

### Achievement Standard

**Subject Reference**

Mathematics 1.4

**Title**

Use geometric techniques to produce a pattern or object

**Level**

1

**Credits**

2

**Assessment**

Internal

**Subfield**

Mathematics

**Domain**

Geometry

**Registration date** 21 October 2003

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This achievement standard focuses on the production of a pattern or object using constructions, isometric drawings, nets, transformations or loci.

	Achievement Criteria	Explanatory Notes
<b>Achievement</b>	<ul style="list-style-type: none"> <li>Use geometric techniques to produce a pattern or object.</li> </ul>	<ul style="list-style-type: none"> <li>Assessment will require the use of at least two of:                             <ul style="list-style-type: none"> <li>constructions</li> <li>isometric drawings (more complex than cuboids)</li> <li>nets (more complex than cuboids)</li> <li>use of transformations</li> <li>loci (at least two constraints).</li> </ul> </li> <li>A set of instructions will be provided to students for constructions, transformations and loci.</li> </ul>
<b>Achievement with Merit</b>	<ul style="list-style-type: none"> <li>Design and produce a pattern or object using geometric techniques.</li> </ul>	<ul style="list-style-type: none"> <li>The assessment will require at least two of the techniques listed above for Achievement.</li> <li>Students are expected to describe the techniques used.</li> </ul>

	Achievement Criteria	Explanatory Notes
<b>Achievement with Excellence</b>	<ul style="list-style-type: none"> <li>Design and produce a pattern or object using geometric techniques, and develop a set of instructions.</li> </ul>	<ul style="list-style-type: none"> <li>The instructions will be for the pattern or object that the student has produced.</li> <li>The instructions will allow their pattern or object to be replicated.</li> </ul>

### General Explanatory Notes

- This achievement standard is derived from *Mathematics in the New Zealand Curriculum*, Learning Media, Ministry of Education, 1992:
  - achievement objectives, pp. 110, 116
  - suggested learning experiences, pp. 111, 117
  - sample assessment activities, pp. 112, 118
  - mathematical processes, pp. 24, 26.
- Students are expected to use appropriate equipment and technology.

### Quality Assurance

- Providers and Industry Training Organisations must be accredited by the Qualifications Authority before they can register credits from assessment against achievement standards.
- Accredited providers and Industry Training Organisations assessing against achievement standards must engage with the moderation system that applies to those achievement standards.