https://t.me/+yI_iw77XeiFlZTg0



A Physics Toolkit

7. Measurement: Uncertainty in Measurements

Lesson | Optional

Review

View hints View feedback Play All

QUESTION 1

Fill in the blank(s) by typing the correct number(s).

Fill in the blanks with the correct number to show to what precision these measurements are given.

Mass Measurement	Precise to the near
2.23 g	0.01 g
3.1 kg	0.1 kg
10.9 g	0.1 g
0.50 kg	0.01 kg

QUESTION 2

Select the correct answer.

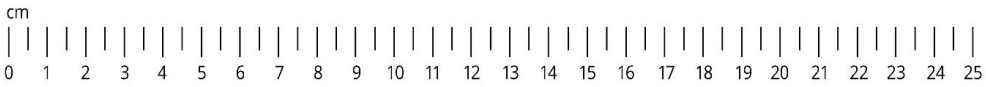
Your uncle says he is the tallest member of the family and that his height is 194 cm. What can you say about the range of your uncle's height in this statement if the meter he used to measure his height reads to the closest 1 cm?

- 194 cm exactly - no uncertainty

- between 193.0 cm and 195.0 cm
- between 193.5 cm and 194.5 cm ✓
- between 193 cm and 195 cm

QUESTION 3

Select the correct answer.



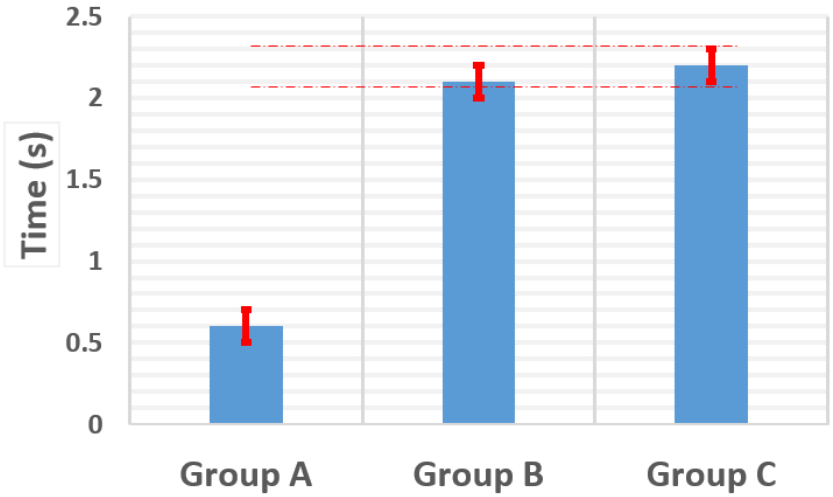
How precise is this ruler?

- to the nearest 0.5 cm ✓
- to the nearest 1 cm
- to the nearest 0.05 cm
- ± 0.25 cm

QUESTION 4

Drag and drop the correct option(s) to complete the sentence(s).

Group A's ✓ reading falls outside the error bars of the other readings.



Group C's

Group B's

All groups

QUESTION 5

Drag and drop the options to correctly label the images.

Drag the uncertainty value to the corresponding temperature reading.



± 1 °C | ± 0.01 °C | ± 0.1 °C

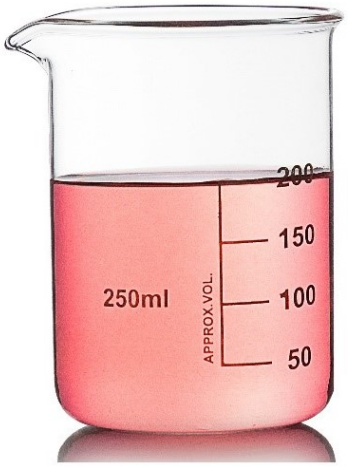
± 0.005 °C ✓

QUESTION 6

Select the correct answer.

This beaker is precise to the nearest _____.

± 0.05 °C ✓



- ○ 200 mL
- ○ 100 mL
- ○ 150 mL
- ✓ 50 mL

QUESTION 7

Select the best choice from the drop-down menu(s).

You weigh yourself on the scales that reads to the nearest one kilogram. The reading is 61 kg. The possible range of values for this reading is between [60.5 kg and 61.5 kg ✓] .

QUESTION 8

Drag and drop the correct option(s) to complete the sentence(s).

This thermometer reading is precise to the nearest

0.01°C. ✓

0.005°C. 0.1°C. 0.05°C.

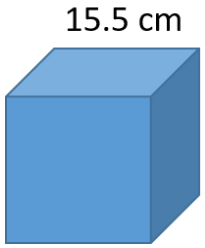


QUESTION 9

Select the best choice from the drop-down menu(s).

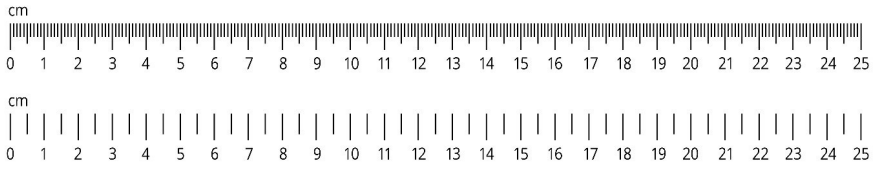
If a cubic box has a length of 15.5 cm when measured by a ruler whose smallest division is 1 mm. The length of the box's side is reported within the range of

(15.45 cm to 15.55 cm) ✓ .



QUESTION 10

Select the best choice from the drop-down menu(s).



The bottom ruler is less precise ✓ .

QUESTION 11

Select the correct answers.



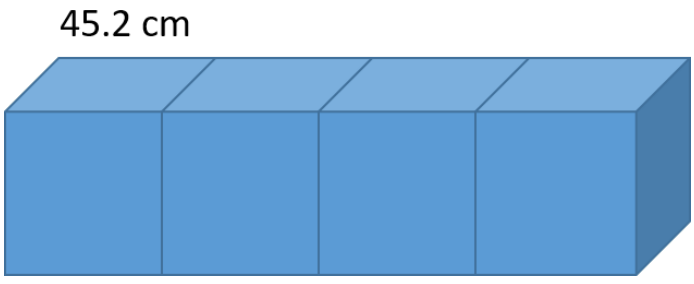
Which sentences describe this ruler correctly?

- [ ] A measurement with this ruler has an uncertainty of ± 0.05 mm, assuming no zero error.
- [x] This ruler is precise to the nearest 1 mm.
- [x] A measurement with this ruler has an uncertainty of ± 0.05 cm, assuming no zero error.
- [ ] This ruler measures in inches.
- [ ] This ruler is precise to the nearest 25 cm.
- [ ] This ruler is precise to the nearest 1 cm.

QUESTION 12

Select the correct answer.

A cubic box has a length of 45.2 cm and you place 4 boxes side by side. Select the correct statement.



The total length of the boxes is 1.81 x 10^2 cm, precise to the nearest 0.2 cm.

The total length of the boxes is 180.8 cm, precise to the nearest 0.1 cm. ✓

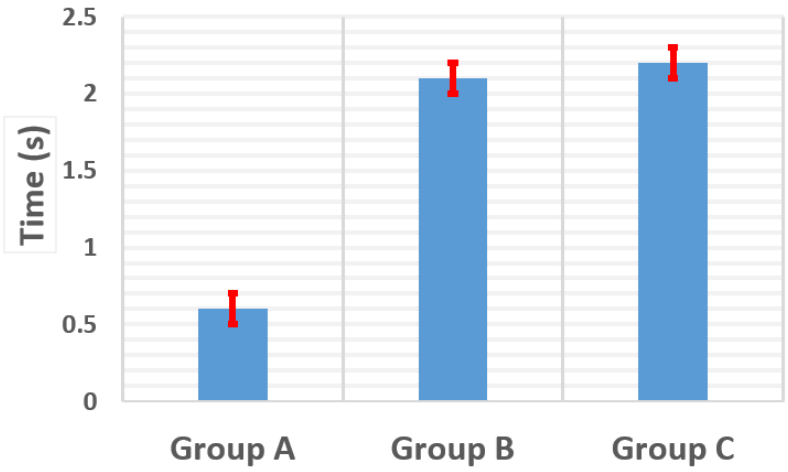
The total length of the boxes is 181 cm, precise to the nearest 0.1 cm.

The total length of the boxes is 200 cm, precise to the nearest 0.1 cm.

QUESTION 13

Select the correct answer.

Select the group that has a range of readings of 2.10 s ± 0.05 s.



Group A

Group B ✓

None of the groups

Group C

QUESTION 14

Select the correct answer.

Select the measurement with uncertainty of the liquid's volume as measured by this graduated cylinder in mL.



- 50 mL ± 1 mL
- 50.0 mL ± 0.5 mL ✓
- 52 mL ± 2 mL
- 50.0 mL ± 0.1 mL

QUESTION 15

Select the correct answer.

Which of the following is a measurement?

- This runner has a mass of 65 kg. ✓
- This book is heavy.

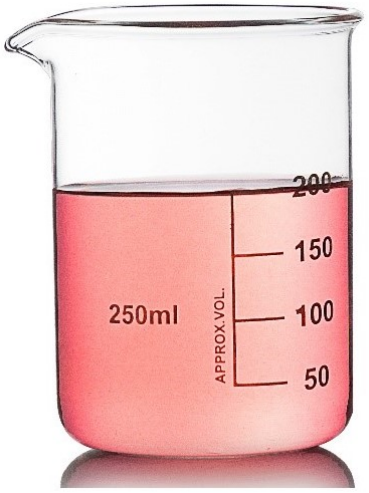
This paper is thin.

This beaker contains the most water.

QUESTION 16

Select the correct answer.

Select the measurement with uncertainty of volume of liquid in this beaker.



200 mL ± 50 mL

200 L ± 25 mL

200 mL ± 25 L

200 mL ± 25 mL