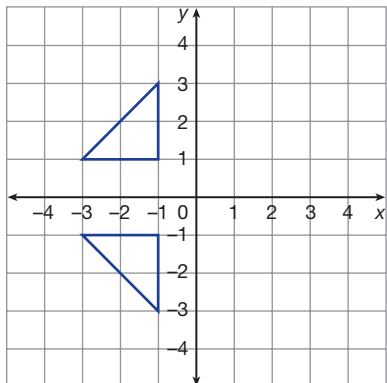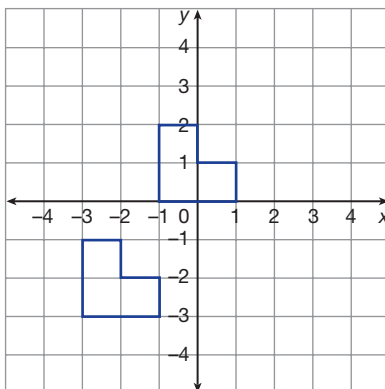# Chapter Review

1. Draw a starting shape and an image for each transformation. You can use any shape.
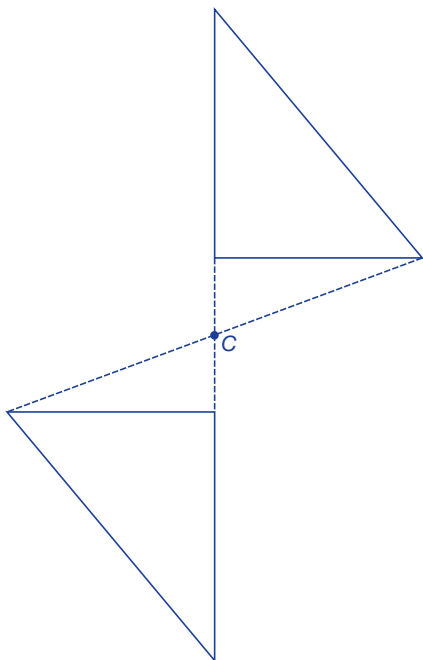
   a) a reflection across the *x*-axis

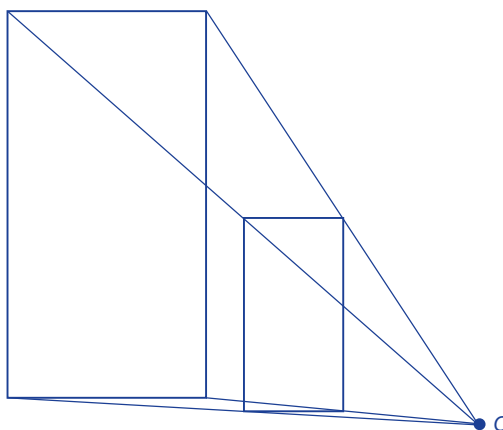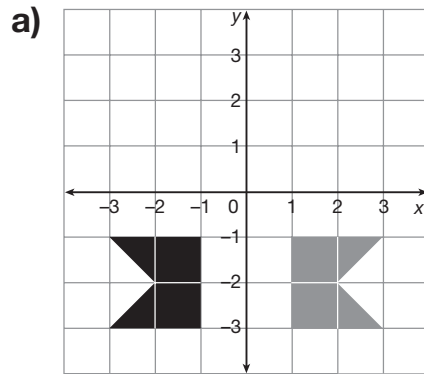   **c)** a translation (R2, U3)

   b) a rotation 180° cw around a point you drew
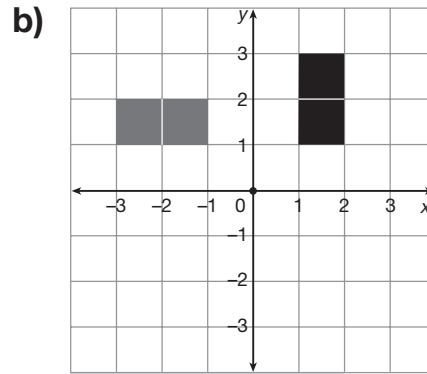
   d) a dilation of a shape you drew using the scale factor 50%

2. Describe how to transform the black shape to the grey image.
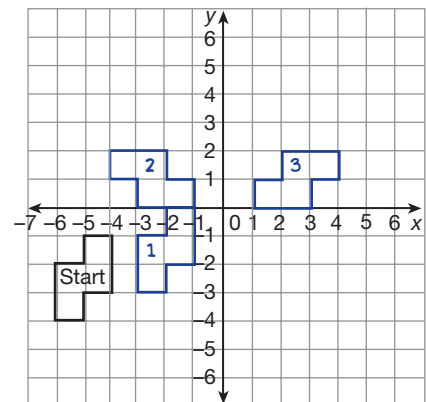
a)

e.g., Reflect it across
the y-axis.

b)

e.g., Rotate it 90° ccw
or 270° cw around the
origin.

3. Draw the Start shape in each position.

a) Position 1 is a translation (R3, U1).

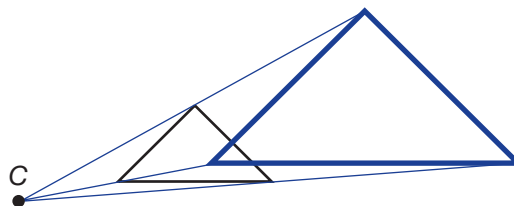**b)** Position 2 is a 90° cw rotation of Position 1 around $(-1, 0)$.

c) Position 3 is a reflection of Position 2 across the y-axis.

4. What other transformations could you use to get from Start to Position 3 in Question 3?

e.g., You could reflect the Start shape across y = x, then
translate it (R5, U6).

5. Dilate this triangle using 2 as the scale factor.

6. A rectangle 12 cm long and 8 cm wide is dilated. Write the new length and width for each scale factor.

a) scale factor = 4   length = 48 cm   width = 32 cm

b) scale factor = $\frac{3}{4}$ length = 9 cm   width = 6 cm