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# Solving Percent Equations

 is 17.5 % of 200ml?

$$\frac{x}{200} = \frac{17.5}{100}$$
$$100 \times x = 17.5 \times 200$$
$$100x = 3500$$
$$x = 35\text{ml}$$


- 1 Explain the meaning of percent.
- 2 Describe how you can determine the percent of honey.
- 3 Calculate how much is 17.5 % of 200 ml.
- 4 Define the whole, the part, and the percentage.
- 5 Help Richard convert the percentage into ml.
- 6 Determine the percentage.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



The complete package, including all problems, hints, answers, and detailed answer explanations is available for all [sofatutor.com](https://www.sofatutor.com) subscribers.



## Explain the meaning of percent.

Choose the correct explanations.

- A  
Percent means one over ten.
- B  
Percent means one over hundred.
- C  
Percent means one over one thousand.
- D  
For example 20 % is the part divided by the whole.
- E  
For example 20 % is the whole divided by the part.



## Hints for solving these problems

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### Explain the meaning of percent.

#### Hint #1

100 cents equals one dollar.

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#### Hint #2

One cent equals one hundredth of one dollar.

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#### Hint #3

We can write percent as a decimal number:  $20\% = 0.20$ .

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#### Hint #4

We can write a decimal number as percent by multiplying by 100 and writing the % sign behind:  
 $0.175 = 17.5\%$ .

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## Answers and detailed answer explanations for these problems

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### Explain the meaning of percent.

**Answer key:** B, D

Richard the mage needs 20 % of honey and 17.5 % unicorn horn extract to make the love potion. But what does this mean?

If the love potion is divided into 100 equal parts then each part will represent one percent. Percent means one over hundred.

In this way 20 % is the same as 20 parts of the whole. So we have to divide by 100 and multiply with 20:  $\frac{20}{100} = 0.20$ . You can also write:  $100 \times 0.20 = 20$ . This is the number of parts of the potion.

In general we can use the equation  $\frac{\text{part}}{\text{whole}} = \frac{\text{percent}}{100}$ .