

Eliminate the old habit

Saying “and” means decimal point.

Adopt this new habit

Do not create false rules for language.

When listening to and naming a number, consider the unit sizes that are being communicated. We know from language arts that “and” is a word that combines things. When people call numerals “and,” it means to combine, but it also communicates a change in unit size. This is particularly important to think about when verbally communicating numbers with a decimal point in them.

For example, one hundred and forty nine means literally 1 hundred unit and forty nine 1’s units, while one hundred forty nine means one hundred forty nine 1’s. Say what you mean. But if the form of the number does not matter to the case or argument, then it is fine to call a number in any form.

In this same way, I could call 1,500 as fifteen hundred (15 hundreds) or one thousand five hundred (1,500 1’s), or one thousand and five hundred (1 thousand and 5 hundreds). They imply different forms but they name the same number.

Why?

Saying that “and” means decimal point is an artificial construction. In common parlance and in math parlance, “and” generally means to combine, to add to, to augment.

There is no reason to limit people’s way of naming numbers or reading numerals. The key is that the numeral reader or number-namer comprehends the number they are communicating and does so in a fashion that allows the listener to comprehend the value as well.

If I say one hundred and forty five, you know what I mean. I have effectively communicated the value 145 because “and” means, quite clearly, a combination of my 1 hundred and my 45 1’s.

When I say 100 and 45 and 37 one-hundredths, I effectively communicate the number I mean: 145.37. It may be a matter of taste to say that 145 and 37 hundredths is the most elegant way to say this number, but that is different than claiming that it is the only or best way to name it.

To construct the idea that “and” means decimal point is inadvisable for two reasons:

- 1) It is not correct from a language perspective; and
- 2) It buries the opportunity to have a discussion that focuses on considering unit sizes and different ways to form a number. Whenever you get the chance to talk about units, place value meanings, and different forms of numbers, you want to do so!

When we bury these properties under the term “cancels out,” students don’t notice how often the properties are used and how important they are. Asking students to memorize the properties because they’re important and then not pointing out the properties when they’re used sends a mixed message to students that the properties are just facts rather than tools to be used regularly.

Cancels out.

For example: “These 8’s cancel out.”

Instead, explicitly use/discuss the property or idea that allows you to simplify.

You might say this: “Here I have an 8 divided by an 8, and we know that anything divided by itself equals 1. So if I have 1 times something, what property can I use? Yes, the Multiplicative Identity Property. So you can see here that we have simplified this expression without disturbing/changing its value.

“Here I have an X being subtracted from an X, and I know that anything minus itself equals 0. So, here I have 0 + something else. What property can I use here to make this expression simpler without changing its value? Yes, the Additive Identity Property.”