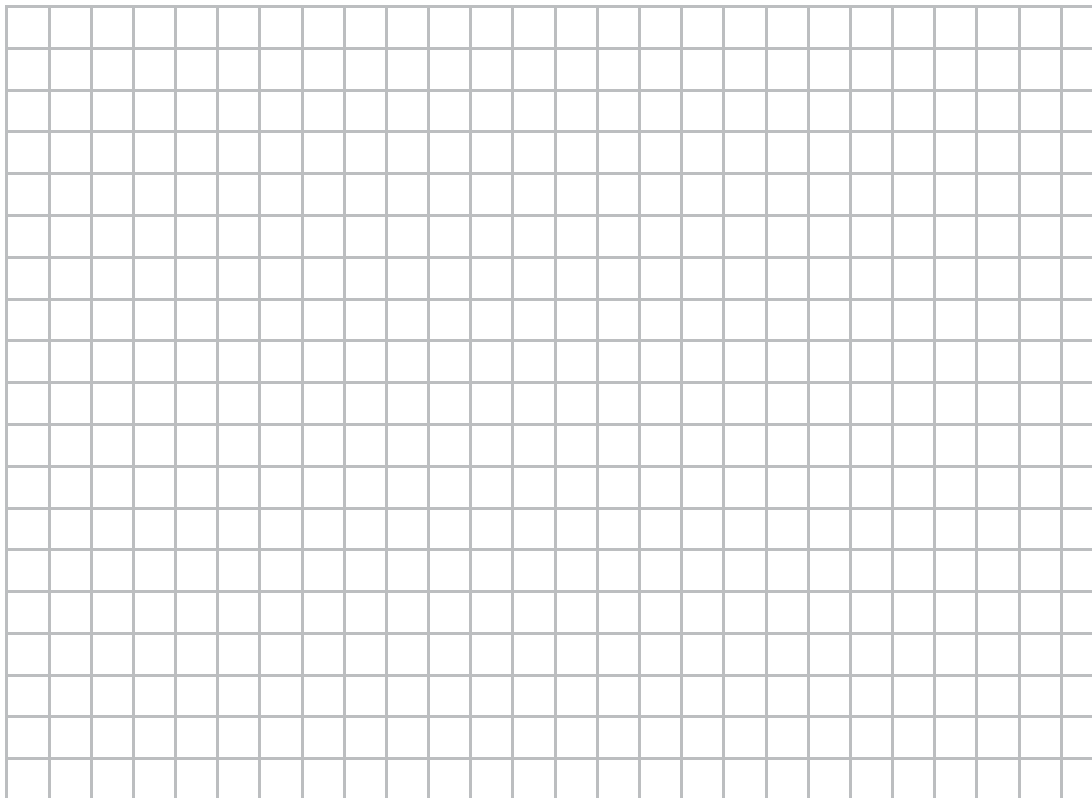


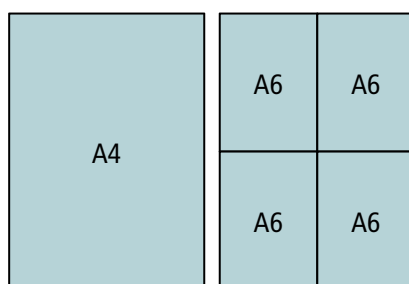
MATHEMATICS AND STATISTICS 1.9Internally assessed
2 credits**Achievement Standard 91034****Apply transformation geometry in solving problems**

Choose a motif or picture and use it to create a design for a postcard.

- a. Explain the process of creating your postcard design using written instructions and describe any symmetries and invariance in your design.
- Your design must be created using at least three geometrical transformations, such as reflection, rotation, translation and enlargement.
 - The instructions should use correct mathematical statements to fully describe the transformations you have used, so that another person would be able reproduce your design independently.
 - Any symmetries and invariant properties in your design are to be fully described.



- b. An A6 postcard design is to be enlarged to be printed on a sheet of A4 paper. The diagram below shows the relationship between the A4 page and the A6 postcard.



Using correct mathematical statements, write instructions that would make it possible to enlarge an A6 postcard design to A4 size.

Solutions

Answers will vary. Your answer will be assessed on your use of correct mathematical statements to describe and explain the geometrical transformations you have used, and how carefully and clearly you communicate your thinking.