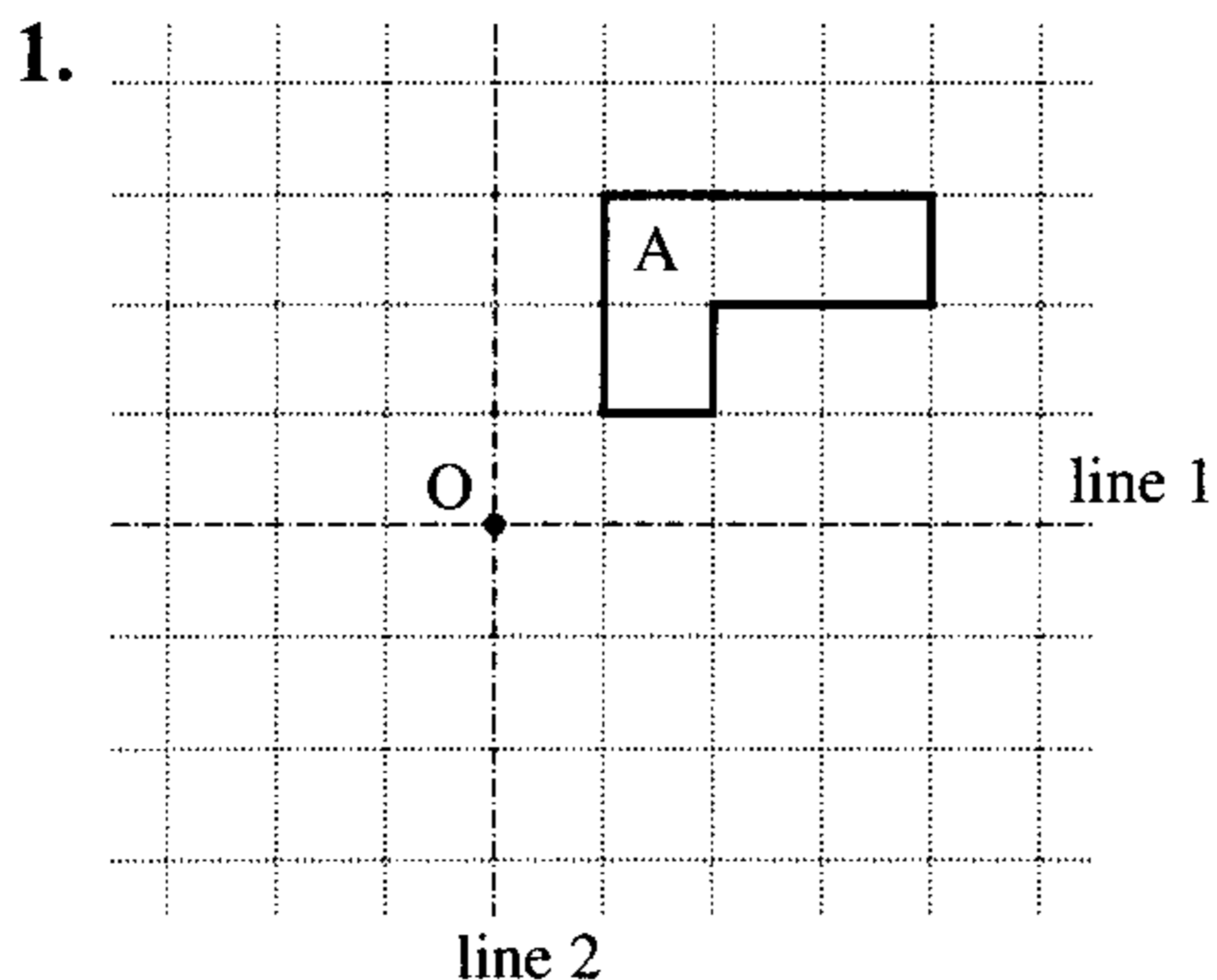


### Combinations of two transformations

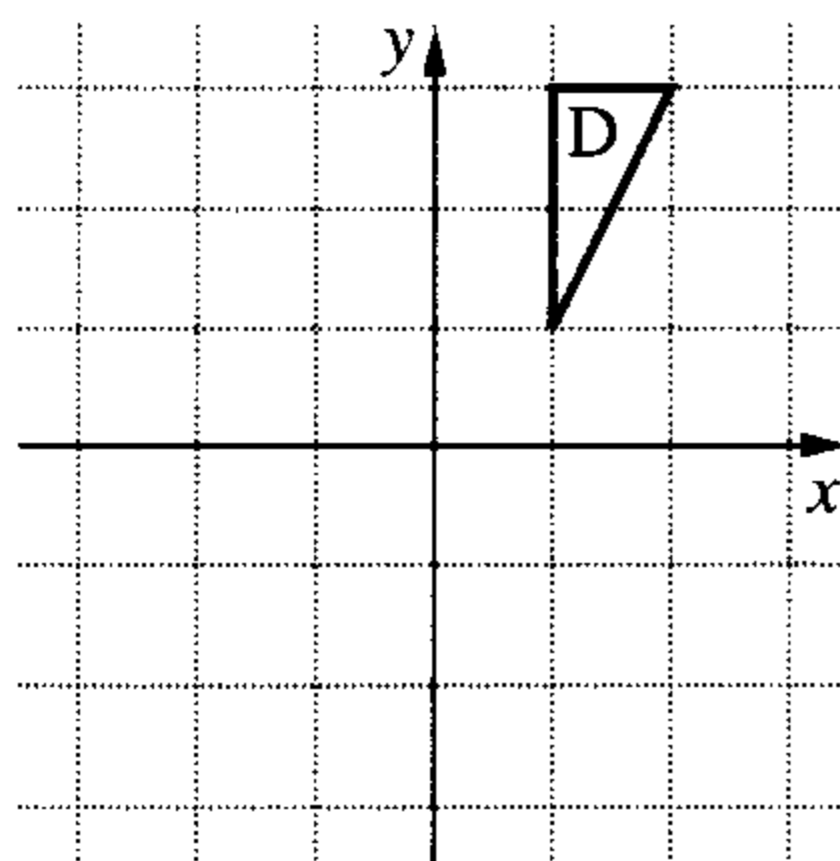
Reflection, rotation, translation and enlargement are all transformations. Sometimes we need a combination of transformations to move a shape where we want to.

#### Exercise 3

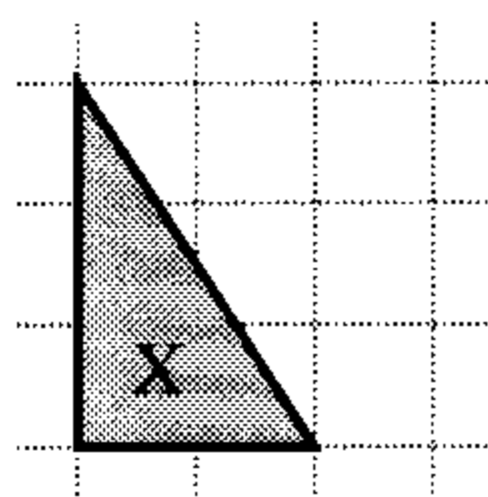


- (a) Reflect shape A in line 1 onto shape B.
- (b) Reflect shape B in line 2 onto shape C.
- (c) What single transformation will move shape A onto shape C?

2. (a) Rotate  $\triangle D$   $90^\circ$  clockwise about  $(0, 0)$ . Label the image  $\triangle E$ .
- (b) Rotate  $\triangle E$   $90^\circ$  clockwise about  $(0, 0)$ . Label the image  $\triangle F$ .
- (c) What single transformation will move  $\triangle D$  onto  $\triangle F$ ?



3. (a) Draw  $\triangle X$ .
- (b) Translate  $\triangle X$  4 units right onto  $\triangle Y$ .
- (c) Translate  $\triangle Y$  1 unit right and 2 units up onto  $\triangle Z$ .
- (d) What single translation will move  $\triangle X$  onto  $\triangle Z$ ?



4. Describe the transformations below. Mark any points and lines necessary to write the answers.
- (a)  $\triangle A \rightarrow \triangle B$  in one move.
  - (b)  $\triangle B \rightarrow \triangle C$  in one move.
  - (c)  $\triangle D \rightarrow \triangle C$  in one move.
  - (d)  $\triangle A \rightarrow \triangle C$  in two moves.

