

Percents as Decimals

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CONCEPT

1

Percents as Decimals

Here you'll learn to write percents as decimals.

Have you ever purchased organic vegetables? Do you know what a CSA is?

Casey has moved from milk to organic vegetables. She has heard of a CSA - community supported agriculture and is wondering how many people actually belong to a CSA. She surveyed the 90 students in her class and found that 30% of the students belong to a CSA. That means that 70% don't belong to one.

If Casey wanted to write these percents as decimals how could she do it? Do you know?

This Concept is all about converting percents to decimals. By the end of the Concept you will know how Casey can accomplish this goal.

Guidance

Now that you understand how fractions, decimals and percents are related, we can look at the relationship between them in more detail. Let's look at the relationship between decimals and percents first.

How are decimals and percents related?

Just as *percents* are out of 100, *decimals* can also be written out of 100. When we have a decimal with two decimal places, it is also representing a quantity out of 100.

$$.34 = 34\%$$

These two quantities are equivalent. The decimal .34 means 34 hundredths or 34 out of 100. 34% means 34 out of 100. **Because decimals and percents are both parts of a whole, we can write percents as decimals.**

How do we write percents as decimals?

We write a percent as a decimal by thinking "out of 100 means two decimal places." You can drop the percent sign and move the decimal point two places to the left. Then the percent will be written as a decimal.

$$45\%$$

The % sign is just like two decimal places since both mean out of one hundred or hundredths. We drop the % sign and insert the decimal two decimal places to the left.

$$45\% = .45$$

Our answer is .45.

Write 5% as a decimal

First, we drop the % sign and move the decimal point in two places. OOPS! This one doesn't have two places. That's okay, we can add a zero in for the missing place.

$$5\% \text{ becomes } .05$$

Our answer is .05.

Practice a few of these on your own. Write each percent as a decimal.

Example A

$$17\%$$

Solution:.17

Example B

25%

Solution:.25**Example C**

75%

Solution:.75

Now back to Casey and the organic vegetables. Here is the original problem once again.

Casey has moved from milk to organic vegetables. She has heard of a CSA - community supported agriculture and is wondering how many people actually belong to a CSA. She surveyed the 90 students in her class and found that 30% of the students belong to a CSA. That means that 70% don't belong to one.

If Casey wanted to write these percents as decimals how could she do it? Do you know?

Now you should know how to write each percent as a decimal. Let's start with the 30%.

To convert 30% to a decimal we drop the % sign and move the decimal point two places to the left.

$$30\% = .30$$

Next, we can convert 70%.

We drop the % sign and move the decimal two places to the left.

$$70\% = .70$$

Vocabulary Review

Here are the vocabulary words in this Concept.

Percent

means out of 100, it is a quantity written with a % sign, and is a part of a whole (100)

Fraction

a part of a whole, related to decimals and percents.

Decimal

a part of a whole shown by a decimal point, hundredths means two decimal places.

Guided Practice

Here is one for you to try on your own.

Write 15% as a decimal.

Answer

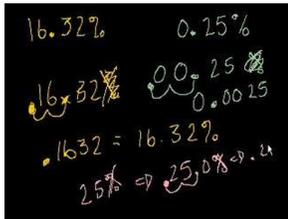
First, we drop the % sign and move the decimal point in two places to the left, to represent the hundredths place in the number.

15% becomes .15

Our answer is .15.

Video Review

Here are videos for review.



MEDIA

Click image to the left for more content.

[KhanAcademy, Percent and Decimals](#)

http://www.mathplayground.com/howto_perfracdec.html – Converting fractions and decimals to percents

Practice

Directions: Write each percent as a decimal.

1. 54%
2. 11%
3. 6%
4. 12%
5. 89%
6. 83%
7. 19%
8. 4%
9. 9%
10. 32%
11. 65%
12. 88%
13. 78%
14. 67.5%
15. 18.2%