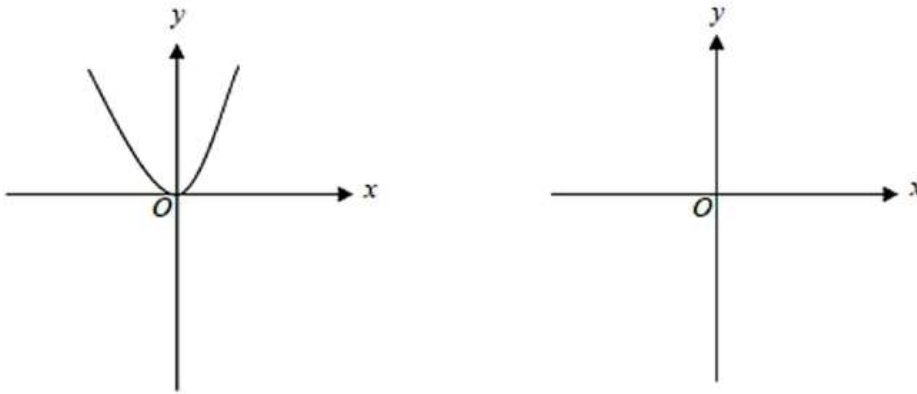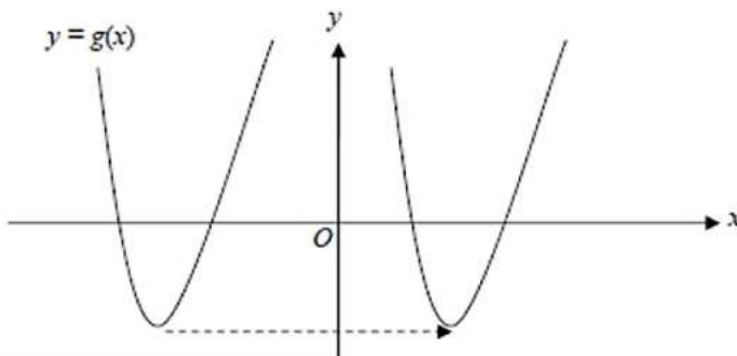Higher Maths Sample 1 P1 Q14bc

(b)   The diagram below on the left shows a sketch of the graph of $y = x^2$.

Sketch the graph of $y = -x^2 + 3$ on the axes on the right.
You must indicate the coordinates of the point where the curve crosses the
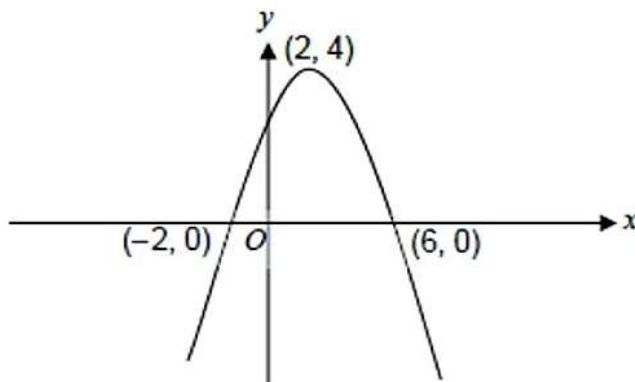y-axis.   [2]

(c)   Explain why it is not possible to determine the translation used on the function
$g(x)$ in the diagram below.   [1]
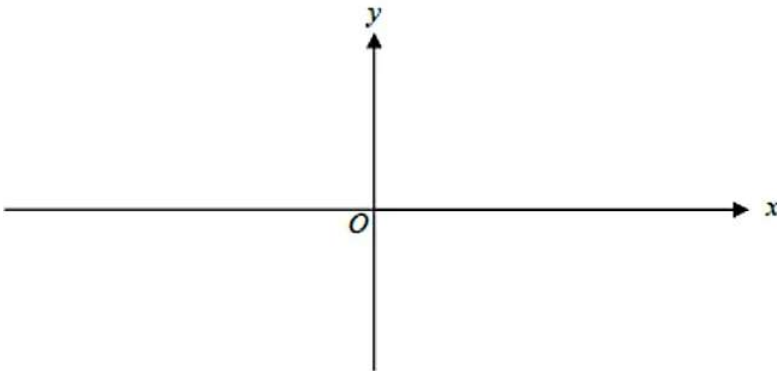

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Higher Maths Sample 1 P1 Q14a

(a)   The diagram shows a sketch of the graph $y = f(x)$.
The graph passes through the points $(-2, 0)$ and $(6, 0)$ and its highest point is
at $(2, 4)$.

Sketch the graph of $y = f(x + 5)$ on the axes below.
You must indicate the coordinates of its highest point and the coordinates of
the points of intersection of the graph with the x-axis.   [3]

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Higher Maths Nov 2016 P1 Q15a

(a)   The diagram shows a sketch of the graph $y = f(x)$.
      The graph passes through the points (–1, 0) and (5, 0) and its highest point is at (2, 7).
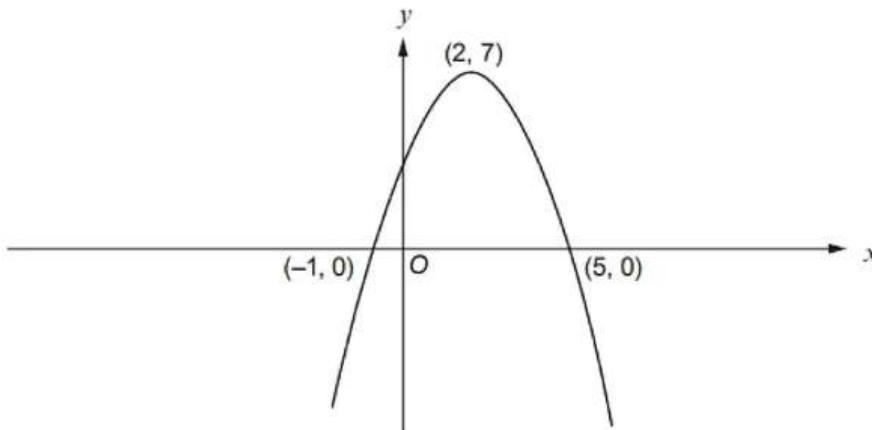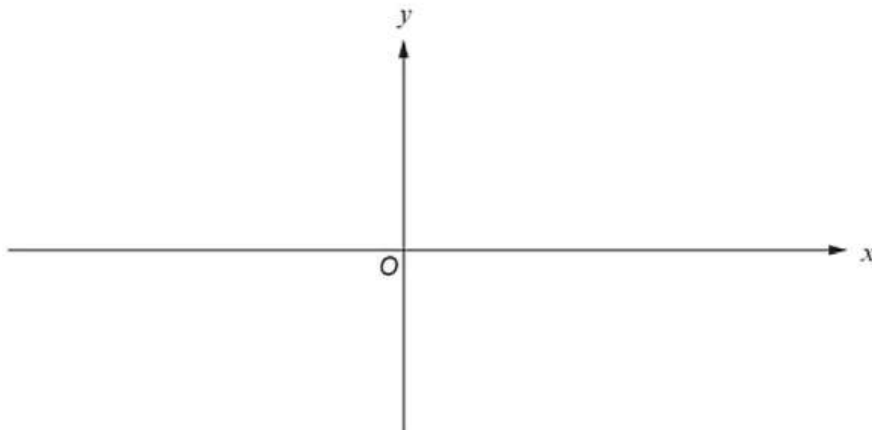

Sketch the graph of $y = f(x - 3)$ on the axes below.
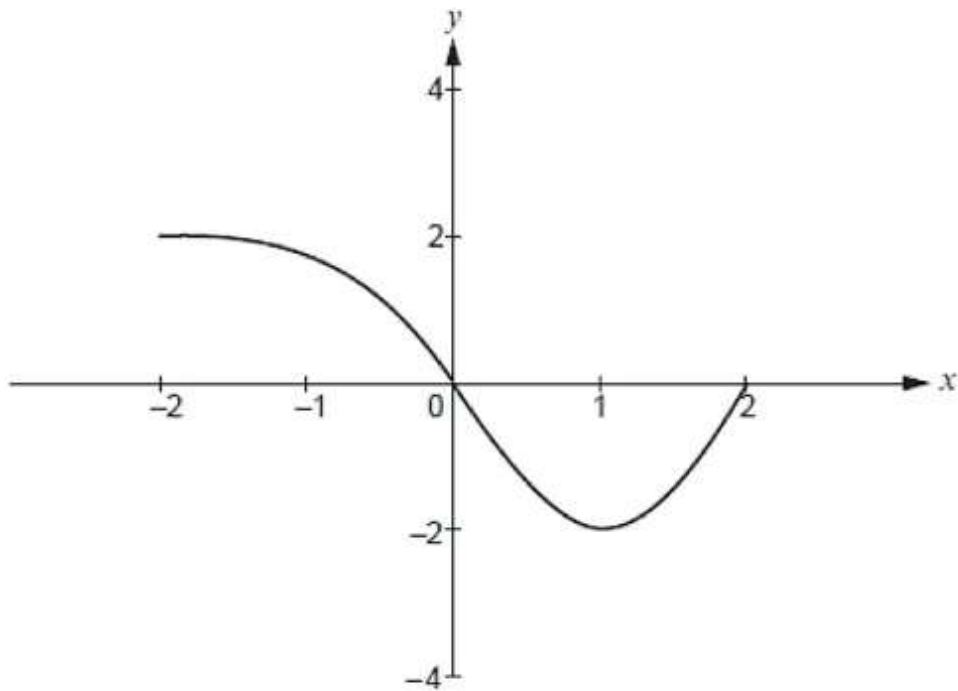You must indicate
   •   the coordinates of the points of intersection of the graph with the x-axis
   •   the coordinates of the highest or lowest point.   [3]
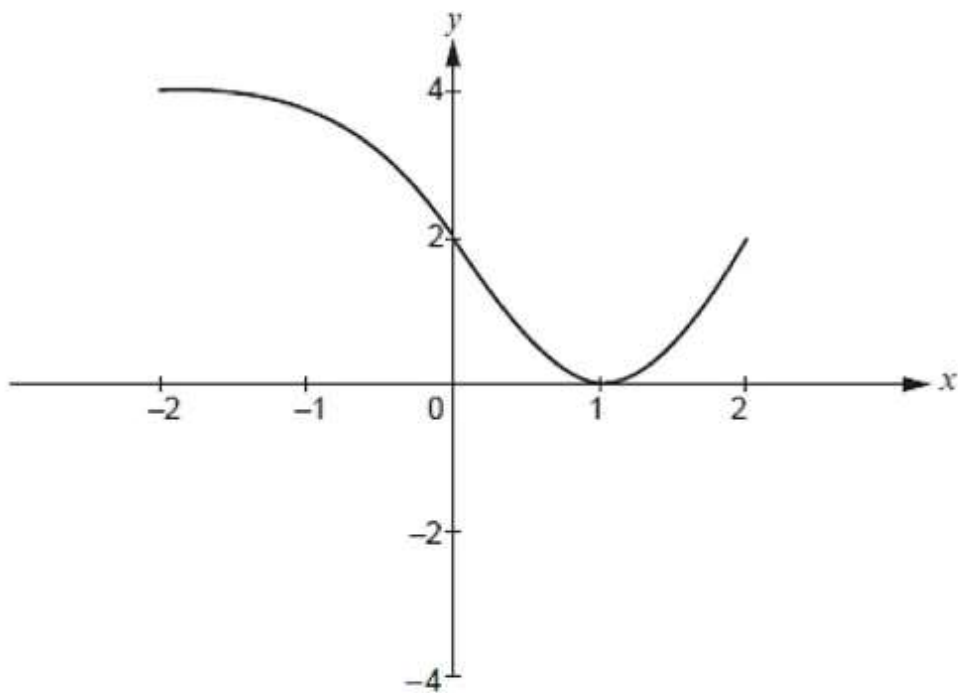
(a)   The following diagram shows a sketch of the curve $y = f(x)$.

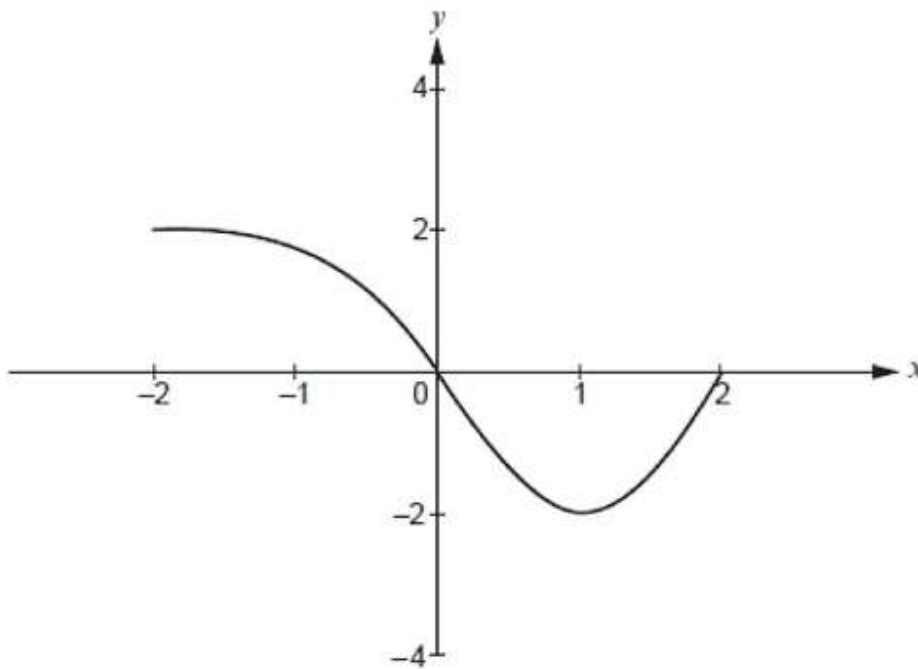The curve is transformed, as shown below.

Using function notation, complete the equation of the transformed curve.   [1]

$y =$ ....

(b)   The following diagram again shows a sketch of the curve $y = f(x)$.

The curve is transformed, as shown below.

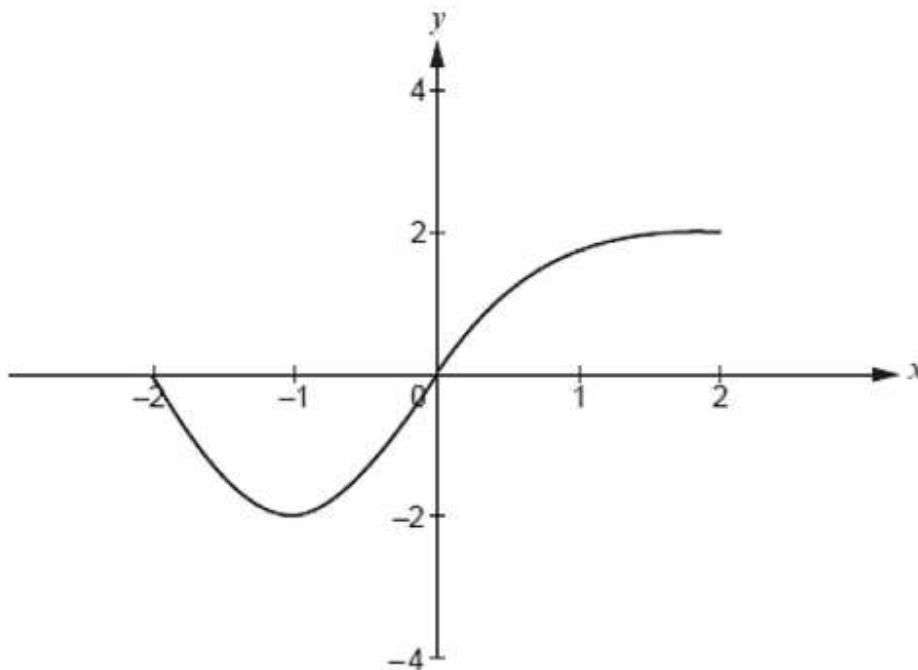Using function notation, complete the equation of the transformed curve.   [1]

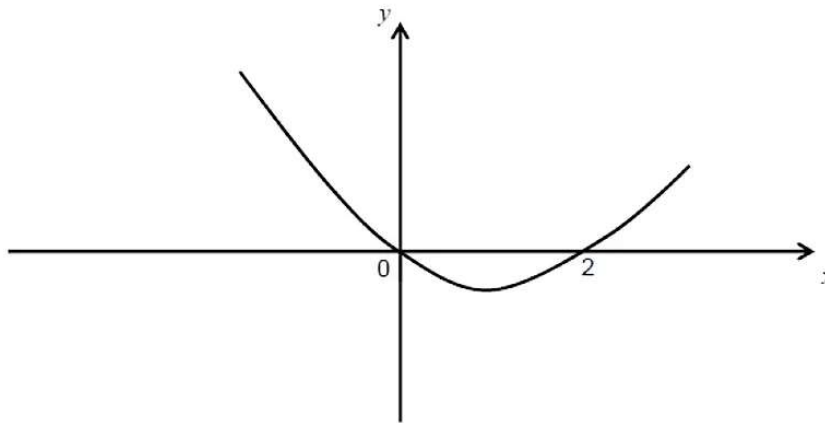$y = $ ....

Higher Maths Sample 2 P1 Q17

17. The diagram shows a sketch of $y = f(x)$.

On the same diagram, sketch the curves $y = f(x + 3)$ and $y = -f(x + 3)$.

Clearly label each curve with its function, and indicate the coordinate of any point where a curve crosses an axis.
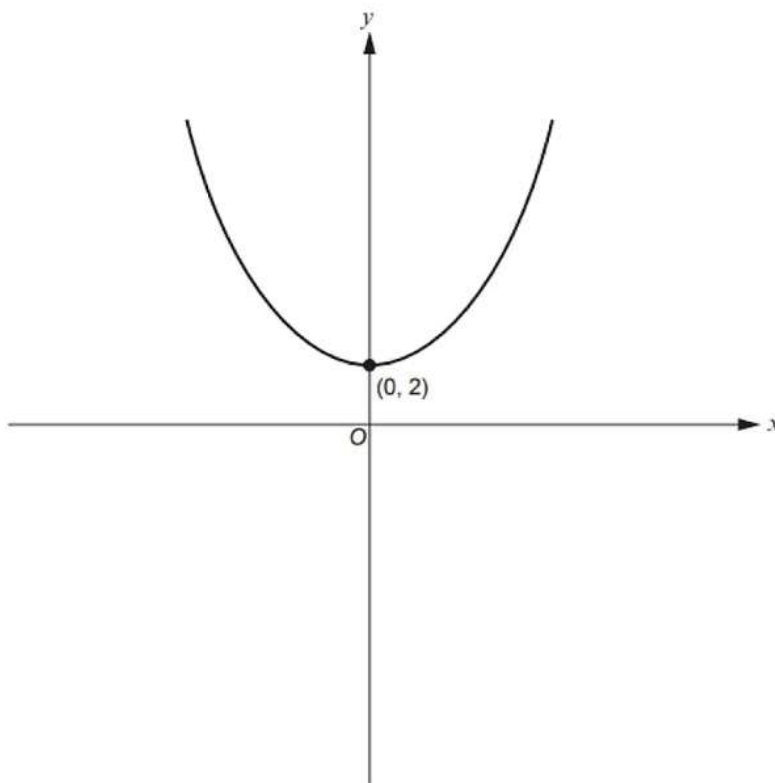
[3]

Higher Maths Nov 2018 P1 Q18

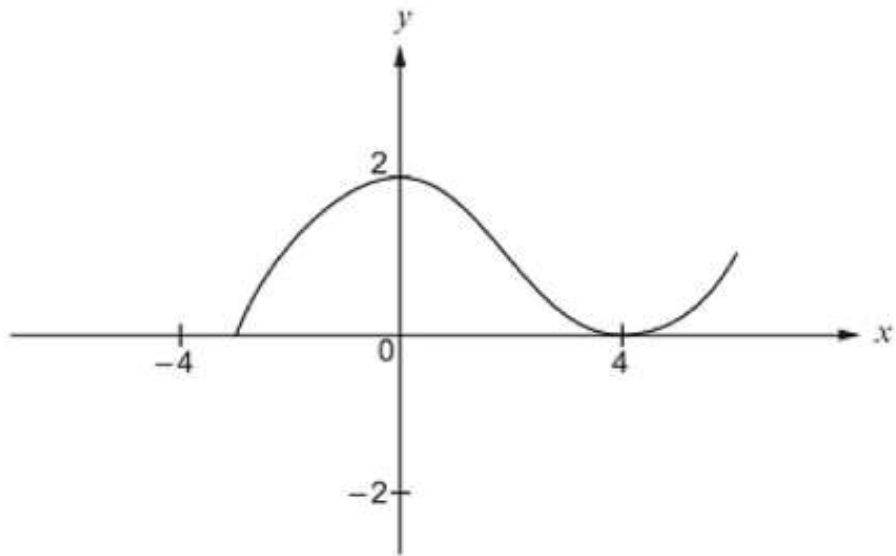The graph shows a sketch of the curve with equation $y = x^2 + 2$.

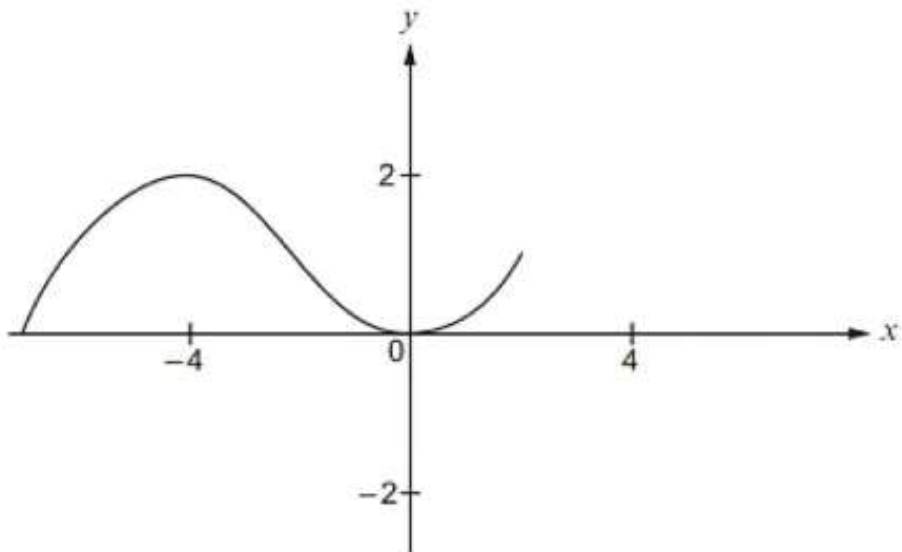The lowest point of the curve has coordinates (0, 2).

On the same axes, sketch the graph of the curve with equation $y = (x - 4)^2 + 2$.

Indicate clearly the coordinates of the lowest point on the new curve.   [2]

The following diagram shows a sketch of the curve $y = f(x)$.

The curve is transformed, as shown below.

Using function notation, complete the following to give the equation of the transformed curve.
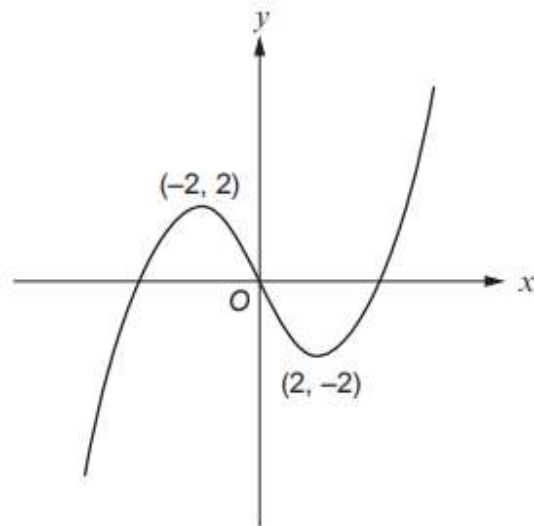
[1]

The equation of the transformed curve is

$y = $ ....

Higher Maths June 2017 P2 Q20
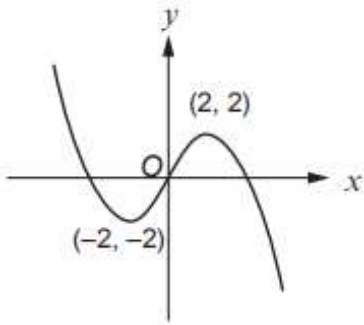
A sketch of the graph $y = f(x)$ is shown below.
Two specific points are shown on the graph. They are called a maximum point and a minimum point.
The maximum point shown is (–2, 2) and the minimum point shown is (2, –2).

The graphs on the opposite page are transformations of $y = f(x)$.
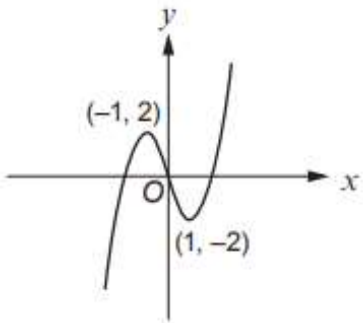Draw a line connecting each graph to the equation describing the transformation.
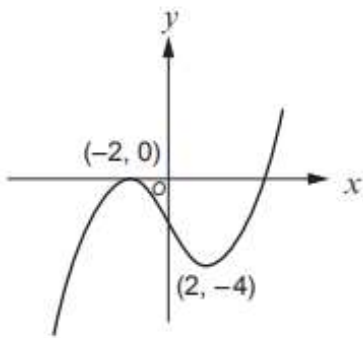One has been done for you.   [4]
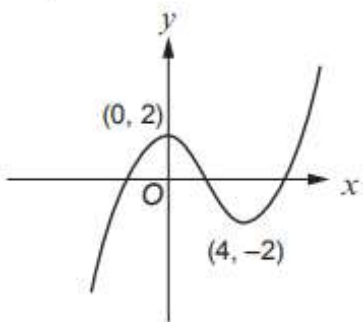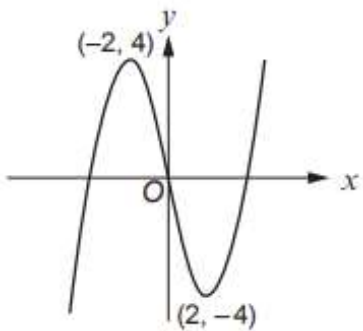
$y = f(x) - 2$

$y = f(x + 2)$

$y = -f(x)$

$y = 2f(x)$

$y = f(2x)$

$y = f(x) + 2$

$y = \frac{1}{2} f(x)$

$y = f(x - 2)$