[ownload](https://ibpublishing.ibo.org/live-exist/rest/app/flat-tsm.xql?doc=d_5_matsd_tsm_1205_3_e)

**Example 1: What is the relationship between the weight of a car, its CO2 emissions and its fuel consumption?**

**Assessment**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Criterion** | **A** | **B** | **C** | **D** | **E** | **F** | **G** | **Total** |
| Achievement level awarded | 3 | 2 | 4 | 3 | 1 | 3 | 2 | 18 |
| Maximum possible achievement level | 3 | 3 | 5 | 3 | 1 | 3 | 2 | 20 |

**Comments**

**Criterion A: Introduction**

A3—The student includes the task, plan and the mathematical processes used.

**Criterion B: Information/measurement**

B2—There are sufficient data; however, there is no evidence of the sampling process, so 3 marks cannot be awarded.

**Criterion C: Mathematical processes**

C4—The simple mathematics is mainly correct. Further mathematics was attempted, but Yates’s continuity was not applied in the \({\chi ^2}\) test (degrees of freedom = 1). Correlation coefficient and regression line are also further processes; however, no more than 4 marks can be awarded because of the error in the \({\chi ^2}\) test.

**Criterion D: Interpretation of results**

D3—There is good discussion of results throughout.

**Criterion E: Validity**

E1—The limitations and possible improvements to the project are discussed.

**Criterion F: Structure and communication**

F3—The project was well structured and clearly communicated throughout.

**Criterion G: Notation and terminology**

G2—No errors are seen in notation or terminology.

**General comments**

Full marks could have been achieved if evidence of sampling had been shown and the Yates’s continuity correction had been performed on the \({\chi ^2}\) test. The less-than-perfect scaling on graphs was not felt to be sufficiently serious to penalize in criterion F, given the quality seen in the remainder of the project.