

## Example 17: Hyperboloids

**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	4	3	3	3	6	6	19	19
Maximum possible achievement level	4	4	3	3	6	6	20	20

### Comments

Criterion	Comments
A Presentation	The exploration is coherent, well organized and meets its aim.
B Mathematical communication	There are some lapses in mathematical communication that cannot justify the top level. For example, referring to the volume of a hyperbola.
C Personal engagement	Personal engagement is outstanding. The student voice can be heard throughout the work.
D Reflection	Best fit was used to award D3. The student constantly reflects on the work being done. The reflection is critical and drives the development of the exploration. Possibly the student could have explained why the discrepancies in results obtained from the model and those through experiment are acceptable, however there is so much other evidence of reflection throughout the exploration that highest level was awarded.
E Use of mathematics SL	The mathematics used is beyond what one would expect of a standard level student. The student demonstrates thorough knowledge and understanding
E Use of mathematics HL	The mathematics is precise, and reflects sophistication and rigour expected from a higher level student.
General comments	