(3) $y = (5x^2 + 3)^7$

$$\frac{dy}{dx} = 7(5x^2 + 3)^6 (10x)$$

$$= 70x(5x^2 + 3)^6$$

Question	Generic scheme	Illustrative scheme	Max mark
3.	$\bullet^1$ start to differentiate $\bullet^2$ complete differentiation	$\bullet^1$ $7\left(5x^2+3\right)^6\ldots$ $\bullet^2$ $\ldots\times 10x$	2

Notes:

1. $\bullet^1$ is awarded for the appearance of $7\left(5x^2+3\right)^6$.
2. For $70x\left(5x^2+3\right)^6$ with no working, award 2/2.
3. Accept $7u^6$ where $u=5x^2+3$ for $\bullet^1$.
4. Do not award $\bullet^2$ where the answer includes '$+c$'.

Commonly Observed Responses:

Candidate A - differentiating over two lines

$7\left(5x^2+3\right)^6$ $\bullet^1$ ✓

$7\left(5x^2+3\right)^6\times 10x$ $\bullet^2$ ^

Candidate B - poor notation

$y=\left(5x^2+3\right)^7$ $y=5x^2+3$

$\frac{dy}{dx}=10x$

$\frac{dy}{dx}=7\left(5x^2+3\right)^6\times 10x$ $\bullet^1$ ✓ $\bullet^2$ ✓

Candidate C - poor communication

$y=\left(5x^2+3\right)^7$

$y=7\left(5x^2+3\right)^6\times 10x$ $\bullet^1$ ✓ $\bullet^2$ ✓

Candidate D - insufficient evidence for $\bullet^1$

$70\left(5x^2+3\right)^6$ $\bullet^1$ ✗ $\bullet^2$ ✗

or

$35\left(5x^2+3\right)^6$ $\bullet^1$ ✗ $\bullet^2$ ✗