
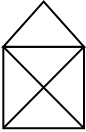


JYMA – 5th Grade Assignments – Week #1

Individual Work

- Very important! For the first few weeks of the 5th Grade Math Academy, your primary “homework” is to work on various forms of mental math.
- Parents and teachers should practice mental math with their 5th grader, similar to what I did in the lecture, such as: 6×400 , 50×90 , $200 - 3$, $6000 - 300$, $5000 - 40$, etc.
- Practice the arithmetic facts speed sheets, between two and five times per week, depending on the need of the child. (These speed sheets are found on the [5th Grade Portal/Assignment page](#).) The goal is to increase speed over weeks and months – so **this is a task that should be on-going throughout the whole year.**
- If your 5th grader has not memorized their basic arithmetic facts (see the end of this document), then you should work on flashcards with your child. (These Flashcards are found on the [5th Grade Portal/Assignment page](#).) Just follow the instructions!

Group Work – puzzle problems!

- Notes for parents/teachers:
 - Please read [Tips for Successful Group Work](#).
 - At the end of all group work sessions, something should be sent to the tutor to show what the students did, which could simply be a photo of their work (each student could send their own version), or a parent could simply write a quick email describing their process and progress.
 - Always, the parent needs to decide how much work should be done. The group doesn't have to finish everything. The goal is not to get through the most amount of “stuff”, but rather to develop thinking and engender enthusiasm.
 - Remember – it will likely take a couple of weeks for the children to learn how to work together productively via the computer. They will need some adult coaching!
 - In the first meeting, be sure to spend some time for introductions. The parents could give the group some questions to help (e.g., “What is your favorite activity?”; “Tell us about your family.”, etc.).
 - The following puzzles are intended for group work (either on Tuesday or Thursday) and, as such, are best not to be worked on ahead of time. They should be given (**one at a time**) to the group once the group meeting has started; part of the group experience is to figure things out together. They likely won't get to some of the puzzles, and that's OK.
- Puzzle #1. Counting Squares. How many squares are there in this figure?

- Puzzle #2. I have 15 coins (dimes and nickels only) worth \$1.05 in my pocket. How many of each type of coin do I have?
- Puzzle #3. Trace the following form without lifting your pencil off the page or going over the same line twice. (What do you need to do to make this possible?)

- Puzzle #4. What number is exactly halfway between 75 and 117? Perhaps you can think of more than one way to figure this out!
- Puzzle #5. Yesterday, Mr. York went to the store to buy some groceries. The total cost at the register was \$35.35. He thought to himself, “Well, that's nice to have the same two-digit number twice!” He looked into his wallet, thought for a moment about what to give, handed some cash to the cashier, and got back his change of \$65.65. He was obviously very pleased, and saw this as evidence that his life is indeed a continuous math party!
Question #1: Exactly what did he give to the cashier (including how many bills and what kind of bills)?
Question #2: Why didn't he simply give \$100 to the cashier?

The 105 Key Arithmetic Facts (Each appears as a “fact of the week”)

$8 + 2$	$6 + 6$	$10 - 8$	$13 - 9$	3×3	6×6
$9 + 2$	$7 + 6$	$10 - 7$	$13 - 8$	3×4	6×7
$7 + 3$	$8 + 6$	$10 - 6$	$13 - 7$	3×5	6×8
$8 + 3$	$9 + 6$	$10 - 5$	$13 - 6$	3×6	6×9
$9 + 3$	$7 + 7$	$10 - 4$	$13 - 5$	3×7	6×12
$6 + 4$	$8 + 7$	$10 - 3$	$13 - 4$	3×8	7×7
$7 + 4$	$9 + 7$	$10 - 2$	$14 - 9$	3×9	7×8
$8 + 4$	$8 + 8$	$11 - 9$	$14 - 8$	3×12	7×9
$9 + 4$	$9 + 8$	$11 - 8$	$14 - 7$	4×4	7×12
$5 + 5$	$9 + 9$	$11 - 7$	$14 - 6$	4×5	8×8
$6 + 5$		$11 - 6$	$14 - 5$	4×6	8×9
$7 + 5$		$11 - 5$	$15 - 9$	4×7	8×12
$8 + 5$		$11 - 4$	$15 - 8$	4×8	9×9
$9 + 5$		$11 - 3$	$15 - 7$	4×9	9×12
		$11 - 2$	$15 - 6$	4×12	11×11
		$12 - 9$	$16 - 9$	5×5	11×12
		$12 - 8$	$16 - 8$	5×6	12×12
		$12 - 7$	$16 - 7$	5×7	
		$12 - 6$	$17 - 9$	5×8	
		$12 - 5$	$17 - 8$	5×9	
		$12 - 4$	$18 - 9$	5×12	
		$12 - 3$			