

Competition Corner: Calibration Evidence

g11_u06_w21

Original fictional paper-model challenges; no procedure is implied. Use $S = 2.50C + 0.10$, with C in mg L^{-1} .

Challenge 21. Three fictional standards have concentrations 0.00, 1.00, 2.00 mg L^{-1} and observed signals 0.11, 2.56, 5.02. Calculate each residual from the stated model. Which residual has the largest magnitude? State one model limitation that the three residuals do not resolve.

Challenge 22. Two fictional unknown cards report signals 2.85 and 3.35. Find each model estimate and their mean. A blank is 0.60 signal units. Explain precisely why the blank requires caution but does not by itself determine either unknown concentration.