

Question	Answer	Marks	AOs		Guidance
4	$\frac{dy}{dx} = 4(x^2 + 5)^3 \times 2x = 8x(x^2 + 5)^3$ <p>Using product rule with $u = 8x$ $v = (x^2 + 5)^3$</p> $\frac{d^2y}{dx^2} = 8(x^2 + 5)^3 + 8x \times 3(x^2 + 5)^2 \times 2x$ $= 8(x^2 + 5)^3 + 48x^2(x^2 + 5)^2$ $= 8(x^2 + 5)^2(7x^2 + 5)$	<p>M1</p> <p>A1</p> <p>M1</p> <p>A1</p> <p>A1</p> <p>[5]</p>	<p>1.1a</p> <p>1.1</p> <p>1.1a</p> <p>1.1</p> <p>1.1</p>	<p>Attempting to use the chain rule</p> <p>Any form</p> <p>Need not be written explicitly</p> <p>FT their $\frac{dy}{dx}$ of correct form</p> <p>Any form</p> <p>Must be factorised – allow for $(x^2 + 5)^2(56x^2 + 40)$</p>	<p>For candidates who have fully expanded the brackets and differentiate a polynomial without factorising, give SC1 for each correct term of the second derivative</p> <p>$56x^6 + 600x^4 + 1800x^2 + 1000$</p>