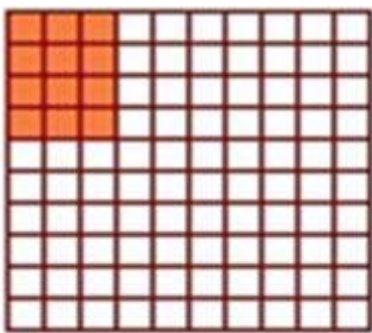


Percent and Rates per 100 Guide Notes

Percent and Rates per 100

Percent is defined in many ways, below are some of them:

- It is a number expressed as a fraction of 100
- It means parts per 100
- It is a ratio that tells us "out of 100."
- It is a ratio where the second is 100.



The figure tells us that:

- there are "12 parts per 100"
- a ratio of 12 out of 100
- a ratio expressed as 12:100

The percent symbol "**%**" is used as an easy way to write a fraction with a common denominator of 100.

So instead of writing "12 out 100", we can write it as 12%.



Percent is a Rate per 100!

Percent and Rates per 100 Guide Notes

Percent can be expressed in many ways...

As a fraction: $\frac{12}{100}$

As a ratio: 12:100

As a decimal: 0.12

Using the percent symbol: 12%

Sample Problem 1:

Express the following quantities as percent.

a. 18 out of 100

b. 35 out of 100

Solution: 18%

Solution: 35%

Writing Percent as Fractions Over 100

Expressing percent as a fraction is very easy! Remember that percent means "part of the whole".

So 30% expressed as a fraction over 100 is $\frac{30}{100}$.

Sample Problem 2:

Write the following as fractions over 100.

a. 25%

b. 67%

Solution: $\frac{25}{100}$

Solution: $\frac{67}{100}$

Percent and Rates per 100

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Writing Percent to a Decimal (to the hundredths place)

There are a number of ways to express percent to decimals.

A. Dividing by 100

Step 1: Express the given percent as a fraction of 100

Step 2: Divide the resulting fraction.

Example: Express 46% in decimal.

Step 1: $\frac{46}{100}$

Step 2: 0.46

$$46\% = 0.46$$

B. Move the Decimal

One of the easiest ways to convert a percent to a decimal is by simply moving it two places to the left!

Example: Express 35% in decimal.

$$35\% = 0.\underline{3}\underline{5}$$

C. Multiplying the Given Percent by 0.01

Example: Express 24% in decimal.

$$24\% \times 0.01 = 0.24$$

Percent and Rates per 100 Guide Notes

Sample Problem 3:

Express the given percent into decimal (to the nearest hundredths).

a. 33%

Solution: 0.33

b. 51%

Solution: 0.51

c. 75.6873%

Solution: 0.76

Finding the Percent of a Given Number

To find the percent of a given number follow the steps below:

Step 1: Change the given percent to decimal.

Step 2: Multiply the quantities.

Example: What is 20% of 70?

Step 1: $20\% = 0.20$

Step 2: $(0.20)(70) = 14$

20% of 70 is 14

Sample Problem 4:

What is 15% of 20

Solution: $(0.15)(20) = 3$