

Measurement and Energy

Measurement errors

A dishwasher has a mass of exactly 49.6 kg. Abbey measured the mass of the dishwasher as 50 kg to the nearest kilogram.

- a Find the absolute error.
- b Find the relative error. Answer correct to three decimal places.
- c Find the percentage error. Answer correct to two decimal places

An iPhone has a mass of exactly 251 g. Vivaan measured the mass of the iPhone as 235 g to the nearest gram.

- a Find the absolute error.
- b Find the relative error. Answer correct to three decimal places.
- c Find the percentage error correct to two decimal places.

An LCD screen has a mass of exactly 2.71 kg. Saliha measured the mass of the screen as 3 kg to the nearest kilogram.

- a Find the absolute error.
- b Find the relative error. Answer correct to three decimal places.
- c Find the percentage error correct to three decimal places.

A measurement was taken of a skid mark at the scene of a car accident. The actual length of the skid mark was 25.15 metres; however, it was measured as 25 metres.

- a What is the absolute error?
- **b** Find the relative error. Answer correct to three decimal places.