

Example 10: Airfoil and lift force relationship

General guidance

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Assessment

Criterion	A	B	C	D	E (SL)	E (HL)	Total (SL)	Total (HL)
Achievement level awarded	3	2	4	3	6	6	18	18
Maximum possible achievement level	4	3	4	3	6	6	20	20



[Student work \(PDF\)](#)



[Annotated student work \(PDF\)](#)



[Comments](#)

Comments

Criterion A: Communication

A3—The aim is clearly described in the introduction which also contains a rationale. No proper conclusion but the aim of the task is fulfilled; the lack of a conclusion renders this exploration incomplete. The exploration is well organized and easy to follow.

Criterion B: Mathematical presentation

B2—Not all key terms are defined (eg chord). Graphs and diagrams are not always clearly linked to the mathematical working

Criterion C: Personal engagement

C4—The examples created and the development of the task show abundant evidence of personal engagement. This is a challenging topic that the student has made their own.

Criterion D: Reflection

D3—Results are extensively analysed all through the document. There is a critique of the results compared to real world information.

SL Criterion E: Use of mathematics

E6—This is clearly the work of an HL student and goes beyond the expectations of an SL level of 6 in this criterion.

HL Criterion E: Use of mathematics

E6—Mathematics is beyond the scope of the syllabus but still well handled. The development of the task shows precision and rigour. The thinking involved is sophisticated, requires logic and focus. Thorough knowledge and understanding of a challenging topic are demonstrated.



