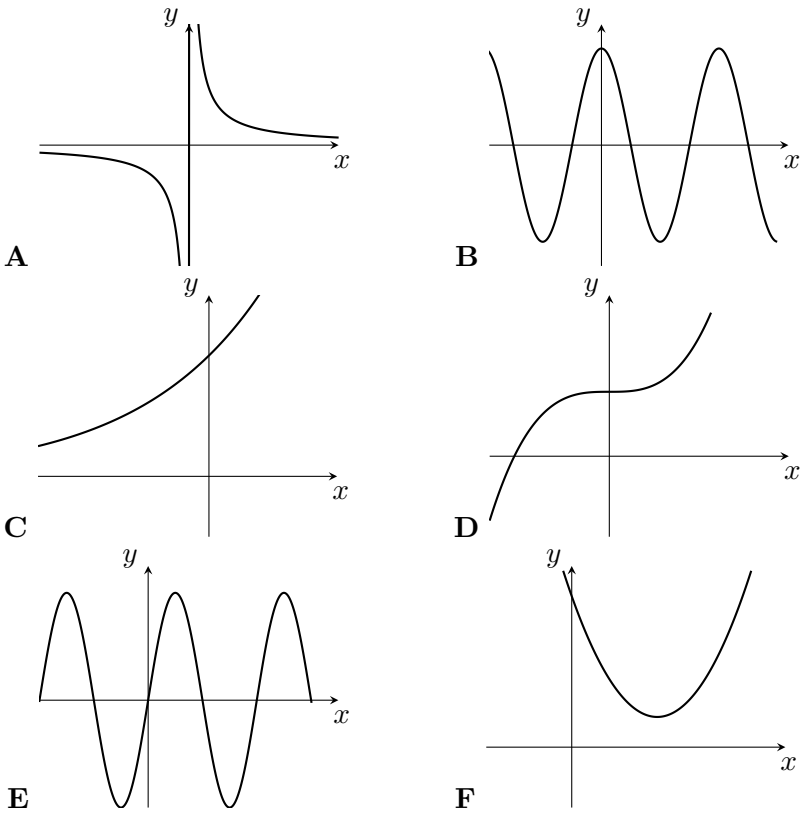
Chapter 1

GCSE Revision: Functions and Function Transformation Questions

1. **(3)**

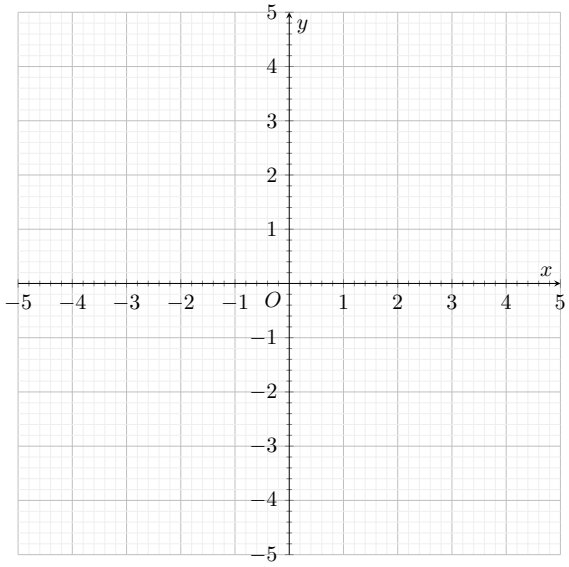


Each equation in the table represents one of the graphs **A** to **F**.

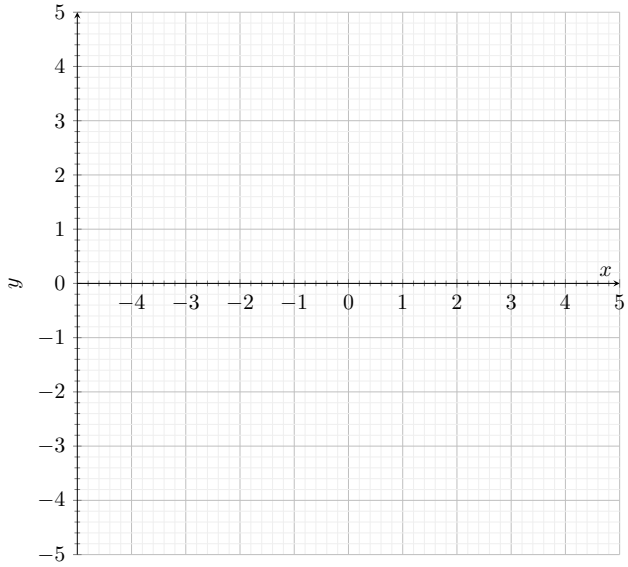
Write the letter of each graph in the correct place in the table.

Equation	Graph
$y = 4\sin x^\circ$	
$y = 4\cos x^\circ$	
$y = x^2 - 4x + 5$	
$y = 4 \times 2^x$	
$y = x^3 + 4$	

2.



(a) On the grid, draw the graph of $x^2 + y^2 = 4$. **(2)**

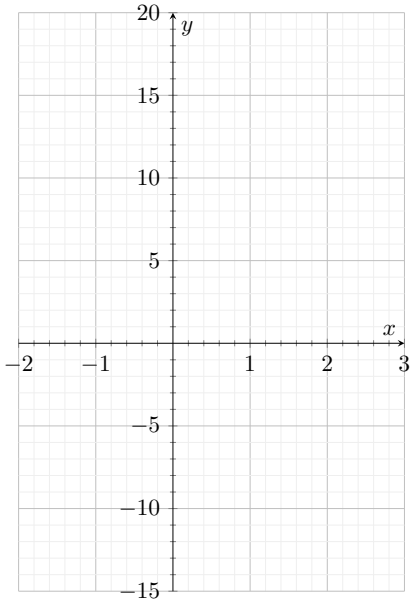


(b) On the grid, sketch the graph of $y = \cos x$ for $0^\circ \leq x \leq 360^\circ$. **(2)**

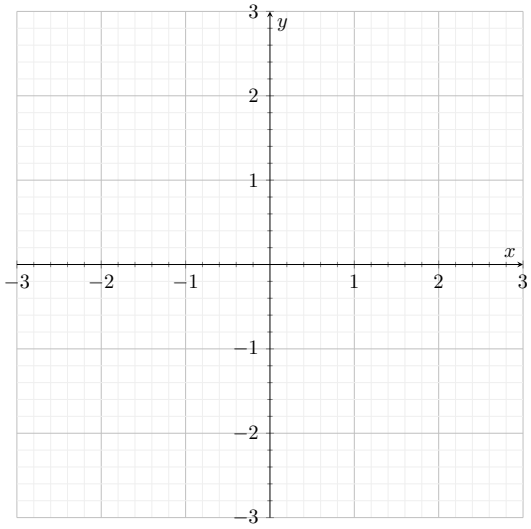
3. (a) Complete the table of values for $y = x^3 - 7$. **(2)**

x	-2	-1	0	1	2	3
y	-8					20

(b) On the grid, draw the graph of $y = x^3 - 7$ for values of x from -2 to 3. **(2)**



4. (a) Construct the graph of $x^2 + y^2 = 9$.



(b) By drawing the line $x + y = 1$ on the grid, solve the equations

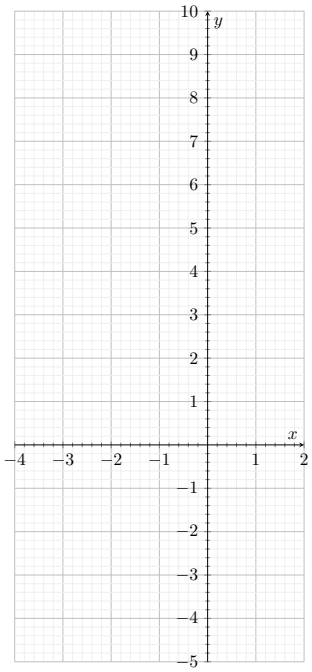
$$x^2 + y^2 = 9$$

$$x + y = 1$$

5. (a) Complete the table of values for $y = x^2 + x - 3$. **(2)**

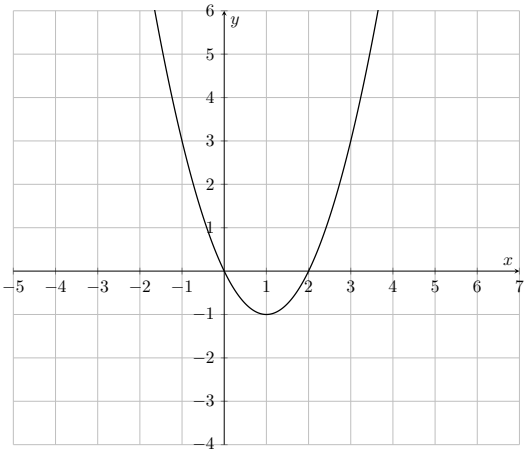
x	-4	-3	-2	-1	0	1	2
y	9		-1	-3			3

(b) On the grid below, draw the graph of $y = x^2 + x - 3$ for values of x from -4 to 2. **(2)**

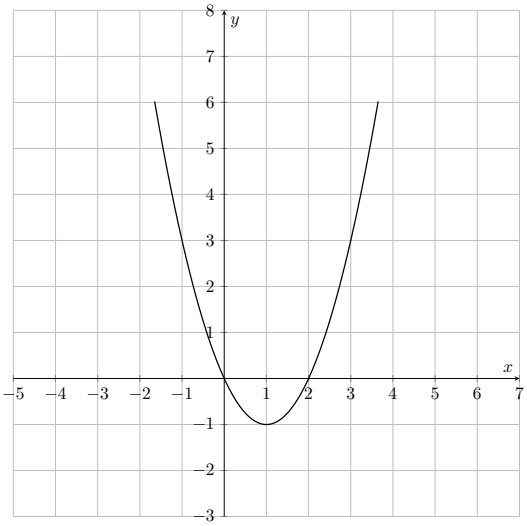


6. The graph of $y = f(x)$ is shown on each of the grids.

(a) On this grid, sketch the graph of $y = f(x - 3)$. **(2)**

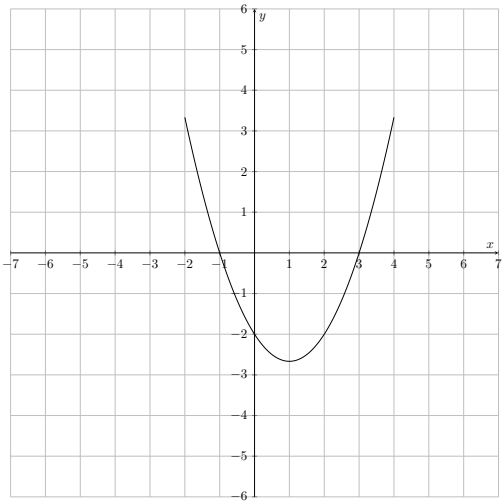


(b) On this grid, sketch the graph of $y = 2f(x)$. **(2)**

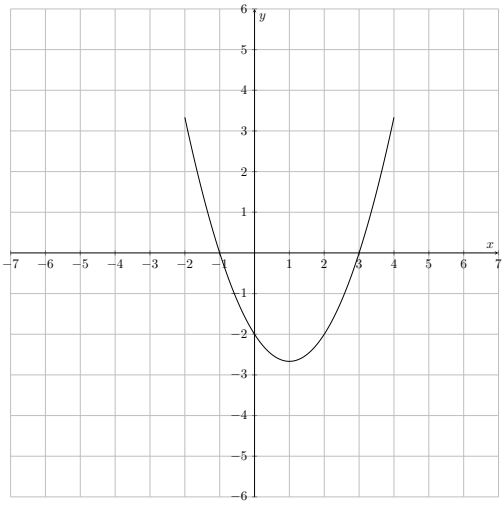


7. The graph of $y = f(x)$ is shown on the grids.

(a) On this grid, sketch the graph of $y = f(x - 3)$. **(2)**

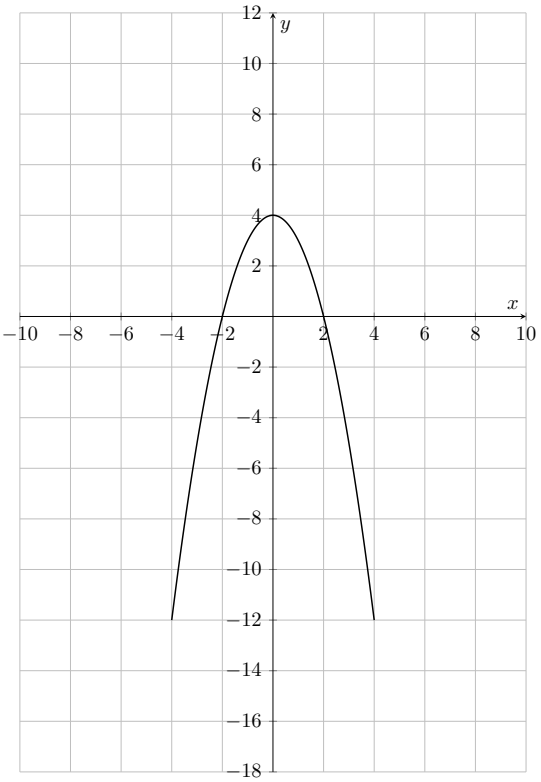


(b) On this grid, sketch the graph of $y = -f(x)$. **(2)**

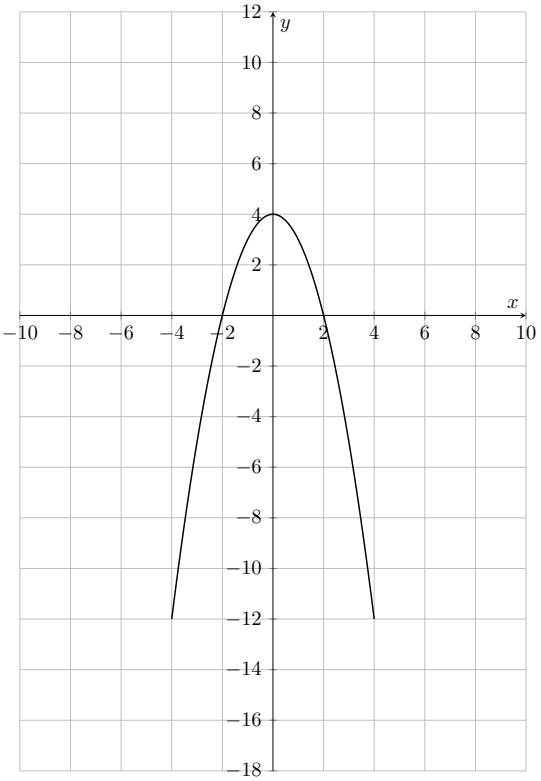


8. The graph of $y = f(x)$ is shown on the grids.

(a) On this grid, sketch the graph of $y = f(x) - 4$. **(2)**

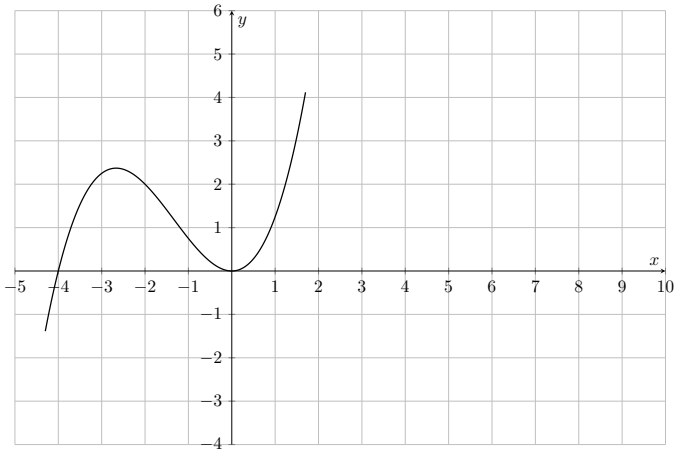


(b) On this grid, sketch the graph of $y = f(\frac{1}{2}x)$. **(2)**

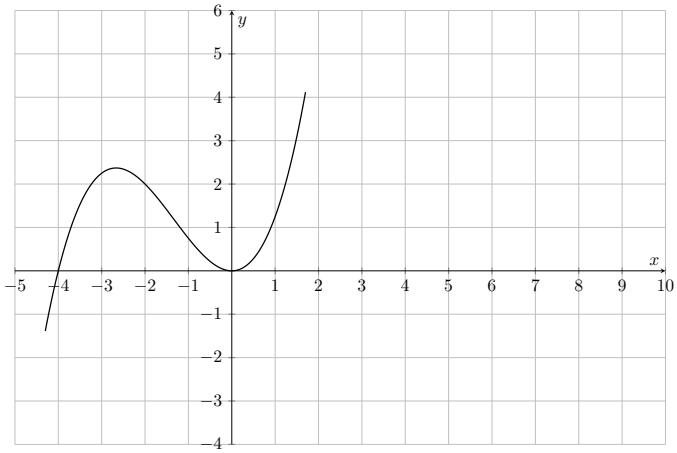


9. The graph of $y = f(x)$ is shown on the grids.

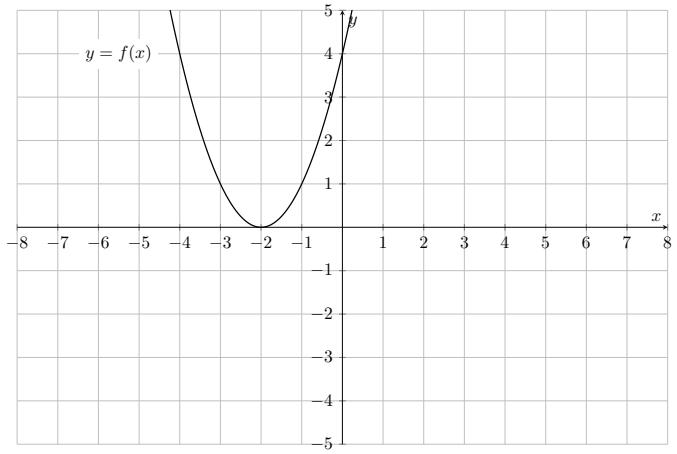
(a) On this grid, sketch the graph of $y = f(x) + 2$. **(2)**



(b) On this grid, sketch the graph of $y = -f(x)$. **(2)**

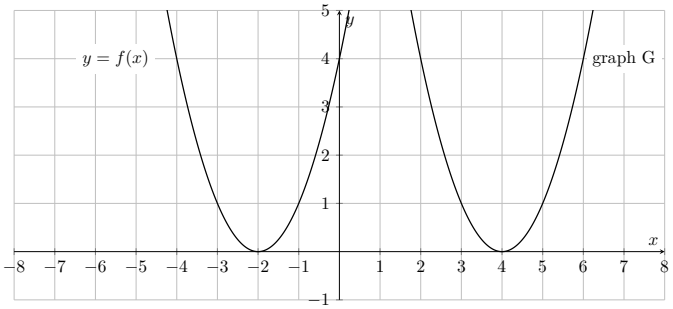


10. The graph of $y = f(x)$ is shown on the grid.



(a) On the grid above, sketch the graph of $y = -f(x)$. **(2)**

The graph of $y = f(x)$ is shown on the grid.



The graph **G** is a translation of the graph of $y = f(x)$.

(b) Write down the equation of graph **G**. **(2)**

11. The graph of $y = f(x)$ is shown on the grid.