

Information and Overview for the Mental Math Strategy Worksheets for Eighth Grade and Algebra I

To: Teachers wishing to use these mental math worksheets
From: Jim Olsen
RE: Overview, comments, suggestions

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What is this?

This is a mental math curriculum for eighth grade and for Algebra I. Each curriculum provides 30 half-page worksheets which teach, and have the students practice, mental math strategies. The eighth grade and Algebra I curricula are independent.

Purpose

The **purpose** of these worksheets is to provide students with:

- ❖ Instruction in mental math strategies.
- ❖ Practice using mental math strategies.
- ❖ Practice *selecting* and using mental math strategies from strategies previously learned.
- ❖ Practice in the skills, procedures, and problem types which are important for the course.
- ❖ Examples of how mental math is useful in everyday life.
- ❖ Abilities to use mental math strategies which reduce the amount of time needed for homework, help math make sense, increase understanding of mathematics, and increase confidence in mathematics.

Suggestions for Classroom Use

Use – I use these worksheets in the first 5-6 minutes of class, one day per week.

15 Worksheets for each semester – Eighth grade worksheets are numbered 8.1 – 8.15 and 8.16 – 8.30. The Algebra I worksheets are numbered 9.1 – 9.15 and 9.16 – 9.30. Each worksheet teaches one mental math strategy (a few estimation strategies are mixed in). I recommend using one per week (perhaps on a particular day of the week—e.g., “Mental Math Monday”). However, these worksheets can be used in a variety of ways. Each worksheet provides practice on the new strategy of the day (*left-hand side*) and practice selecting and using previous strategies (*right-hand side*).

Pre-test, Practice Test, and Post-test are provided for each semester. I recommend giving the students 8 minutes to do the each test (more time as you see fit). I recommend giving the Pre-test at the beginning of the semester before any strategies are taught. I recommend providing students with the practice test near the end of the semester and administering the Post-test at end of the semester. I think you will see marked improvement. There are 15 questions per test.

The Most Important Question

If you use these worksheets, your class will be gradually building up mental math strategies. During the regular course of the class, when you get to a calculation (for example, solve $2x = 84$), take 5 seconds to ask the question, **“Do we have a mental math strategy for that?”** You will find that often times you will! When you do not, then use a calculator (or, rarely paper and pencil)! Making an informed decision as to which tool to use is *huge*.

Feedback

Please provide me feedback on how well these worksheets worked for you and your students. If there are any errors, please let me know. JR-Olsen@wiu.edu

Files for each semester:

- List of the 15 strategies. (1 file)
- Three tests. Pre- Practice- Post- (3 files – zipped*)
- 15 worksheets (half sheets) (15 files – zipped*)

*If you are not sure how to *unzip*, ask your IT coordinator or call me.

I hope you and your students find these worksheets helpful!!!