Repeat Trials and Data Reliability Worksheet

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

Repeat Trials and Data Reliability

Question 1

Choice (1)

Repeating the original conditions shows how much the readings vary from trial to trial.

Question 2

Mean = (9 + 10 + 11) s/3 = 10 s. Range = 11 s − 9 s = 2 s.

Question 3

Choice (2)

This set ranges from 10 to 11 s, a difference of 1 s. The other sets have wider ranges.

Question 4

Check the timing records, equipment, or setup for a possible error and repeat the trial under the original conditions. Keep the original reading in the record and document any reason for excluding it from a calculation.

Comparing Measurement Records

Question 5

Choice (1)

A’s range is 20 − 18 = 2 s. B’s range is 26 − 13 = 13 s.

Question 6

Investigate the 26 s reading from trial 3. The other readings are between 13 and 15 s, so 26 s is unusually far from that group.

Question 7

All four give (14 + 13 + 26 + 15) s/4 = 17 s. The shorter times give (14 + 13 + 15) s/3 = 14 s.

Question 8

Choice (1)

Repeating B unchanged lets the class check whether a similarly long time occurs again under the same conditions.