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integers, negative integer, fraction, examples, line, decrease, car, halves, red, good, negative, number, decimal point, circumstances, reduce, great, green, other side, bold, allowed

SPEAKERS

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Welcome, in this lecture, I'm going to go through the main examples of integers and non integers. Right, so when I say non examples, I mean something that's not an integer. So let's just kind of get started here. And I'm going to have a little bit of like color notation here. So for if I write X is in, and then I do this funny Z like this, notice there are two lines here, that means it's blackboard bold, bold. So for X in there, we mean. So what do I mean if I write that? I mean that X is an integer. So X is an integer. And the picture kind of on the number line, so we have our real numbers are red. So we draw our entire number line with red. And then the integers kind of sit inside of it, right? So we're looking at the numbers like 0, 1, 2, 3, and so on, and like minus 1, minus 2, minus 3. Okay? And so these are what I mean by the integers, or the numbers like that.

So then let's kind of look at this. So we have, so we get that, so X could be a number, like, okay, so X could be a number, like, so I'm allowed to have numbers like, so I can have, so these are the examples, is that I'd have minus 532 is a good example. Okay, so it can be negative, it can be zero. So it can be this, right? Or, right, we're allowed to have zero, that's a good one. Okay, so zero is a good one. Or, and then then we can have something like three squared, right? Because that's just the same thing as nine, right, and so that's good. We're also allowed to have so, or we can have something like four halves, right? Because that's just the same thing as two. So these are all great examples, these all work. What are we not allowed to have, but, so these are my examples. So here are my non examples, which is an X now I'm gonna do this in red, because they're real numbers, but they're not integers. So X could not, X could not, could not be a number, like, so be a number, like, and then we're gonna have three halves, right? So three halves, we can look at, you know, sometimes fractions are okay, like this one, when they reduce down to an integer. So, you know, it's good to actually try to go and reduce this down or look at it as a decimal and see that, you know, there's something on the other side of the decimal point, so that's not an integer.

Okay? Or another, you know, something that it's not, it's something like this, okay? So let's kind of look at some examples of numbers that must be integers. We'll do these in green, because they're examples of integers. Okay, so let's look at this here. So examples of numbers that must be integers. That's just making sure that this is a nice, visible green. Okay. Um, so this is the, so one example would be, so often you're gonna have things that are gonna be like an increase, because that allows

you to also have if it's a decrease, it gives you a negative. So it can, it can give good examples of where you have negative numbers, is if you're say you're looking for an increase, and you get a decrease then it's a negative number. So an increase in the number of, so increase in the number of active cases of a disease, so active cases of a disease. And so right, and in this circumstances, I've kind of mentioned multiple times as if it decreases the number is negative. So if decreases, then we get a negative integer.

Which is okay, we're allowed to have negative integers, right? They show up on the left hand side in our timeline. Not our timeline our number line, right? We're getting them over here. That's okay. We also saw an example there, I can have negative integers. Okay. Um, the other one is to say something like, the car is located X spots to the right of the red car, right? So the car is located X spots to the right of the red card, X spots to the right of red car, right, and now it's like if to the left then it's a negative integer. So if to the left, then I'm actually looking at a negative integer. But it's okay, I'm not going to end up with some fraction of a car. Just like I'm not going to end up with some fraction of a case. So there you want circumstances where you can't have a fraction of the thing. And objects are often like this. You can't have a fraction of a car, you can't have a fraction of a case. Okay, so those are great examples of integers. But you don't want things that when you reduce them down, you have decimal places. Okay, right. Because this also to look at it, this is like minus 3.14. Right? So you, if you have stuff to the right of the decimal place that isn't a zero, then you're in trouble and you're not an integer, you're not in trouble, you're just not an integer okay. So, I hope that made some sense and I will see you in the next lecture.