2015 Q2

2. (a) For $y = \frac{5x+1}{x^2+2}$, find $\frac{dy}{dx}$. Express your answer as a single, simplified fraction.

(b) Given $f(x) = e^{2x}\sin^23x$, obtain $f'(x)$.

Answers

(a) $\frac{dy}{dx} = \frac{-5x^2-2x+10}{(x^2+2)^2}$  
(b) $f'(x) = e^{2x}(2\sin^23x + 3\sin6x)$