

IB Extra Practice Example Section 7.4:

Use the table provided to find the gradients of the following at the given x -values. You MUST show work.

x	$f(x)$	$g(x)$	$f'(x)$	$g'(x)$
2	8	2	$1/3$	-3
3	3	-4	2π	5

- a. $f(x) + g(x)$ at $x = 3$ b. $f(x) \cdot g(x)$ at $x = 3$ c. $\sqrt{f(x)}$ at $x = 2$

Use the table provided to find the gradients of the following at the given x -values. You MUST show work.

x	$f(x)$	$g(x)$	$f'(x)$	$g'(x)$
1	3	2	4	6
2	1	8	5	7
3	7	2	7	9

- a. $f(g(x))$ when $x = 1$ b. $\frac{1}{f^2(x)}$ when $x = 2$

x	$f(x)$	$g(x)$	$f'(x)$	$g'(x)$
3	7	2	7	9
2	1	8	5	7
1	3	2	4	6
x	$f(x)$	$g(x)$	$f'(x)$	$g'(x)$

Use the table provided to find the gradients of the following at the given x -values. You MUST show work.

$$\frac{1}{\sqrt{12}} = \frac{1}{2\sqrt{3}} = \frac{\sqrt{3}}{6}$$

$$-8\pi + 15$$

$$\frac{1}{2} (f(2))^{-1/2} \cdot f'(2) = \frac{1}{2} (8)^{-1/2} \cdot \frac{1}{3} = \frac{1}{4\sqrt{2}} = \frac{\sqrt{2}}{8}$$

$$f'(3)g(3) + g'(3)f(3) = 2\pi(-4) + 5(3)$$

$$\frac{1}{2} (f(x))^{1/2} \cdot f'(x)$$

$$f'(x)g(x) + g'(x)f(x)$$

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3	3	-4	2π	5
2	8	2	$1/3$	-3
x	$f(x)$	$g(x)$	$f'(x)$	$g'(x)$

$$f'(3) + g'(3)$$

$$f(x) + g(x)$$

$$f'(x) + g'(x)$$

$$f(x) \cdot g(x)$$

$$\frac{1}{f^2(x)}$$

$$\sqrt{f(x)}$$

$$f(g(x))$$

$$f'(g(x)) \cdot g'(x)$$

$$f'(g(x)) \cdot g'(x)$$

$$f'(2) \cdot (6)$$

$$5 \cdot 6 = 30$$

Chain rule

Chain rule

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Chain rule