

RMS Practice Question

A teacher asked the students in his class to keep a diary of how much revision they did before a test on a recent topic. All the students then sat a test of recall and comprehension of the topic. The teacher collated data about how much time each student had spent revising and the mark they achieved in the test.

1. State a null hypothesis for this study.
2. Explain a strength and a weakness of the sampling technique used in this study.
3. Explain a weakness of using self-report measures in this study.
4. Explain one way that the design of this study could be improved.

The teacher obtained the data in Table 1.

Table 1 - Students' self-reported revision durations and test marks.

Student	Revision duration (mins)	Test score (max. 40)
1	48	25
2	23	18
3	65	28
4	120	35
5	36	20
6	52	27
7	45	25
8	64	31
9	44	12
10	37	19

5. Explain what calculating the standard deviation of revision duration would tell the teacher.
6. Explain which statistical test the teacher should use to analyse his data.
7. Calculate the appropriate statistical test for the data in Table 1.
8. Explain whether the teacher should accept or reject his null hypothesis.
9. The teacher realised that it was not possible to draw cause-effect inferences from his correlational study. Outline how he could conduct an experimental study to test the hypothesis that more time on revision causes exam marks to increase. Include reference to procedure, hypotheses, participant design, controls and data analysis.