

10.	7.93		
9.	4.1		
8.	6.022		
7.	3.19		
6.	2.93		
5.	.228	15.	8.572
4.	2.374	14.	10.22
3.	4.34	13.	15.31
2.	1.802	12.	4.993
1.	160.741	11.	9.18

BASIC MATH

The Complete Course
Lesson Nine

Adding & Subtracting Decimals

KA8409

Teaching Guide & Worksheet

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HOW TO USE THE VIDEO AND TEACHING GUIDE

1. The "STOP TO THINK" signal means pause to think.
2. The "STOP TO WORK" signal means work the problem(s).
3. Rewind the tape and watch the lesson again if the concept is not clear.
4. Use "Learning Strategies" section of the Teachers Guide as memory aids and topics for classroom discussion.
5. Students should complete the exercises on the worksheet to confirm their understanding of this lesson.

Instructors may duplicate the worksheets as needed

LEARNING STRATEGIES

THE HISTORY OF THE CREATION OF ZERO

- A. Zero was first used as a placeholder
- B. Only later in history was zero used as a symbol for "nothing"

DECIMAL PLACE VALUES

- A. Using the relationship between the whole-number place values, we create the fractional place values
- B. The decimal point is a demarcation between the whole-number place values and the fractional place values
 - 1. To the right of the decimal point are 1, 10, 100, 1000,...
 - 2. To the left of the decimal point are 1/10, 1/100, 1/1000,...
- C. Reading a decimal fraction
 - 1. The numerator is the number behind the decimal point
 - 2. The denominator is the last place value (or 1 followed by as many zeros as there are places to the right of the decimal point)

COMPARING DECIMAL FRACTIONS

- A. The number of digits is not important
- B. Start at the tenths place and stop when you have a place value where the two numbers have different digits
 - 1. .062 compared to .1
 - 2. .062 has a 0 in the tenths place
 - 3. .1 has a 1 in the tenths place
- C. The number with the greater digit in that place value is the greater number
 - 1. $1 > 0$
 - 2. Therefore $.062 < .1$

ADDING DECIMALS

- A. Line up the decimal point to align the place values
- B. The decimal point in the answer is lined up with the other decimal points
- C. Add as you would whole numbers
- D. If one number has fewer decimal places than another, fill in the missing places with zeros—the same as finding the common denominator
 - 1. $7.2 + 10.28 + .726$
 - 2. Maximum number of decimal places is three
 - 3. $7.200 + 10.280 + .726$

SUBTRACTING DECIMALS

- A. Line up the decimal points
- B. The decimal point in the answer is lined up with the two decimal points in the problem
- C. Subtract as you would whole numbers
- D. Use zeros in missing places—the common denominator
 - 1. $11.2 - 4.76$
 - 2. Maximum number of decimal places is two
 - 3. $11.20 - 4.76$

AN APPLICATION OF DECIMAL ADDITION AND SUBTRACTION —THE CHECK REGISTER

- A. Deposits are additions
- B. Checks and charges are subtractions
- C. The result of each addition or subtraction computation is called the account balance
- D. There are significant consequences if errors are made

WORKSHEET STRATEGIES

Do all work by hand and check with a calculator.

- 1. $46.2 + 9.87 + 104 + 671 = \underline{\hspace{2cm}}$
- 10. $16.7 - \underline{\hspace{2cm}} = 8.77$
- 2. $.84 + .962 = \underline{\hspace{2cm}}$
- 11. $19.48 - \underline{\hspace{2cm}} = 10.3$
- 3. $8.04 - 3.7 = \underline{\hspace{2cm}}$
- 12. $6.24 - \underline{\hspace{2cm}} = 1.247$
- 4. $9.15 - 6.776 = \underline{\hspace{2cm}}$
- 13. $\underline{\hspace{2cm}} - 8.3 = 7.01$
- 5. $.3 - .072 = \underline{\hspace{2cm}}$
- 14. $\underline{\hspace{2cm}} - 4.22 = 6$
- 6. $4.2 + \underline{\hspace{2cm}} = 7.13$
- 15. $\underline{\hspace{2cm}} - 7.9 = .672$
- 7. $9.41 + \underline{\hspace{2cm}} = 12.6$
- 8. $13.378 + \underline{\hspace{2cm}} = 19.4$
- 9. $11.3 - \underline{\hspace{2cm}} = 7.2$