

Precision Measure of Analog Scales

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For an analog (i.e. non-digital) measuring instrument, the **precision measure** is $1/2$ of the space between divisions on the scale.

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Here are some examples.

10 divisions in 10 mm

10 divisions in 10 mm



10 divisions in 10 mm



- 1 mm/division

10 divisions in 10 mm



- 1 mm/division
- precision measure = 0.5 mm

10 divisions in 10 ml

10 divisions in 10 ml



10 divisions in 10 ml



- 1 ml/division

10 divisions in 10 ml



- 1 ml/division
- precision measure = 0.5 ml

10 divisions in 10 degrees

10 divisions in 10 degrees



10 divisions in 10 degrees



precision measure = 0.5 degree

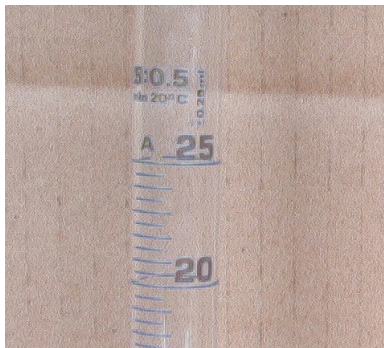
Not 10 divisions in 10 ml

Not 10 divisions in 10 ml

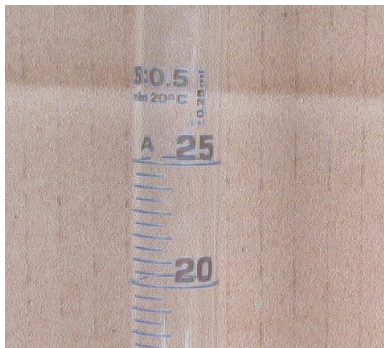


A closer look...

A closer look...

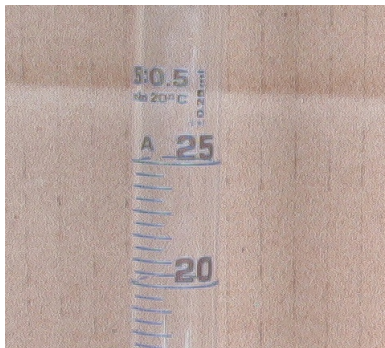


A closer look...



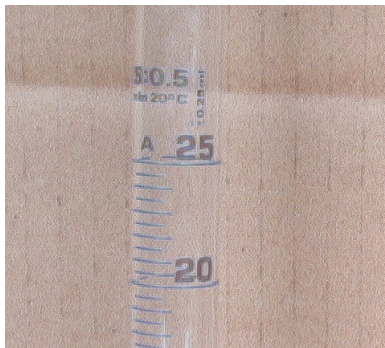
- 10 divisions in 5 ml

A closer look...



- 10 divisions in 5 ml
- 0.5 ml/division

A closer look...



- 10 divisions in 5 ml
- 0.5 ml/division
- precision measure = 0.25 ml

Three scales, all different

Three scales, all different



10 divisions in 100 g

10 divisions in 100 g



10 divisions in 100 g



- 10 g/division

10 divisions in 100 g



- 10 g/division
- precision measure = 5g

10 divisions in 50 g

10 divisions in 50 g



10 divisions in 50 g



- 5 g/division

10 divisions in 50 g



- 5 g/division
- precision measure = 2.5g

25 divisions in 50 g

25 divisions in 50 g



25 divisions in 50 g



- 2 g/division

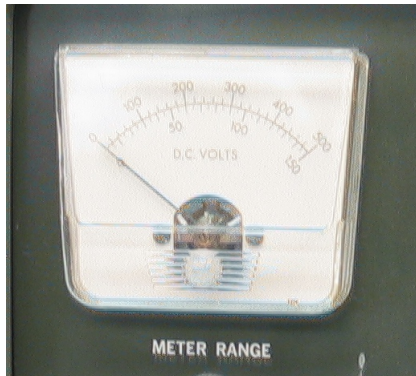
25 divisions in 50 g



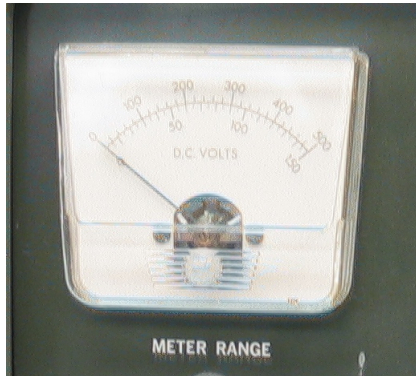
- 2 g/division
- precision measure = 1g

Some devices have multiple ranges

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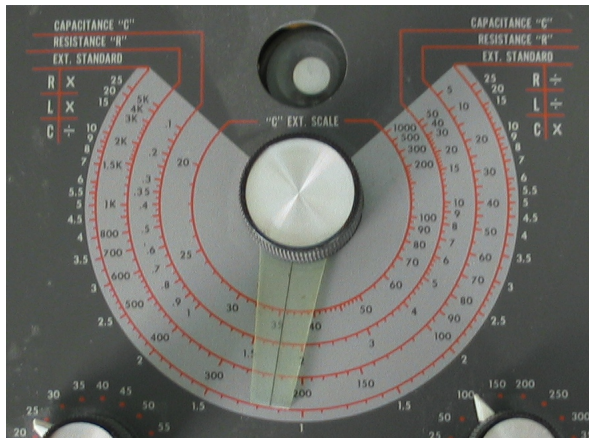
Some devices have multiple ranges



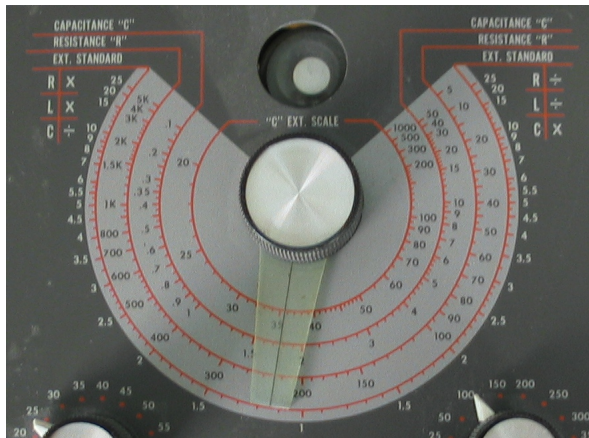
The precision measure depends on the scale being used.

Some devices have *varying* divisions.

Some devices have *varying* divisions.



Some devices have *varying* divisions.



The precision measure depends on where the reading is on the scale!