Higher Maths
SQA 2025 Paper 1
Question 13

A function, f, is defined on the set of real numbers.

The derivative of f is $f'(x) = (x+5)(2-x)$.

(a) Find the x-coordinates of the stationary points on the curve with equation $y = f(x)$ and determine their nature. **3**

It is known that:

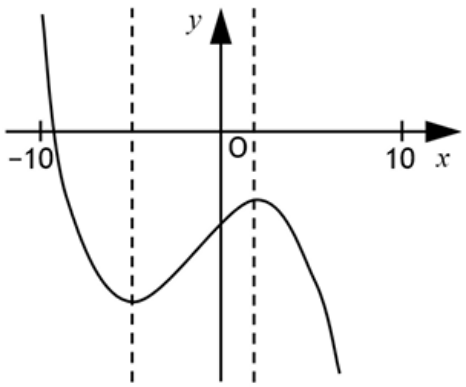
- f is a cubic function
- $f(0) < 0$
- the equation $f(x) = 0$ has exactly one solution. The solution lies between -10 and 10.

(b) Draw a sketch of a possible graph of $y = f(x)$ on the diagram in your answer booklet. **3**

Answers:

(a) min at $x = -5$; max at $x = 2$

(b)



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