

## Percent Notation

The notation  $n\%$  means “ $n$  per one hundred.”

### Notation for $n\%$

$n\%$ , can be expressed using:

- ratio:  $n\%$  = the ratio of  $n$  to 100 =  $\frac{n}{100}$ .
- fraction notation:  $n \times \frac{1}{100}$ .
- decimal notation:  $n \times 0.01$ .

Example: Write three kinds of notation for 23%.

**Solution:**

Using ratio:  $\frac{23}{100}$

Using fraction notation:  $23 \times \frac{1}{100}$

Using decimal notation:  $23 \times 0.01$

### **Converting from percent to decimal notation:**

To convert from percent notation to decimal notation,

1. Locate the decimal point on the number. If the number is a whole number, then the decimal point is located to the right of the ones digit.
2. Move the decimal point two places to the left.
3. Remove the % symbol.

Examples: Convert to decimal notation.

1. 9%

**Solution:** Notice that there is no decimal point in the number. It is implied that the decimal point is located to the right of the number 9. That is, 9% is the same as 9.0%. Next, we will move the decimal point two places to the left and remove the % symbol as follows:

0.09.0

(Move 2 places to the left)

Therefore, we have  $9\% = 0.09$

2. 7.13%

**Solution:** First, locate the decimal point. Next, we will move the decimal point two places to the left and remove the % symbol as follows:

.07.13

(Move 2 places to the left)

Therefore, we have  $7.13\% = 0.0713$

## Converting from decimal to percent notation:

1. Move the decimal point two places to the right.
2. Write a % symbol.

Examples: Convert to percent notation.

1. 0.3

### Solution:

Move the decimal point two places to the right.

0.30. This zero serves as a place holder.

Next, write a % symbol.

30%

Thus,  $0.3 = 30\%$

2. 1.24%

### Solution:

Move the decimal point two places to the right.

1.24.

Next, write a % symbol.

124%

Thus,  $1.24 = 124\%$