

Math Skill Issues from Portland Community College Teachers:

Teacher (1):

A few ideas that immediately come-to-mind of skills some students lack coming into pre-college math courses are the following.

1. not being familiar with the basic multiplication facts, for example, up to 12×12 .
2. inability to do basic arithmetic accurately without a calculator. Ex. 34.5×2.3 .
3. inability to do operations with fractions.
4. not being able to implement the the writing/formatting distinction between "simplify an expression" and "solve an equation."
5. not knowing that all parts of their work, not simply the answer, is included in the grade for a problem.
6. lack or abuse of the equal sign.
7. refusal or inability to write a complete sentence, especially separate from the body of their math work for applied problems. .
8. graphs that require labeled axes, tic marks, scaling across the axes, and for applied problems, units of measures.

Once students have these basic skills down, I find their success in a course significantly improves.

Teacher (2):

The biggest obstacle that I can think of is innumeracy.

If I ask a student 7 plus what number is 10 and they either cannot do it or they must count it out then that is going to be a problem for them. Our whole number system is base ten so they need to know that to move to the next level.

Also, if they have a poor knowledge of the multiplication tables then that is going to hold them back.

These basic tools, while not the most interesting part of mathematics, are necessary to move on like the abc's are necessary before you can write the great American novel.

Most everything else in pre-algebra and introductory algebra can be taught.

Teacher (3):

Here is what students are lacking (as I can see it right now, ask me again next term and I'm sure I'll say more):

- Fractions (in all regards)
- Operations involving signed numbers (especially related to factoring and distributing)
- A general understanding of the commutative property
- Order of operations
- General Number sense (i.e. reaching for a calculator to do 8×2)

Teacher (4):

My continuing concern with our students is their lack of skills in the areas of fractions and mental arithmetic. They have very poor recall of the 4 basic operations on fractions and they want to change everything to something they can do in a calculator. Of course, this is not news to you but it continues to be an issue up into College Algebra and higher topics.

Teacher (5):

A few things: basic multiplication facts; how to do long division and also how to read division problems $\frac{3}{4}$ is 4 divided by 3, but many don't even know which is the dividend and which the divisor, when placed in problem to be done by hand; long multiplication and long division (they are too dependent on calculators); signed number concepts; percentages and how to compute them.

I teach both at Clark (Comm. Coll. in Vancouver), and for various campuses of PCC, at levels from Math 20 and 30 up to and including Pre-Calculus and Trig., so I teach these basic concepts, myself, as well. I'm finding many would still benefit from pre-algebra (developmental Ed) courses, but don't want to take the time until they find themselves failing at levels above because they don't have the basics.

Students misunderstand that a "C" grade really only means you passed, NOT that you are ready for the next level; in my opinion they really need an A or B to proceed to higher levels; C means they've missed a lot and usually are not ready for the next level, but just barely passed.

Teacher (6):

Fractions skills and combine like terms gets lost.

Teacher (7):

The main comment that I have, regarding skills that students are lacking, is that most everyone I have taught has had little or no number sense; if someone is asked to estimate $(99.8)(1.995)$, I would dare say that 90% would have no clue that this is a result that is near 200.

As long as calculators are being used (and in the obvious situations should be used), there will always be this issue, because students are not thinking about the kinds or sizes of answers they should be getting with such calculations, but rather they are dependent upon the technology to tell them what the answers ought to be. This is not just an issue that the basic math level, but at nearly all levels ...

Teacher (8):

In terms of skills: operations with fractions still seems to be weak in many, avoided by most and mastered by few. Errors on operations with signed numbers is a distant second in my experience.

Teacher (9):

I've been teaching a lot of math 20 lately, and it seems to me that some students come into that class without knowing their multiplication tables, (which I think is really slowing down their ability to succeed in the fraction world), and without knowing some basic number sense, like the concept of divide and multiply and place value.

Teacher (10):

I'd have to say the number one area is fractions! There are lots of other skills that are lacking (number sense, reasoning, etc.), but fractions is very consistent.

Teacher (11):

I teach 60/65 regularly. A large percentage of students in 60/65 lack the prereq skills covered in math 20, primarily fractions, decimals and percents.

Teacher (12):

I'll have to think about other topics; but one that drives me "nuts" is lack of basic addition and subtraction skills; and that goes all the way back to elementary school!

Teacher (13):

1. I'm a PT instructor and I'm teaching Math 60 this term. I don't really like teaching Math 60/65 because of the students' lack of basic skills that make me want to poke my eyes out:
2. Number sense. Ask some students to perform really simple calculations (such as $40/10$) sans calculator and they just about start to cry :(
3. Many of the students are coming out of Math 20 and still have a lot of problems with negative numbers.
4. Bad or non-existent study and note-taking skills. Improvement in this area would help a lot.

I have no good ideas how to address these problems. My background is in math, not education. So teaching Algebra I isn't really my thing anyway. But any way in which I can remove some hair pulling, teeth grinding, etc...

Teacher (14):

I teach adult students on the weekend. No matter what you do (or I did when I taught at Grant) the students don't remember very much.

Teacher (15):

I generally teach 20, 60, and 65, and I think that students need to know their basic multiplication facts. Not knowing them is continually dragging them down.

I would also argue that they need to know how to operate with fractions and have a solid number sense.