

Example 11: The Birthday Problem

General guidance

[How to use this teacher support material](#)
[Teacher responsibilities](#)
[Skills and strategies required by students](#)
[Developing the exploration](#)
[Use of technology](#)
[Planning](#)
[Authenticity](#)
[Assessment criteria](#)
[Record keeping](#)

Assessed student work

[Overview](#)
[Examples of explorations](#)
[Example 1](#)
[Example 2](#)
[Example 3](#)
[Example 4](#)
[Example 5](#)
[Example 6](#)
[Example 7](#)
[Example 8](#)
[Example 9](#)
[Example 10](#)
[Example 11](#)
[Example 12](#)
[Example 13](#)
[Example 14](#)
[Example 15](#)
[Example 16](#)
[Example 17](#)
[Example 18](#)
[Example 19](#)
[Example 20](#)
[Example 21](#)
[Frequently asked questions](#)

Assessment

Criterion	A	B	C	D	E (SL)	E (HL)	Total (SL)	Total (HL)
Achievement level awarded	1	1	1	1	2	1	6	5
Maximum possible achievement level	4	3	4	3	6	6	20	20



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



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



[Comments](#)

Comments

Criterion A: Communication

A1—The exploration contains an aim, introduction and rationale but it is not totally coherent or organized. It is extremely difficult to follow the mathematics without prior knowledge of the problem.

Criterion B: Mathematical presentation

B1—Whilst there are different forms of mathematical presentations in the work, these are often not used appropriately. Key terms are not defined and there are notational errors.

Criterion C: Personal engagement

C1—The work seems to be taken from one source (which is referenced as “Kolchin et al. (1978)”). The student does not make the problem his / her own or demonstrate any independent thinking or address any personal interest by presenting their own mathematical ideas. The student presented some practical applications in the conclusion which would have given an opportunity to demonstrate personal engagement had they been explored.

Criterion D: Reflection

D1—There is some superficial reflection at the end of the exploration. This seems to be more of a conclusion rather than a meaningful reflection on the work presented in the exploration.

SL Criterion E: Use of mathematics

E2—Some relevant mathematics is used but the student does not demonstrate sufficient understanding to warrant a higher achievement level.

HL Criterion E: Use of mathematics



E1—Some relevant mathematics is used but the student does not demonstrate sufficient understanding to warrant a higher achievement level.

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