

Question	Scheme	Marks	AOs
3	Attempts the product and chain rule on $y = x(2x+1)^4$	M1	2.1
	$\frac{dy}{dx} = (2x+1)^4 + 8x(2x+1)^3$	A1	1.1b
	Takes out a common factor $\frac{dy}{dx} = (2x+1)^3 \{(2x+1)+8x\}$	M1	1.1b
	$\frac{dy}{dx} = (2x+1)^3(10x+1) \Rightarrow n=3, A=10, B=1$	A1	1.1b

(4 marks)

Notes:

M1: Applies the product rule to reach
$$\frac{dy}{dx} = (2x+1)^4 + Bx(2x+1)^3$$

A1:
$$\frac{dy}{dx} = (2x+1)^4 + 8x(2x+1)^3$$

M1: Takes out a common factor of $(2x+1)^3$

A1: The form of this answer is given. Look for
$$\frac{dy}{dx} = (2x+1)^3(10x+1) \Rightarrow n=3, A=10, B=1$$