

Example 23: Transport fare charges in Madrid

Subject: Mathematics: analysis and approaches and mathematics: applications and interpretation.

Paper component: Internal assessment, standard level (SL) and higher level (HL)

Assessment

Criterion	A	B	C	D	E (SL)	E (HL)	Total (SL)	Total (HL)
Achievement level awarded	3	3	3	2	4	3	15	14
Maximum possible achievement level	4	4	3	3	6	6	20	20

Comments

Criterion	Comments
A Presentation	This exploration is not concise although it is well structured and very obviously logically developed. The context is set very thoroughly.
B Mathematical communication	There is mostly consistent use of notation but with a few typos. There are attempts to use the sigma notation.
C Personal engagement	The topic is clearly based on the student's own interest and situation and the student tries to create actual cost and revenue functions from their own real data which they have collected.
D Reflection	There is some reflection throughout which is meaningful but not critical. The limitations of estimation are included and there is a reflection on the validity of the results.
E Use of mathematics SL	The exploration contains mainly simple calculations such as a cumulative frequency curve, regression line. There is some confusion between interpolation and extrapolation. The student builds quartic regression but there is little discussion of its appropriateness.
E Use of mathematics HL	The simple level of the calculations and the understanding of regression indicate that this exploration does not go beyond the "some knowledge and understanding are demonstrated" of level 3.
General comments	This is a case of trying to do too much in an exploration; more is not necessarily better. A more limited scope could have produced higher marks.