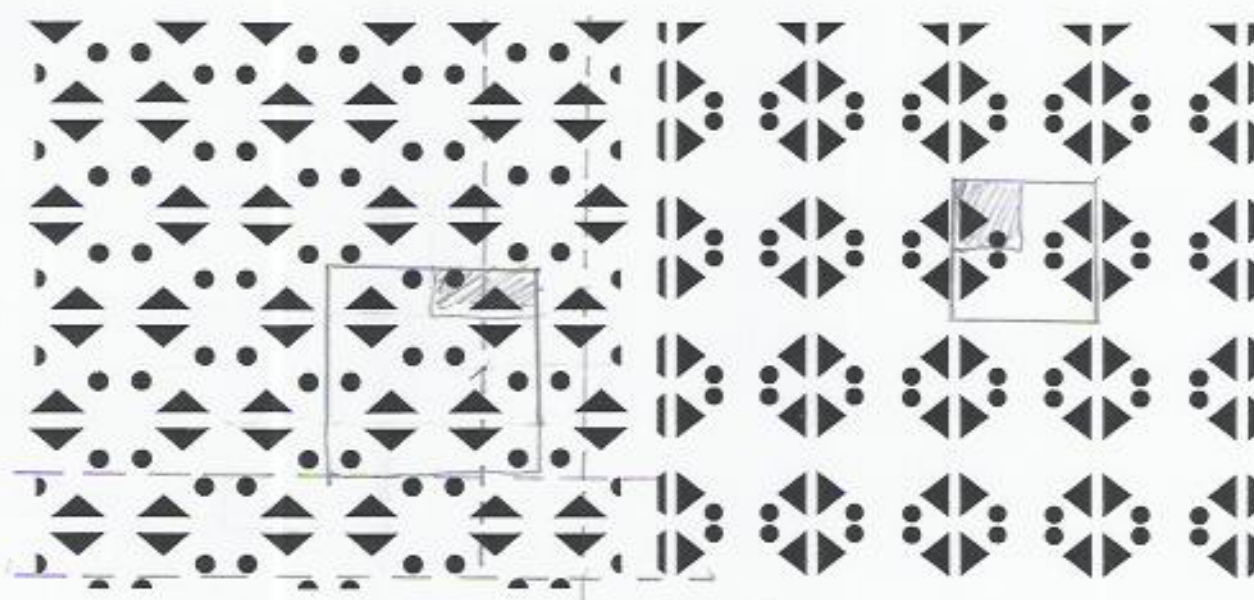


Question 4 (Unit GE4)

This question concerns the wallpaper patterns *A* and *B*, portions of which are shown below. Each pattern has an associated lattice which is a square lattice.



Pattern A

Pattern B

A further portion of each of these patterns is provided on the back cover of this booklet. Please use them to answer parts (a) and (b), using a colour other than black.

- Outline a basic square, and shade a generating region, of each pattern. [6]
- On each pattern, draw solid lines to indicate reflection axes and broken lines to indicate glide axes. (Three successive axes in each possible direction are sufficient.) [8]
- Which of the indirect symmetries corresponding to the axes that you drew in part (b) are rectangular, and which are rhombic? Give brief reasons for your answer. [5]
- For each pattern, use the algorithm described in the audio tape for *Unit GE4*, to identify the type of the pattern, clearly indicating the steps in the algorithm. [6]