

## Exercise 56

Classify the following sets of measurements as accurate, precise, both, or neither.

- (a) Checking for consistency in the weight of chocolate chip cookies: 17.27 g, 13.05 g, 19.46 g, 16.92 g
- (b) Testing the volume of a batch of 25-mL pipettes: 27.02 mL, 26.99 mL, 26.97 mL, 27.01 mL
- (c) Determining the purity of gold: 99.9999%, 99.9998%, 99.9998%, 99.9999%

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### Solution

- (a) Neither accurate nor precise (the measured values are very different from each other, and there's no information about how close the measurements are to the true values)
- (b) Precise (measurements are very near each other but are not close to 25 mL)
- (c) Both accurate and precise (all measurements are close to 100% and close to each other)