

Example 7: Modelling rainfall

General guidance

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Assessed student work

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Assessment

| Criterion | A | B | C | D | E (SL) | E (HL) | Total (SL) | Total (HL) |
|------------------------------------|---|---|---|---|--------|--------|------------|------------|
| Achievement level awarded | 3 | 2 | 3 | 2 | 6 | 5 | 16 | 15 |
| 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—Although the communication is good, it is not concise enough for a level 4.

Criterion B: Mathematical presentation

B2—There are many notation errors, but not enough to award only a level 1.

Criterion C: Personal engagement

C3—The student has created some examples.

Criterion D: Reflection

D2—The reflection is meaningful, but not critical.

SL Criterion E: Use of mathematics

E6—Thorough knowledge and understanding have been demonstrated. Accuracy errors are not penalized given the level of understanding demonstrated.

HL Criterion E: Use of mathematics

E5—Thorough knowledge and understanding have been demonstrated, but it lacks the precision required for a level 6.

General comments

Background information from the teacher:

“The student was interested in the stimulus ‘weather’ and said that she wanted to look into rainfall and to see whether this could be extended to other falling objects.

Once research had started, the student developed differential equations to explain rainfall, but soon found out that she did not have enough knowledge to solve one of the



equations. She taught herself how to separate algebraic fractions into partial fractions, which helped her to find the solution she was after. Having supervised the student throughout the process, I can confirm that the student was very engaged with the task and all the work produced is her own.”

This information provided by the teacher justifies the levels awarded. Without this information, it may not be clear to others that the student was engaged and understood the work.

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