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5. Sketch the graph of  $y = \ln|x|$ , stating the coordinates of any points of intersection with the axes.

(3)



6.

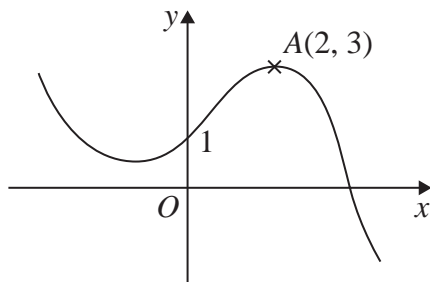
**Figure 1**

Figure 1 shows a sketch of the graph of  $y = f(x)$ .

The graph intersects the  $y$ -axis at the point  $(0, 1)$  and the point  $A(2, 3)$  is the maximum turning point.

Sketch, on separate axes, the graphs of

- (i)  $y = f(-x) + 1$ ,
- (ii)  $y = f(x + 2) + 3$ ,
- (iii)  $y = 2f(2x)$ .

On each sketch, show the coordinates of the point at which your graph intersects the  $y$ -axis and the coordinates of the point to which  $A$  is transformed.

**(9)**

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**Question 6 continued**













