Separating Zero Error From Scale Error

Scoring guide · one credit per question · review written work against each rubric

Separating Zero Error From Scale Error

Question 1

Choice (1)

At the zero reference, A shows 2 g and B shows 0 g.

Question 2

A increases from 12 to 32 g, a change of 20 g. B increases from 11 to 33 g, a change of 22 g.

Question 3

A can be corrected by subtracting 2 g. Its difference from the reference is 2 g at every marked point. B’s difference grows from 0 to 3 g, so one subtraction cannot correct it throughout.

Question 4

B displays 33 g at a 30 g reference. Subtracting 2 g gives 31 g, still 1 g too high.

Question 5

A and B agree at 20 g, but disagree at 0 or 30 g. Testing multiple reference masses can reveal an offset or incorrect response to an increase that a single point misses.