Recognize and Write Percent

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3.1 Recognize and Write Percent

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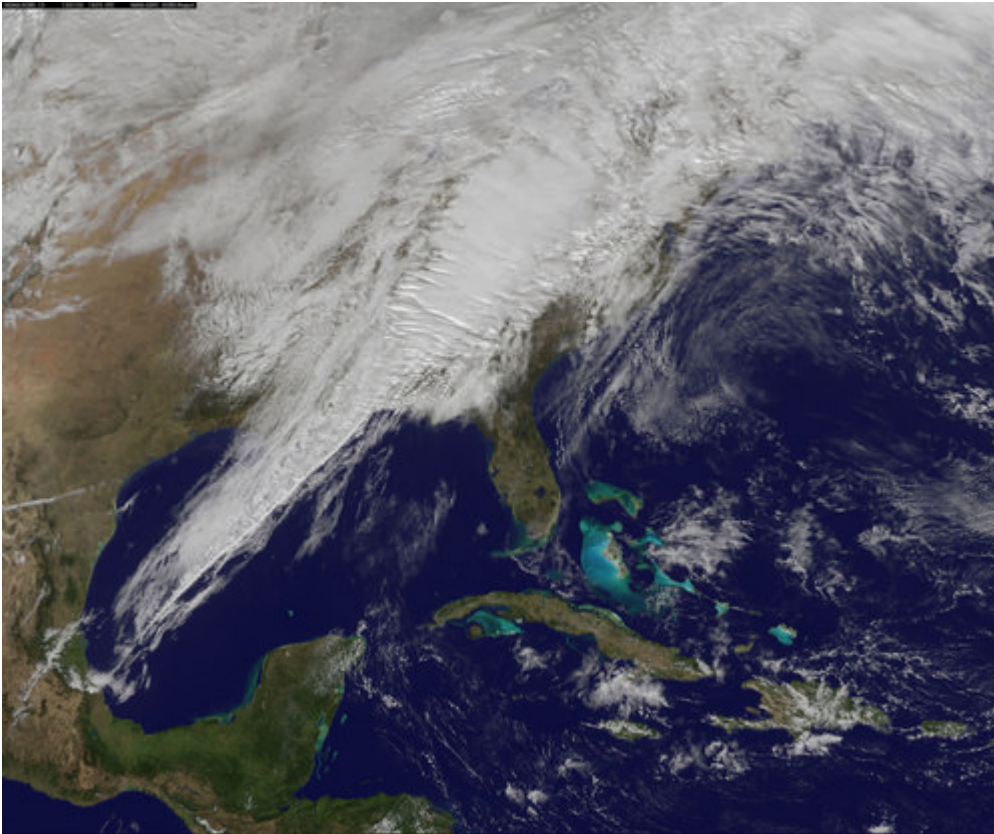
[Figure 1]

Simon is the weather forecaster for his local radio station. Based on his data, he announces that tomorrow's probability of precipitation is 70%. What does this mean?

In this concept, you will learn to recognize and write percent.

Percents

You see percentages almost every day. If you walk into a store of any kind, you will often see percent on a sign. Whether it is a sale sign for 10% off or a sign in a bank for a new mortgage rate, by looking all around you, you will see percent.

A **percent** is a part of a whole. It is a part of a whole that is being compared to 100. In this way, you can also think of a percent as a ratio. Remember that a **ratio** is a comparison between two quantities. **Fractions** and **decimals** are also parts of a whole. You can say that fractions, decimals and percent are all related.

Consider the word "percent." Its root "cent" means one hundred and "per" implies division or means "for each." If you have three candies per person, it means three candies for each person. So "percent" means one for every one hundred.

Let's look at an example.

If 25% of the people want chocolate cake, then 25 out of every 100 want chocolate cake. For this reason, percent can be written as a fraction with a denominator of 100.

$$25\% = \frac{25}{100}$$

Now, think about this again. Anytime you see a percent, you know that the amount is being compared to 100, or is "out of" 100.

Let's look at another example.

Express 18% as a fraction.

Remember that a percent is a fraction with a denominator of 100.

$$18\% = \frac{18}{100}$$

Remember that a percent is a ratio compared to 100!

Examples

Example 1

Earlier, you were given a problem about Simon and his precipitation prediction.

According to Simon, there is a 70% chance of precipitation tomorrow. How can Simon explain what this percentage means?

First, remember that a percent is a fraction with a denominator of 100. Convert the percent into a fraction.

$$70\% = \frac{70}{100}$$

Next, simplify the fraction.

$$\frac{70}{100} = \frac{7}{10}$$

The answer is you have a 7 out of 10 chance of getting wet if you go outside tomorrow.

Example 2

Write the following as a percent.

Carmen saw 100 movies in one year. She chose 60 of the movies as her favorites. The other 40 movies were not her favorites. Write her favorites as well as the other movies as a percent.

First, let's write the favorites as a percent.

Carmen chose 60 out of 100 as favorites. Therefore the percent can be written as 60%.

Next, write the movies that were not her favorites as a percent.

Carmen did not choose 40 out of the 100 movies as favorites. Therefore the percent can be written as 40%.

The answer is 60% of the movies were her favorites and 40% were not.

Example 3

Write as a percent: 23 out of 100.

First, write the fraction to represent this problem.

$$23 \text{ out to } 100 = \frac{23}{100}$$

Next, since a percent is a fraction with a denominator as 100, change the fraction into a percent.

$$\frac{23}{100} = 23\%$$

The answer is 23%.

Example 4

Write as a percent: 18.5 out of 100.

First, write the fraction to represent this problem.

$$18.5 \text{ out of } 100 = \frac{18.5}{100}$$

Next, since a percent is a fraction with a denominator as 100, change the fraction into a percent.

$$\frac{18.5}{100} = 18.5\%$$

The answer is 18.5%.

Example 5

Write as a percent: 97 out of 100.

First, write the fraction to represent this problem.

$$97 \text{ out of } 100 = \frac{97}{100}$$

Next, since a percent is a fraction with a denominator of 100, change the fraction into a percent.

$$\frac{97}{100} = 97\%$$

The answer is 97%.

Review

Write the following percent values as a ratio with a denominator of 100.

1. 64%

2. 3%

3. 119%

4. 4.7%

5. 88%

6. 99.5%

7. 12%

8. 14%

Write the following as a percent.

9. 12 out of 100

10. 13.5 out of 100

11. 87 out of 100

12. 99 out of 100

13. 5 out of 100

14. 3.5 out of 100

15. 130 out of 100

16. 175 out of 100

Review (Answers)

To see the review answers, return to the Table of Contents and select 'Other Versions' or 'Resources'.

Resources

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1.0 REFERENCES

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