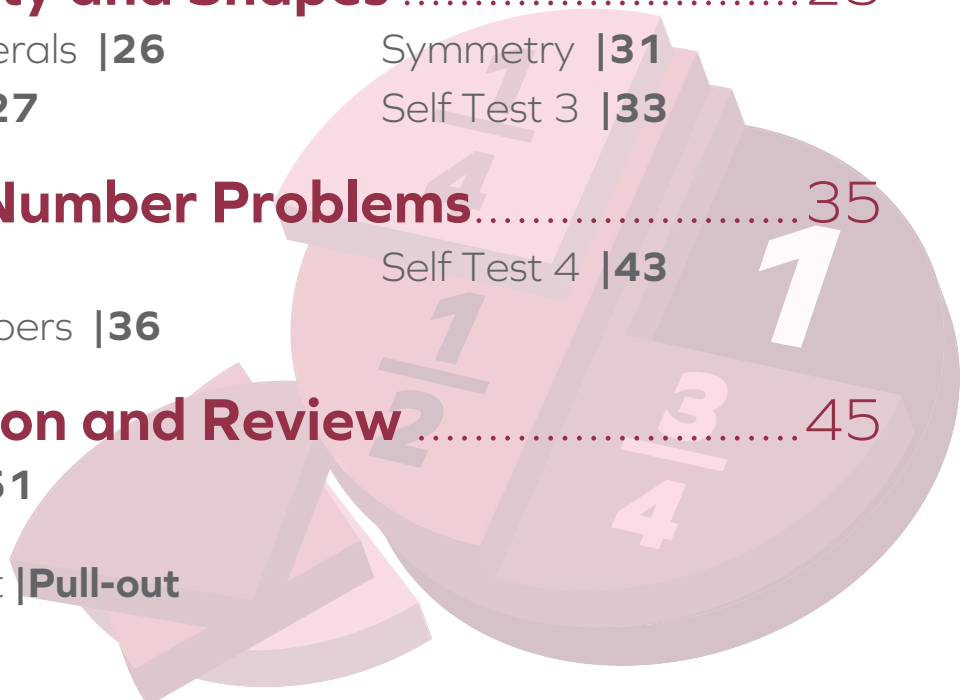


▶ **3rd Grade | Unit 7**

MATH 307

ADD/SUB OF MIXED NUMBERS AND PROBABILITY

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ADD/SUB OF MIXED NUMBERS AND PROBABILITY

This unit, like the others in this course, begins with a review of basic addition, subtraction, multiplication and mixed numbers. That foundation is used to expand subtraction skills that involve borrowing twice and the solving of missing number problems. The likelihood or probably of an event taking place will be studied in more detail. Some other things that will be covered are the geometry concepts of geometry and plane shapes. In this LIFEPAC®, you will also practice the skill of multiplying by 5.

Objectives

Read these objectives. The objectives tell you what you will be able to do when you have finished this LIFEPAC.

1. I can learn the meaning of multi-digit numbers.
2. I can subtract numbers to thousands' with borrowing.
3. I can learn multiplication facts for 5.
4. I can read and write mixed numbers.
5. I can add and subtract mixed numbers.
6. I can learn to subtract with zeros in the minuend.
7. I can learn rules for subtracting even and odd numbers.
8. I can learn the value of knowing probability.
9. I can learn about circle graphs.
10. I can find missing numbers in addition problems.

1. MULTIPLICATION AND MIXED NUMBERS

In this first section, you will review place values up to four digits with addition and subtraction. You will learn some multiplication facts. You will also learn the difference between whole numbers, fractions, and mixed numbers.

NOTE to teachers, parents, and students:

As part of a continuing effort to improve the LIFEPAC curriculum a new layout of this unit has been produced. The content of this unit has not changed but the page numbers referenced in the Teacher Notes of the Teacher's Guide may no longer match.

Place Value

Digits are the number symbols that we use to write numbers. We use digits to write numbers the way we use the alphabet to write words.

We can describe numbers as having ...

one-digit	3,
two-digits	35,
three-digits	350,
or four-digits	4,350.

Any number that contains two or more digits is a multi-digit number.

The order of the letters in a word tells us the meaning of the word.

bat - tab
 rat - tar
 was - saw
 tip - pit

The order of the digits in a number tells us the value of the digits.



Write the following

1.1 Write the ten digits.

_____ / _____ / _____ / _____ / _____ /
 _____ / _____ / _____ / _____ / _____

1.2 Using any digits, write two ...

one-digit numbers.	_____	_____
two-digit numbers.	_____	_____
three-digit numbers.	_____	_____
four-digit numbers.	_____	_____
multi-digit numbers.	_____	_____

1.3 Write a multi-digit number using the digit 9 in the ...
 ones' place. _____ tens' place. _____
 hundreds' place. _____ thousands' place. _____
 In which number does the digit 9 have the ...
 greatest value? _____
 the least value? _____



Do these problems.

1.4 Add.

$\begin{array}{r} 37 \\ 63 \\ + 82 \\ \hline \end{array}$	$\begin{array}{r} 839 \\ + 652 \\ \hline \end{array}$	$\begin{array}{r} 278 \\ 456 \\ + 290 \\ \hline \end{array}$	$\begin{array}{r} 2,037 \\ + 5,461 \\ \hline \end{array}$	$\begin{array}{r} 6,352 \\ + 2,506 \\ \hline \end{array}$
---	---	--	---	---

4-Digit Addition and Subtraction

We can add four-digit numbers with carrying.

$\begin{array}{r} \\ 3,579 \\ + 2,682 \\ \hline 6,261 \end{array}$	Add ones. Write the 1 and carry 1 ten. Add tens. Write the 6 and carry 1 hundred. Add hundreds. Write the 2 and carry 1 thousand. Add thousands. Write the comma in the sum.	$9 + 2 = 11$ $1 + 7 + 8 = 16$ $1 + 5 + 6 = 12$ $1 + 3 + 2 = 6$
--	---	---

We do not always need to carry each place.

$$\begin{array}{r} \\ 1,840 \\ + 3,597 \\ \hline 5,437 \end{array}$$

Add ones.

$$0 + 7 = 7$$

Write the 7.

Add tens.

$$4 + 9 = 13$$

Write the 3 and carry 1 hundred.

Add hundreds.

$$1 + 8 + 5 = 14$$

Write the 4 and carry 1 thousand.

Add thousands.

$$1 + 1 + 3 = 5$$

Write the comma in the sum.



Do these problems.

1.5 Add.

$$\begin{array}{r} 3,865 \\ + 2,409 \\ \hline \end{array}$$

$$\begin{array}{r} 2,630 \\ + 4,715 \\ \hline \end{array}$$

$$\begin{array}{r} 5,863 \\ + 2,729 \\ \hline \end{array}$$

$$\begin{array}{r} 4,318 \\ + 4,659 \\ \hline \end{array}$$

$$\begin{array}{r} 1,865 \\ + 1,745 \\ \hline \end{array}$$

$$\begin{array}{r} 3,239 \\ + 4,560 \\ \hline \end{array}$$

$$\begin{array}{r} 3,827 \\ + 5,694 \\ \hline \end{array}$$

$$\begin{array}{r} 2,543 \\ + 5,861 \\ \hline \end{array}$$

1.6 Subtract.

$$\begin{array}{r} \square\square \\ 85 \\ - 46 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square \\ 956 \\ - 329 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square \\ 637 \\ - 284 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square \\ 851 \\ - 576 \\ \hline \end{array}$$

$$\begin{array}{r} 5,843 \\ - 3,620 \\ \hline \end{array}$$

When we need to borrow in a subtraction problem with multi-digit numbers, we should complete the borrowing and regrouping before we subtract. Follow the example.

$$\begin{array}{r} 12\ 15 \\ \boxed{6}\ \boxed{2}\ \boxed{5}\ \boxed{14} \\ \cancel{7},\ \cancel{364} \\ - 2,975 \\ \hline 4,389 \end{array}$$

Borrow one ten (10 ones).

Cross out the 6 and write 5 above it.

Add the 10 ones to 4 ones.

$$10 + 4 = 14$$

Borrow 1 hundred (10 tens).

Cross out the 3 and write 2 above it.

Add 10 tens to 5 tens.

$$10 + 5 = 15$$

Borrow 1 thousand (10 hundreds).

Cross out the 7 and write 6 above it.

Add 10 hundreds to 2 hundreds.

$$10 + 2 = 12$$

Subtract.

$$14 - 5 = 9$$

$$15 - 7 = 8$$

$$12 - 9 = 3$$

$$6 - 2 = 4$$



Complete these activities.

1.7 Subtract.

$$\begin{array}{r} \square\square\square\square \\ 5,246 \\ - 3,758 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 6,240 \\ - 2,486 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 8,263 \\ - 2,754 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 4,385 \\ - 2,698 \\ \hline \end{array}$$

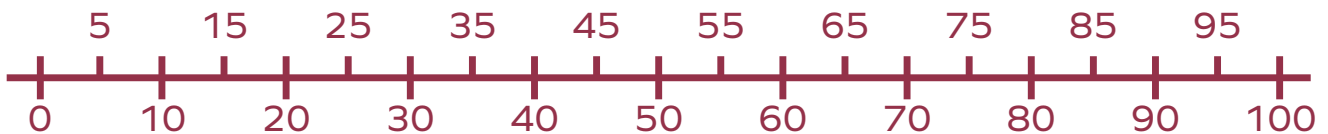
$$\begin{array}{r} \square\square\square\square \\ 7,361 \\ - 4,583 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 6,572 \\ - 3,685 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 4,263 \\ - 2,474 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 9,732 \\ - 7,864 \\ \hline \end{array}$$

Multiplication Facts



1.8 Write the multiples of each number.

2 _____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____

3 _____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____

5 _____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____

10 _____ , _____ , _____ , _____ , _____ ,

_____ , _____ , _____ , _____ , _____

You have learned that multiplication is a fast way of doing addition. We use the word “times” and the operation symbol “x” in multiplication.

**Complete these activities.**

1.9 Write the multiples of 2 as multiplication facts.

$1 \times 2 = \underline{\quad}$ $2 \times 2 = \underline{\quad}$ $3 \times 2 = \underline{\quad}$

$4 \times 2 = \underline{\quad}$ $5 \times 2 = \underline{\quad}$ $6 \times 2 = \underline{\quad}$

$7 \times 2 = \underline{\quad}$ $8 \times 2 = \underline{\quad}$ $9 \times 2 = \underline{\quad}$

$10 \times 2 = \underline{\quad}$

1.10 Use the number line and multiples. Write multiplication facts for 5.

$1 \times 5 = \underline{\quad}$ $2 \times 5 = \underline{\quad}$ $3 \times 5 = \underline{\quad}$

$4 \times 5 = \underline{\quad}$ $5 \times 5 = \underline{\quad}$ $6 \times 5 = \underline{\quad}$

$7 \times 5 = \underline{\quad}$ $8 \times 5 = \underline{\quad}$ $9 \times 5 = \underline{\quad}$

$10 \times 5 = \underline{\quad}$

1.11 Write the missing word.

One _____ two equals two.

Two _____ two equals four.

Three times two equals _____ .

Four times two equals _____ .

One _____ five equals five.

Two _____ five equals ten.

Three times five equals _____ .

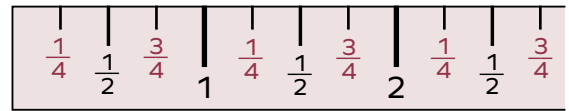
Four times five equals _____ .

Mixed Numbers

Whole numbers and fractions together are mixed numbers.

Put your finger on the ruler at 1 inch.

1 inch is a whole number.



Put your finger on the ruler at $\frac{1}{2}$ inch.
 $\frac{1}{2}$ inch is a fraction.

$\frac{1}{2}$ inch is less than a whole number.

Put your finger on the ruler at $1\frac{1}{2}$ inches.

$1\frac{1}{2}$ inches is a mixed number.

$1\frac{1}{2}$ inches is a whole number and a fraction.



Complete these activities.

1.12 Write (W) whole number, (F) fraction, or (M) mixed number.

$$\frac{3}{4} \underline{\hspace{2cm}} \quad 1\frac{1}{4} \underline{\hspace{2cm}} \quad 2\frac{1}{2} \underline{\hspace{2cm}}$$

$$6 \underline{\hspace{2cm}} \quad 5\frac{3}{8} \underline{\hspace{2cm}} \quad 7 \underline{\hspace{2cm}}$$

$$\frac{4}{9} \underline{\hspace{2cm}} \quad 8\frac{3}{5} \underline{\hspace{2cm}}$$

When we read fractions, the numerator sounds like a cardinal number. The denominator sounds like an ordinal number.

$\frac{3}{5}$ three-fifths

$\frac{6}{8}$ six-eighths

$\frac{7}{12}$ seven-twelfths

We use the word “and” when we read a mixed number.

$1\frac{1}{2}$ one and one-half

$5\frac{3}{4}$ five and three-fourths



Follow these instructions.

1.13 Write fractions in words.

$\frac{2}{3}$
 $\frac{4}{9}$

$\frac{5}{8}$
 $\frac{3}{6}$

1.14 Write mixed numbers in words.

$3\frac{2}{5}$
 $6\frac{1}{7}$

$4\frac{5}{8}$
 $5\frac{2}{3}$



For this Self Test, study what you have read and done. The Self Test will check what you remember.

SELF TEST 1

Complete these activities (each answer counts as 1 point, except where otherwise noted).

1.01 Use any digits. Write a ...

one-digit _____, three-digit _____,
and multi-digit _____ number.

1.02 Write the multiples of 5 as multiplication facts.

$1 \times 5 = \underline{\quad\quad}$ $2 \times 5 = \underline{\quad\quad}$ $3 \times 5 = \underline{\quad\quad}$

$4 \times 5 = \underline{\quad\quad}$ $5 \times 5 = \underline{\quad\quad}$ $6 \times 5 = \underline{\quad\quad}$

$7 \times 5 = \underline{\quad\quad}$ $8 \times 5 = \underline{\quad\quad}$ $9 \times 5 = \underline{\quad\quad}$

$10 \times 5 = \underline{\quad\quad}$

1.03 Write fractions and mixed numbers in words.

$\frac{3}{4}$	$\frac{5}{12}$
_____	_____
$4\frac{1}{3}$	$6\frac{2}{5}$
_____	_____
$2\frac{4}{8}$	$7\frac{4}{6}$
_____	_____

1.04 Add. (2 points each)

$2,735$	$3,674$	$2,539$	374
$+ 4,130$	$+ 2,186$	$+ 3,657$	261
<hr style="border: 0; border-top: 1px solid black;"/>	<hr style="border: 0; border-top: 1px solid black;"/>	<hr style="border: 0; border-top: 1px solid black;"/>	<hr style="border: 0; border-top: 1px solid black;"/>

1.05 Subtract. (2 points each)

$$\begin{array}{r} \square\square\square \\ 763 \\ - 475 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square \\ 927 \\ - 358 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 7,163 \\ - 4,785 \\ \hline \end{array}$$

$$\begin{array}{r} \square\square\square\square \\ 9,325 \\ - 5,467 \\ \hline \end{array}$$

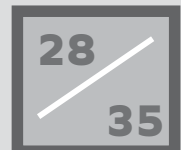


Teacher check:

Score _____

Initials _____

Date _____





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