DIFFERENTIATION
THE RULE FOR POLYNOMIALS

NO CALCULATOR

Ref: G911. **1F1**

A1 Differentiate x^2	**A2** Differentiate x^3	**A3** Differentiate x^4	**A4** Differentiate x^6
B1 Differentiate $5x^2$	**B2** Differentiate $4x^3$	**B3** Differentiate $3x^4$	**B4** Differentiate $7x^5$
C1 Differentiate $3x^2$	**C2** Differentiate $3x^1$	**C3** Differentiate $3x^0$	**C4** Differentiate $3x^{-1}$
D1 Differentiate $7x^2$	**D2** Differentiate $7x$	**D3** Differentiate 7	**D4** Differentiate 5
E1 Differentiate $4x$	**E2** Differentiate 4	**E3** Differentiate $11x$	**E4** Differentiate 11

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A1 Differentiate	**A2** Differentiate	**A3** Differentiate	**A4** Differentiate
x^2 $\quad \dfrac{dy}{dx} = 2x$	x^3 $\quad \dfrac{dy}{dx} = 3x^2$	x^4 $\quad \dfrac{dy}{dx} = 4x^3$	x^6 $\quad \dfrac{dy}{dx} = 6x^5$
B1 Differentiate	**B2** Differentiate	**B3** Differentiate	**B4** Differentiate
$5x^2$ $\quad \dfrac{dy}{dx} = 10x$	$4x^3$ $\quad \dfrac{dy}{dx} = 12x^2$	$3x^4$ $\quad \dfrac{dy}{dx} = 12x^3$	$7x^5$ $\quad \dfrac{dy}{dx} = 35x^4$
C1 Differentiate	**C2** Differentiate	**C3** Differentiate	**C4** Differentiate
$3x^2$ $\quad \dfrac{dy}{dx} = 6x^1$ $= 6x$	$3x^1$ $\quad \dfrac{dy}{dx} = 3x^0$ $= 3$	$3x^0$ $\quad \dfrac{dy}{dx} = 0 \times 3x^{-1}$ $= 0$	$3x^{-1}$ $\quad \dfrac{dy}{dx} = -3x^{-2}$
D1 Differentiate	**D2** Differentiate	**D3** Differentiate	**D4** Differentiate
$7x^2$ $\quad \dfrac{dy}{dx} = 14x$	$7x = 7x^1$ $\quad \dfrac{dy}{dx} = 1 \times 7x^0$ $= 7$	$7 = 7x^0$ $\quad \dfrac{dy}{dx} = 0 \times 7x^{-1}$ $= 0$	$5 = 5x^0$ $\quad \dfrac{dy}{dx} = 0$
E1 Differentiate	**E2** Differentiate	**E3** Differentiate	**E4** Differentiate
$4x$ $\quad \dfrac{dy}{dx} = 4$	4 $\quad \dfrac{dy}{dx} = 0$	$11x$ $\quad \dfrac{dy}{dx} = 11$	11 $\quad \dfrac{dy}{dx} = 0$

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