Higher Maths
SQA 2019 Paper 2
Question 7

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(a) Express $-6x^2+24x-25$ in the form $p(x+q)^2+r$. **3**

(b) Given that $f(x)=-2x^3+12x^2-25x+9$,
show that $f(x)$ is strictly decreasing for all $x\in\mathbb{R}$. **3**

Answers:

(a) $-6(x-2)^2-1$

(b) Differentiate, express the derivative in the form of part (a) and state reason,
eg $\therefore -6(x-2)^2-1<0\ \forall x$
$\Rightarrow$ always strictly decreasing