

**1) What is mathematics? How would I define mathematics?**

Honestly, I have never really thought about how I would *define* mathematics. Math is just a subject we have in school that everyone has to take every year of their school career. As I think about what mathematics *is* to me it is so much more than just a school subject.

Math is anything and everything related to numbers from clocks and telling time, to working with money, to calculus. Mathematics is the manipulation of numbers, the perseverance to solve a problem, and strategies to find the unknown. Mathematics is graphing, reading a map, using a scale, and determining distance. Mathematics is shapes, volumes, and determining packaging. Mathematics is so engrained in our life I do not think we could ever list all the things that are *mathematics*.

**2) Why is it important for everyone to know mathematics?**

I feel it is important for everyone to know because even in day to day life math is used. I have had an 8<sup>th</sup> grade student tell me “Mrs. Gamble, I found myself using math last night. I woke up in the middle of the night and realized I had 3 more hours to sleep. That’s math!” I had another student ask me, “Mrs. Gamble, would you prefer to get 1 million dollars all in one day or would you prefer to get 1 penny the first day of the month, 2 pennies the second day, 4 pennies the third day etc. for a month?” We were then able to have a discussion of how to solve the problem so he could tell his friends which was the better deal.

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It is important for everyone to learn math because it used for: banking, telling time and date, mileage on a car, loans, and that is just the everyday things! On top of these every student is going to go into a different profession which has its own set of math skills. Some students will have to figure out prices and discounts, some may have to deal with making change, and others may go into other science or math related fields dealing with more complex numbers and calculations.

Additionally, I feel math is important because it trains our brains to persevere through a problem and builds problem solving skills. These skills are good in all areas of life, not just mathematics. Problem solving and perseverance help as students face challenges at home and in the workplace, teaching them never to get up and try different strategies until they find a solution. Working through a challenge and pushing through to the end are desirable qualities in any employee.

**3) What mathematics should be taught to every person? Why are these mathematical topics important?**

Addition, subtraction, multiplication, and division:

I think these are most fundamental to everyone because they are the topics most used in everyday math. Addition and subtraction are used in: banking, making change, and telling time, just to name a few. I feel that often students are not prepared to take on the task of banking because they do not understand the concept of credits and debits and how to keep track of them. Multiplication is important in estimating cost when purchasing quantities greater than one.

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Division is important when splitting things among a group of people whether it be money for gas or payment for a job done by the group.

Interest:

Interest is a large topic that is not nearly covered enough. Loans and the interest associated with them are a large part of life these days and not enough people understand the math behind it. Almost everyone is going to have a home loan, car loan, or student loan and they need to understand the logistics of principle, down payment, and interest rates.

Estimation:

Estimation is not just a math concept but I think it can definitely be reinforced during math courses. Estimation is often used to figure cost, mileage, anticipating discounts, and estimating time of arrival. By teaching students to round to a nicer number and estimate they are able to do some of the calculations more easily and quickly mentally.