Scale reading uncertainty

1

Random uncertainty

2

Systematic uncertainty

3

Absolute uncertainty

4

Percentage Uncertainty

5

Uncertainty in a final answer.

6

Prefixes

pico (p)

7

Prefixes

nano (n)

8

Prefixes

micro (μ)

9

Prefixes

milli (m)

10

The uncertainty that occurs due to variations in repeated measurements.

$$\text{random uncertainty} = \frac{\text{max. value - min. value}}{\text{number of values}}$$

Uncertainty in a measurement due to the scale used.
= ± 1 of smallest division for digital scales.
= ± 1/2 of smallest division for analogue scales.

An uncertainty given with the appropriate unit.

E.g. 6.5 V ± 0.1 V

(6.5 ± 0.1) V

When readings taken are all too large or too small. This can be caused by measurement techniques or experiment design

The largest percentage uncertainty of all the individual uncertainties.

An uncertainty given as a percentage.

E,g. 6.5 V ± 1.5 %

1×10^{-9}

1×10^{-12}

1×10^{-3}

1×10^{-6}

Prefixes

kilo (k)

11

Prefixes

mega (M)

12

Prefixes

giga (G)

13

Prefixes

tera (T)

14

15

16

17

18

19

20

1×10^{6}

1×10^{3}

1×10^{12}

1×10^{9}