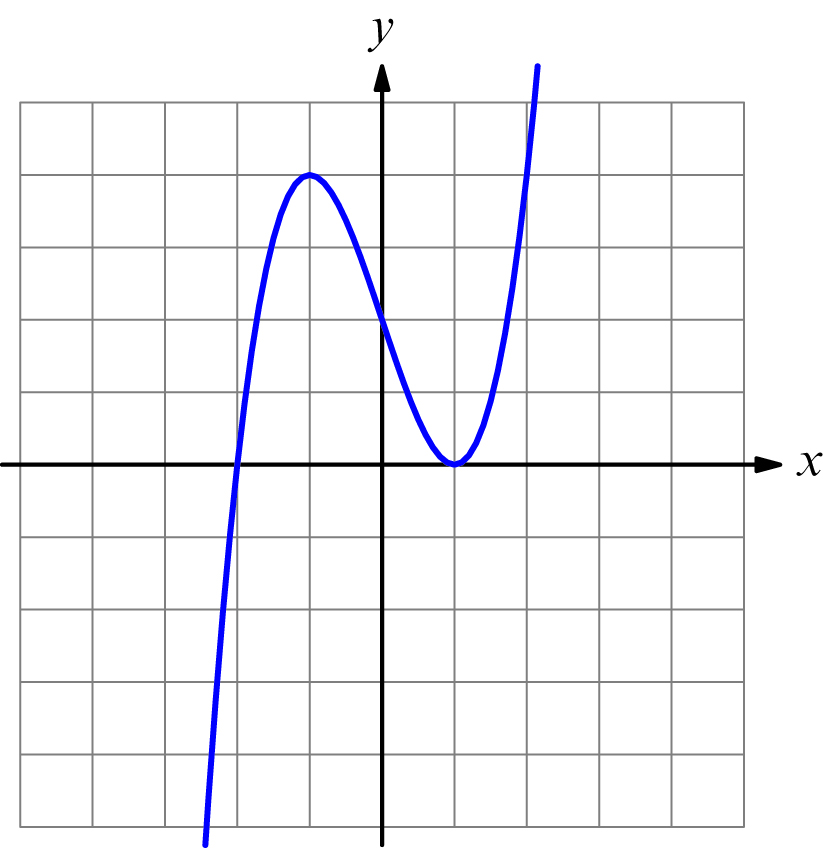
**Self-assessment: 5 Transformations of graphs**

**1.** The diagram shows the graph of *y* = *g*(*x*).



On separate diagrams, sketch the graphs of:

(a) *y* = *g*(*x*) − 2

(b) *y* = 2*g*(*x* + 1)

(c) *y* = *g*(−*x*)

*(accessible to students on the path to grade 3 or 4) [9 marks]*

**2.** **Do not use a calculator to answer this question.**

(a) (i) Write *x*2 – 6*x* + 5 in the form (*x* – *h*)2 − *k*.

(ii) Describe a single transformation that transforms the graph of *y* = *x*2 into the graph of *y* = *x*2 – 6*x* + 5.

*(accessible to students on the path to grade 3 or 4) [4 marks]*

**3.** The graph of *y* = *x*2 – 3*x* is transformed by a horizontal stretch with scale factor 2 followed by a horizontal translation with vector . Find the equation of the resulting graph in the form *y* = *ax*2 + *bx* + *c*.

*(accessible to students on the path to grade 5 or 6) [6 marks]*

**4.** **Do not use a calculator to answer this question.**

Sketch the graph of *y* = 3e*x* − 5. State the equation of the horizontal asymptote and the coordinates of the axes intercepts.

*(accessible to students on the path to grade 5 or 6) [6 marks]*

**5.** A graph with equation *y* = 3*x*2 + *bx* + 5 is reflected in the *y*-axis.

(a) Write down the equation of the resulting graph.

(b) Find the value of *b* for which the two graphs are the same.

*(accessible to students on the path to grade 7) [5 marks]*