

Handout #1

MM-ADD5: Mental Math with up to 5 Digit Addition



Into: Mental Math -- Adding In Your Head

Talk About . . .

LESSON OBJECTIVE

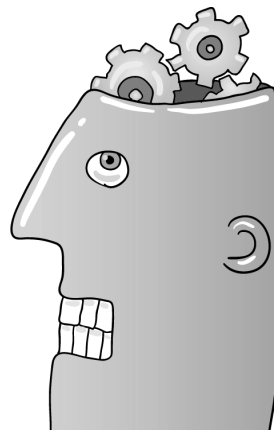
When you complete this lesson, you will be able:

- To mentally form a close estimate of a 5 Digit Addition Problem.
- To mentally find an exact answer of a 5 Digit Addition Problem.

• **Pen and Paper Addition.** For example: *We know how to add on pen and paper -- we line up the numbers, start from the right, and remember to carry.*

• **Using Mental Math To Add In Your Head.** For example: *But today we're going to work on adding in our head -- even with numbers bigger than 10.*

• **Different Strategies.** For example: *When adding in your head, different people use different strategies. You're going to come up with your own strategies and figure out a way that works best for you.*



It is impossible to add numbers bigger than 10 in your head. You have to use a calculator for these numbers.

true | false

Everybody uses the exact same strategy when adding in their head.

true | false

REVIEW



Tom wants to buy a stereo for \$574 dollars. How much money does he need rounded to the **nearest** hundred dollar?

How much money does he need rounded to the **nearest** ten dollar?



Add the following numbers. Then check with a calculator:

$$\begin{array}{r} 13 \\ + 32 \\ \hline \end{array}$$

$$\begin{array}{r} 255 \\ + 87 \\ \hline \end{array}$$

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How To: Add In Your Head

Alberto has come up with a couple of **his own strategies** for adding in his head. Let's take a look:

REMEMBER!

You need to develop your own strategies. You should use the strategies that make the most sense to you.

<p>28+19? Well, 28 <i>is about</i> 30 and 19 <i>is about</i> 20.</p> <p>So first I just <u>get close</u> to the answer as: 30 + 20 = 50</p> <p>But 28 is <i>two short</i> of 30. 19 is 1 short of 20. So total I'm 3 short so the exact answer will be: 50 - 3 = 47</p>	<p>111 + 54?</p> <p>Well, first I'll forget the ones place and just <u>estimate</u> my answer as 110 + 50 = 160.</p> <p>But to get an exact answer, I realize that I left of 1+4 = 5 so my exact answer is 160+5 = 165</p>
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217 + 92? Well, let's again start by estimating:

220 + 90 = 310 (because 22 + 9 = 31, right?)
So, 220 is three short of 217 but 92 is two bigger than 90, so total, I'm **one short** ... So:
310 - 1 = 309

Try doing 23 + 42 below:

Try doing 99+ 19 below:



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Compute It: Estimate Your Answer

DIRECTIONS

Just find a **close estimate** of the answer.

Try and do it in your head first . . . if it is too hard use pen and paper -- but try in your head first!

$$\begin{array}{r} 29 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 22 \\ \hline \end{array}$$

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

$$\begin{array}{r} 110 \\ + 59 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ + 299 \\ \hline \end{array}$$

$$\begin{array}{r} 168 \\ + 42 \\ \hline \end{array}$$

$$\begin{array}{r} 233 \\ + 67 \\ \hline \end{array}$$



Compute It: Find the Exact Answer

DIRECTIONS

Try and solve this problems in you head. First, form an estimate in your and write this down next to the "1". Then, find the exact answer and write that down next to the "2".

$$\begin{array}{r} 29 \\ + 9 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 22 \\ \hline \end{array}$$

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

1.

1.

1.

1.

2.

2.

2.

2.

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Compute It: Find the Exact Answer

DIRECTIONS

Try and solve this problems in you head. First, form an estimate in your and write this down next to the "1". Then, find the exact answer and write that down next to the "2".

	$\begin{array}{r} 99 \\ + 99 \\ \hline \end{array}$	$\begin{array}{r} 101 \\ + 23 \\ \hline \end{array}$	$\begin{array}{r} 55 \\ + 64 \\ \hline \end{array}$	$\begin{array}{r} 107 \\ + 8 \\ \hline \end{array}$
1.				
2.				



Compute It: Find the Exact Answer

DIRECTIONS

Add the following numbers in your head. Find the *exact* answer. **Use whatever strategy works best for you!**

$\begin{array}{r} 88 \\ + 17 \\ \hline \end{array}$	$\begin{array}{r} 34 \\ + 222 \\ \hline \end{array}$	$\begin{array}{r} 540 \\ + 89 \\ \hline \end{array}$	$\begin{array}{r} 123 \\ + 128 \\ \hline \end{array}$
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Closure

This lesson we worked on adding in our head using **Mental Math**. This also helped us work on **estimation**.



What did we learn today?



Do you find it hard or easy to add numbers in your head?



Would you rather add numbers in your head or use paper and pencil?