

# Small and Large Percents as Decimals

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## CONCEPT

## 1

# Small and Large Percents as Decimals

Here you'll learn to rewrite percents less than one or greater than 100 as decimals.

Do you have a favorite color of jelly beans? Sasha loves red ones. Take a look.

Sasha loves jelly beans. In fact, she loves red jelly beans. When Sasha went to the candy store, she looked into a glass jar full of jelly beans and was shocked to discover that there were only a few red ones to be seen.

Because she was curious, Sasha bought a whole bag of the jelly beans.

When she got home, she counted 567 jelly beans.

There were only 2 red jelly beans in the whole bag.

Sasha wrote 2 out of 567 on a piece of paper.

Sasha wrote down .3%.

Can you write this as percent as a decimal?

**This Concept is about writing percents less than one as a decimal. You will learn how to do this in this Concept.**

## Guidance

Sometimes, we will have a percent that is part of one whole. These percents are a decimal that is a tiny percent.

Let's look at one.

.5%

**This is another way of saying  $\frac{1}{2}$  of a percent. It is smaller than one.**

We can also have a percent that is greater than one hundred. This is a very large percent-so large that it is larger than one whole.

Here is one of those percents.

300%

**This percent is 300% or three times 100 percent. Wow! That is a large percentage!**

Let's look at changing these percents to decimals.



**Think back, remember the steps?**

1. **Drop the % sign.**
2. **Move the decimal point two places to the right. Use zero placeholders as needed.**

Now let's apply the steps.

Write .5% as a decimal.

**First, drop the percent sign.**

.5

**Next, move the decimal point two places to the left.**

.005

**The answer is .005.**

Write 350% as a decimal.

**First, drop the percent sign.**

350

**Next, move the decimal point two places to the left.**

3.5

**The answer is 3.5**

Write each percent as a decimal.

**Example A**

.25%

**Solution:**.0025

**Example B**

450%

**Solution:**4.5

**Example C**

675%

**Solution:** 6.75

Here is the original problem once again.

Sasha loves jelly beans. In fact, she loves red jelly beans. When Sasha went to the candy store, she looked into a glass jar full of jelly beans and was shocked to discover that there were only a few red ones to be seen.

Because she was curious, Sasha bought a whole bag of the jelly beans.

When she got home, she counted 567 jelly beans.

There were only 2 red jelly beans in the whole bag.

Sasha wrote 2 out of 567 on a piece of paper.

Sasha wrote down  $.3\%$ .

Can you write this as percent as a decimal?

To write this as a decimal, we can drop the percent sign and move the decimal point two places to the left.

$.3\%$  becomes  $.003$

**This is the answer.**

## Vocabulary

Here are the vocabulary words in this Concept.

### Decimal

a number written according to place value. Numbers to the right of the decimal point represent parts of a whole. Numbers to the left of the decimal point represent whole numbers.

### Percent

a part of a whole out of 100. Percents can be smaller than one represented by a decimal percent. They can also be greater than one hundred by having a decimal with a whole number and a part of a whole.

## Guided Practice

Here is one for you to try on your own.

A company which produces light bulbs is very proud of the fact that only  $0.02\%$  of each shipment is defective. Write this percent as a decimal.

### Answer

To write this as a decimal we simply follow the steps. First, drop the percent sign.

$.02$

Next, move the decimal point two places to the left.

$.0002$

**The answer is  $.0002$ .**

## Practice

Directions: Rewrite each percent as a decimal.

1.  $.34\%$
2.  $.5\%$
3.  $350\%$
4.  $650\%$
5.  $.30\%$
6.  $.10\%$
7.  $.09\%$
8.  $.22\%$
9.  $230\%$

10. 500%

11. 700%

12. .012%

13. .04%

14. .6%

15. .16%