

Honest Numbers

More practice with averages, percent error, conversions, and the precision that measurements actually support.

[statistics] [percent error] [conversions] [QUESTIONS ONLY] [PRINT-FRIENDLY]

NAME	PERIOD	DATE
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QUESTIONS ONLY - Practice independently or with a group. Use the class sheet as a model, but solve these numbers yourself.

PART A

The repeat-measurement test

A beetle dash takes 12.4 s, 12.1 s, 12.7 s, and 12.2 s.

- 1 Find the mean time and the range. Round the mean to the nearest tenth.

- 2 Which single result is farthest from the mean? How far away is it?

PART B

Percent error again

The accepted mass of a sample is 50.0 g. A student measures 48.5 g.

- 1 Find the absolute error and percent error. Show the formula you used.

- 2 Another student measures 51.5 g. Which student is more accurate, or are they tied? Explain.

PART C

Convert before you compare

A leaf is 2.35 m from the ground. A water sample is 4,500 mg.

- 1** Convert 2.35 m to centimeters and 4,500 mg to grams.

- 2** A second leaf is 180 cm high. Which leaf is higher, and by how many centimeters?

PART D

The last digit matters

A ruler has marks every 1 mm. A beetle leg appears to end halfway between 6.2 cm and 6.3 cm.

- 1** What measurement would you record, including one estimated digit?

- 2** Why would 6 cm be too little information and 6.250 cm be too much?
