# Checking a Meter Between Two Reference Points

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### Checking a Meter Between Two Reference Points

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### Question 1

Choice (2)

The middle reading differs by 1 mg/L, more than the allowed 0.25 mg/L. The two endpoints agree.

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### Question 2

Both endpoint readings agree with the known concentrations. The independent middle result has an error of 1 mg/L, so the endpoint agreement does not establish that the meter meets the tolerance throughout the range.

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### Question 3

Equal volumes of 4 mg/L and 12 mg/L give (4 + 12)/2 = 8 mg/L. The 9 mg/L reading is 1 mg/L high, outside the 0.25 mg/L tolerance.

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### Question 4

The low and high standards give the expected endpoint readings and the measured amounts used to make the mixture give a true 8 mg/L. The meter also reads 9 mg/L for this separately prepared sample, so a preparation error confined to the first middle standard cannot explain both results.