

6th Grade Assignment – Week #1

Individual Homework: See how much you can do on Sheet #1 from the 6th Grade Workbook. I said in the lecture that problems #36, 37, and 41 are "star problems" for those who would like a challenge.

Note for Parents/Teachers

- The 6th graders should still be practicing my speed sheets. (These speed sheets and the answer key are found on the [Free Downloads page of our website](#).) The speed sheets should be done between 2 and 5 times per week - you'll have to feel out what is best! The goal is to increase speed over weeks and months.
- It may also be helpful to do a bit of mental every day. I will be sure to show a couple of examples of good mental math in my next lecture on Wednesday.
- If your 6th grader has not yet mastered the arithmetic facts (e.g., 7×9 , $12 - 5$, etc.), then you may find it helpful to do a bit of flashcard work. (These Flashcards are found [here](#).) With flashcards and the speed sheets, be sure it doesn't end up being torture. Improvement should lead to higher confidence and (perhaps) joy!
- Regarding Group Work
 - Please reread the section "Group Work and Tutorial Session Guidelines" of the JYMA Handbook (found on the [6th Grade Portal](#), where you also found this assignment).
 - 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 need 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!

For Tuesday's Group Meeting

- In the first meeting, the primary objective is that the students start to get to know each other. See if they can have fun together!
- 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.).
- Play the game "Bizz-Buzz". This game often results in a good deal of laughter. Here are the rules: Decide the order in which the students should take turns, and decide on two forbidden numbers. A student starts by saying "One"; the person to his left says "Two", and it continues clockwise. The catch is that a student may not say any number that is a multiple of (in the table of) either of the two forbidden numbers – you must say the appropriate substitute word ("Bizz" or "Buzz") instead. If the number is a multiple of more than one forbidden number, you must say each of the substitute words. If a student fails to substitute the correct B-word or hesitates, then we start over again. The objective is to see how far the group can get.

Example: Bizz = 11, Buzz = 7

"One", "Two", "Three", "Four", "Five", "Six", "Buzz", "Eight", "Nine", "Ten", "Bizz", "Twelve", "Thirteen", "Buzz", "Fifteen", "Sixteen", "Seventeen", "Eighteen", "Nineteen", "Twenty", "Buzz", "Twenty-two"... Play stops here as 22 is a multiple of 11. Start again from 1.

Notes: It is important that there is a rhythm to the counting so that the game moves along.

- When introducing this game, it may be best to start with only "Bizz", and add "Buzz" later.
- For an even greater challenge, you can add a third multiple and the word "Bing".

For Thursday's Group Meeting

The following puzzles should not be worked on individually 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 may not get to some of the puzzles, and that's OK.

Puzzles!

- 1) Courtney has 29 coins (dimes and quarters only) worth \$5.00 in her pocket. How many of each type of coin does she have? (Hint: a dime is worth 10 cents, and quarter is worth 25 cents.)
- 2) Find three consecutive whole numbers that have a product of 60.
(Hint: "consecutive" means back-to-back)
- 3) Find two numbers that multiply to 30 and...
 - a) add to 13.
 - b) add to 11.
 - c) add to 17.
 - d) subtract to 1.
 - e) subtract to 13.
- 4) Find two numbers that multiply to 60 and...
 - a) add to 16.
 - b) add to 17.
 - c) subtract to 17.
 - d) add to 23.
 - e) subtract to 28.
- 5) *Challenge!* Find two numbers that multiply to 210 and...
 - a) add to 47.
 - b) subtract to 1.

6th Grade Math – Sheet #1

Do it in your head.

- 1) $80 \cdot 70$
- 2) $400 \cdot 60$
- 3) $5000 \cdot 400$
- 4) $120 \cdot 7$
- 5) $1100 \cdot 7000$
- 6) $3600 \div 900$
- 7) $42,000 \div 70$
- 8) $720,000 \div 120,000$
- 9) $48,000 \div 8$
- 10) $54 + 8$
- 11) $60 - 13$
- 12) $73 + 24$
- 13) $700 - 8$
- 14) $687 + 36$
- 15) $4000 - 38$

Arithmetic.

Show your work.

- 16)
$$\begin{array}{r} 5674 \\ - 839 \\ \hline \end{array}$$
- 17)
$$\begin{array}{r} 64008 \\ - 28285 \\ \hline \end{array}$$

18)

$$\begin{array}{r} 782 \\ \times 539 \\ \hline \end{array}$$

19)

$$\begin{array}{r} 587900 \\ \times 76300 \\ \hline \end{array}$$

20)

$$\begin{array}{r} 375 \\ 684 \\ 39 \\ 865 \\ 421 \\ 997 \\ + 516 \\ \hline \end{array}$$

Fractions.

- 21) $\frac{3}{11} + \frac{4}{11}$
- 22) $\frac{3}{8} + \frac{1}{2}$
- 23) $\frac{7}{12} - \frac{1}{12}$
- 24) $\frac{2}{3} \cdot \frac{3}{5}$
- 25) $\frac{3}{8} \cdot \frac{6}{7}$
- 26) $\frac{11}{12} \div \frac{2}{3}$
- 27) $\frac{5}{16} + \frac{1}{4}$
- 28) $\frac{7}{12} - \frac{1}{4}$
- 29) $\frac{45}{49} \cdot \frac{21}{25}$

$$30) \quad \frac{3}{16} + \frac{7}{12}$$

Reduce each fraction.

$$31) \quad \frac{6}{9}$$

$$32) \quad \frac{30}{120}$$

$$33) \quad \frac{35}{49}$$

$$34) \quad \frac{24}{60}$$

$$35) \quad \frac{36}{270}$$

$$36) \quad \frac{175}{225}$$

$$37) \quad \frac{540}{2880}$$

Division.

Hints:

- The second number goes outside “the house”.
- All division problems on this sheet work out exactly.

$$38) \quad 3456 \div 6$$

$$39) \quad 48424 \div 8$$

$$40) \quad 5394 \div 62$$

$$41) \quad 49441 \div 49$$