Advanced Higher Maths
SQA 2017 Paper
Question 12

Advanced Higher Maths
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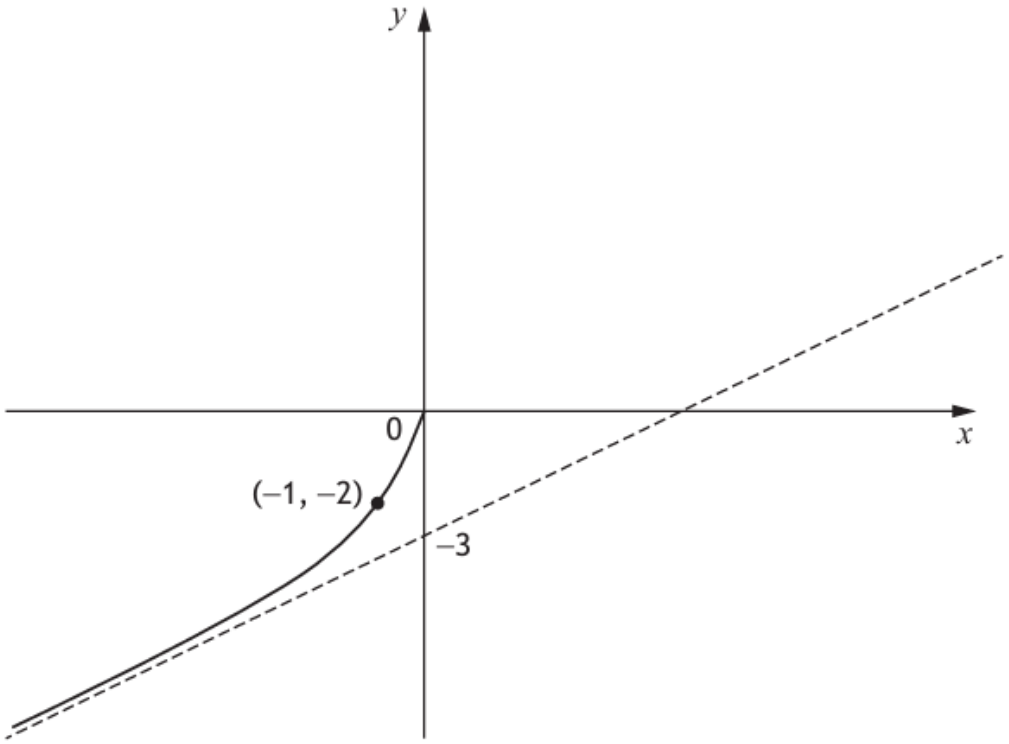
In the diagram below part of the graph of $y = f(x)$ has been omitted.

The point (–1, –2) lies on the graph and the line $y = \frac{1}{2}x - 3$ is an asymptote.



Given that $f(x)$ is an odd function:

(a) Copy and complete the diagram, including any asymptotes and any points you know to be on the graph. **2**

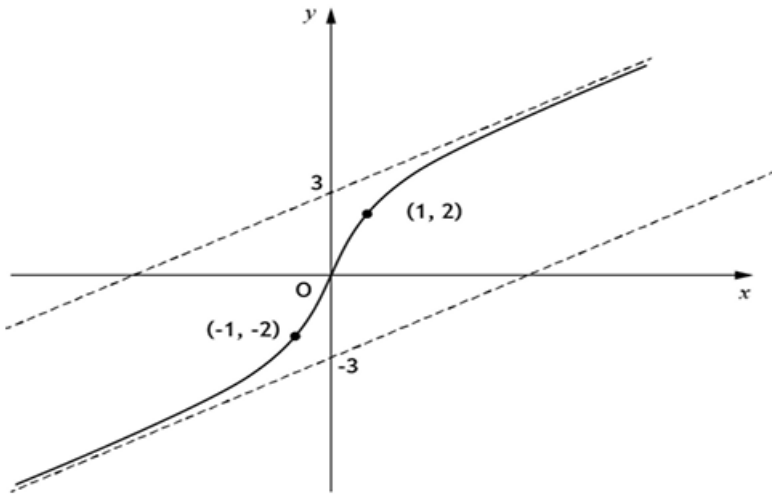
(b) $g(x) = |f(x)|$. On a separate diagram, sketch $g(x)$.

Include known asymptotes and points. **2**

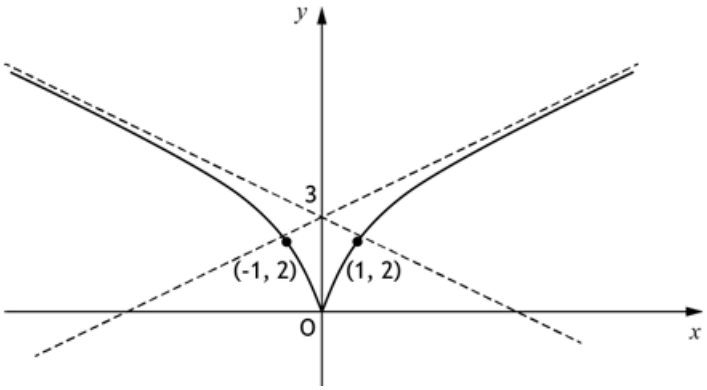
(c) State the range of values of $f'(x)$ given that $f'(0) = 2$. **1**

Answers:

(a)



(b)



(c) $\frac{1}{2} < f'(x) \leq 2$