**DID YOU KNOW THAT “X% of Y = Y% of X”?**

 What is percentage?

A percentage (from Latin *per centum* "by a hundred") is a number or [ratio](https://en.wikipedia.org/wiki/Ratio) expressed as a [fraction](https://en.wikipedia.org/wiki/Fraction_%28mathematics%29) of 100. It is often [denoted](https://en.wikipedia.org/wiki/Denotation) using the [percent sign](https://en.wikipedia.org/wiki/Percent_sign)(%). A percentage is a [dimensionless number](https://en.wikipedia.org/wiki/Dimensionless_quantity) (pure number). it has no [unit of measurement](https://en.wikipedia.org/wiki/Unit_of_measurement).

For example:

1. 95% (read as "Ninety-five percent") is equal to the fraction 95/100, the [ratio](https://en.wikipedia.org/wiki/Ratio) 95:55 (or 95:100 when comparing to the total rather than the other portion) or 0.95. Percentages are often used to express a proportionate part of a total.
2. If 50% of the total number of students in the class are male, that means that 50 out of every 100 students are male. If there are 500 students, then 250 of them are male.

This can make working out percentages a much easier task. For example: try to calculate 8% of 50 in your head. Not so easy right. Now flip it and instead work out 50% of 8, I think it’s clear which is easier. Similarly, 32% of 75 may seem difficult to calculate, but 75% of 32 seems a much easier challenge.

AS LIKE:

20% of 10 is equal to 10% 0f 20

mathematically,

for 20% Of 10:

$\left(20/100\right)\*10=2$

for 10% of 20:

(10/100) \* 20 =2

Here,The value of 20% of 10 is 2 & also the value of 10% of 20 is 2.

Under what conditions is **x% of y** ***equal to* y% of x**?

Suppose both **x% of y** *and***y% of x***are equal to***A**. Then, there are two equations for the percentages.

$x=\left(A÷100\right)\*Y$ is x% of y

$Y=\left(A÷100\right)\*x$ is y% of x

Solve both equations for **A**. Set the equations equal to each other.

 $100x÷y=A=100y÷x$

Multiply both sides by xy and divide by 100.

100X2=100Y2⟺X2=Y2

In conclusion, we see that the x and y ***values*must be the *same***.

X2=Y2⟺x=y