

Advanced Higher Maths
SQA 2016 Exemplar
Question 2

Given $y = e^{\cos x} \sin^2 x$

(a) Find $\frac{dy}{dx}$. 3

Given $f(x) = \frac{x^2 - 1}{x^2 + 1}$

(b) Obtain $f'(x)$ and simplify your answer. 3

Answers:

(a) $e^{\cos x} \cdot 2 \sin x \cos x + \sin^2 x \cdot e^{\cos x} (-\sin x)$

(b) $\frac{4x}{(x^2 + 1)^2}$