For many students, writing essays in mathematics is a new and daunting experience. For many lecturers, marking essays is a new and daunting experience. The most important aspect of this area is for lecturers to be explicit about their expectations and for students to practise writing mathematics and writing about mathematics. In this way everyone will improve their communication.

One of the best ways to be explicit about your expectations is to have well-defined marking schemes as in the previous assessment tasks. Our language colleagues have an extensive literature and well-developed ideas on marking writing tasks such as essays. Mathematicians always believe that they mark mathematics objectively (though it is less objective than we all believe) and that marking language tasks is more subjective. A good marking scheme will help you make your marking less subjective.

Separate the communication qualities from the spelling, grammar and word use. If the reader can understand the writing task, then the student should be given credit. It is a good principle to mark spelling, grammar and word use separately so that students will only lose a proportion of their marks for language use as opposed to content and communication.

Here are two marking schemes that can be used to mark extended writing tasks in mathematics. The first is simpler to use. The second gives more feedback to the students.

**Marking scheme 1**

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>I can understand what you have written</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td></td>
<td>The style is appropriate</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Your use of words, grammar and spelling is correct</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Notes**

**Communication.** If you can understand what the student has written, then they get full marks for this section. Some difficulty in understanding scores 1. If you can only understand after rereading many times, then 0. No understanding also scores 0.

**Style.** If the student has used an appropriate style, then full marks. Otherwise 0.

**Word use.** Correct use of words, grammar and spelling, with 1 mark for 5-10 errors and 0 for more than 10 errors.

**Content.** This depends on the question. One way is to rank the essays after a quick read. Decide on the lowest and highest mark. Then mark in detail.
Marking scheme 2. Markers should vary the percentages allocated to each skill area according to their assessment aims.

<table>
<thead>
<tr>
<th>Content Knowledge</th>
<th>Ability to Communicate</th>
<th>Academic Discourse Skills</th>
<th>Basic Language Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
</tr>
</tbody>
</table>

5  The writer shows outstanding understanding and content knowledge beyond the scope required by the assignment task.
   The reader understands the essay completely; if there are any mistakes they do not interfere with the meaning.
   There is a clear logical argument, with the points well ordered and fully supported. It responds appropriately to the question asked.
   Pleasingly broad range of sentence structure and vocabulary is used. Mathematical vocabulary is used correctly.

4  The writer demonstrates sound basic knowledge and understanding of the relevant area.
   The reader understands the essay, although some sections need to be read more than once.
   The answer responds more or less to the question asked. The use of supporting evidence, illustration and argument is relevant but not necessarily sufficient.
   There is a good range of sentence structure and vocabulary with a number of minor errors in word formation or spelling.

3  The writer exhibits adequate basic knowledge of the topic area.
   The reader mostly understands the essay, despite occasional difficulty.
   A point of view is presented, but it is not always clear. Attempts to include supporting evidence, illustration or argument are made.
   While there are noticeable language errors, these do not significantly interfere with the reader understanding the essay.

2  The writer’s apparent knowledge and understanding of relevant content is limited.
   The reader has difficulty understanding the essay, although there are signs of meaning breaking through.
   The argument does not progress smoothly. Main points and supporting material are not clearly distinguished from each other.
   The range of sentences expressed correctly is limited. Errors in grammar, word choice, word formation and spelling cause difficulty for the reader.

1  The writer shows little evidence of knowing the relevant content.
   The reader can hardly understand the essay at all.
   The ideas or facts presented have little apparent relation to each other or to the question asked.
   Errors in sentence structure, word choice, word forms and spelling predominate and prevent communication.

0  1. The answer is copied or substantially copied from materials or other sources.
   2. Non-attempt