



Changing Between Decimals and Percents

Watch as we go on a rollercoaster ride in changing from a decimal to percent and then back again. Learn to master this technique so you can get as fast as a rollercoaster going downhill on tests and quizzes when you have to convert between the two.

Decimals

As we wait in line for our roller coaster ride called Decimals and Percents, we see a couple of signs for us to look over. The first one talks about decimals. What makes a decimal a decimal? It's easy to spot a **decimal**. What you look for is a decimal point, because a decimal is any number that has a decimal point. A **decimal point** is that dot or point that you see in some numbers, especially those numbers you see on the price tag of your favorite pair of shoes.

The number 3.14, for example, is a decimal because we see our decimal point, the dot between the 3 and the 1. Other examples of decimals include 0.99, 4.321 and 123.1. These are all decimals. Do you see all the decimal points?

Percents

Our roller coaster line is moving along now, and we stop in front of our second sign that talks about percents. '**Percent**' means 'per 100.' You write it as a number with either the word 'percent' after it or with the percent symbol (%) after it. And yes, percents can also be decimals if they have the percent symbol or the word percent after it. 50% is a percent, as is 50.5%.

We're almost ready to board! Let's get going on our roller coaster ride now. This particular roller coaster has two big valleys with one big hill in the middle, and our roller coaster goes back and forth on this track. Our starting position is high up on the left side, and we're going to be headed down to the right side going down quickly into our first valley, over the hill, down into the second valley and back up to the end of the track on the right side.

From Decimal to Percent

We have boarded our roller coaster now, and we see a number pop up overhead, a huge 4.12! What could this possibly mean? We hear the roller coaster announcer guy, and he says we are about to embark on our journey from decimals to percents. Yes, this is the first leg of our roller coaster ride as we see how to go from a decimal to a percent.

If our roller coaster is the decimal point, then our movement shows the movement of the decimal point as we make the conversion. Our starting point is 4.12. We ride down our first valley and end up high on our hill. Our decimal has moved from 4.12 to 41.2. We keep going and ride down our second valley and back up to the end of the track on the right side. Our decimal has moved again from 41.2 to 412. And look, we can now add either the percent symbol or the word to the end to get 412%.

What we have just done is we have moved the decimal point two spaces to the right. Behind the scenes, the math we have just done is multiplication by 100. So, to go from a decimal to a percent, we multiply by 100 so that our decimal point moves two spaces to the right.

From Percent to Decimal

Whoa, we're moving backwards now! The roller coaster announcer guy says we are now leaving the world of percents and going back to the land of decimals. Now, we're going to see how to go from a percent to a decimal. We see our percent, 412%, as we begin. But then as we start moving, we see the symbol disappear. We go back down the second valley and end up on the hill in the middle again.

Whoa, our number has changed from 412 to 41.2. But, we haven't finished yet. We have one more valley to go before we reach the end of our ride. After going down our first valley again and stopping at the end of the ride, we see that our number has now changed from 41.2 to 4.12. That was interesting.

If our roller coaster is our decimal point, to change from a percent to a decimal, we move the decimal point two spaces to the left. Mathematically, what we are doing is dividing by 100. So, to go from a percent to a decimal, we divide by 100 so that our decimal point moves two spaces to the left.

Lesson Summary

To recap our words, while the word '**percent**' means 'per 100,' to identify them, we look for numbers with either the word 'percent' or the percent symbol (%) after them. For **decimals**, we look for numbers with a **decimal point**.

For both conversions, you can either do the math or just remember the roller coaster as you move your decimal point two spaces to the right for changing from decimal to percent or two spaces to the left for changing from percent to decimal. And, remember that only the percent will have the symbol. Decimals won't have the percent symbol.

Learning Outcomes

Upon completing this lesson, you will be able to:

- Explain how to identify a percent and a decimal
- Describe how to convert a percent to a decimal and vice versa