

Finndu 1. afleiðu (diffurkvóta) eftirfarandi falla

a)  $f(x) = (x^5 - 2x)^4$  Byrja yst (flisja lank)

$$f'(x) = 4(x^5 - 2x)^{4-1} \cdot (5x^{5-1} - 2x^{1-1})$$

$$\Rightarrow f'(x) = \underline{4(x^5 - 2x)^3 \cdot (5x^4 - 2)}$$

b)  $f(x) = \sin(x^2 - 8x)$  Flisja lank

$$f'(x) = \cos(x^2 - 8x) \cdot (2x - 8)$$

c)  $f(x) = \cos^3(x^4)$  Flisja lank

$$f'(x) = 3 \cdot \cos^2(x^4) \cdot (-\sin(x^4)) \cdot 4x^3$$

$$\Rightarrow f'(x) = \underline{-12 \cos^2(x^4) \cdot \sin(x^4) \cdot x^3}$$

d)  $f(x) = x^3(x^2 - 4)^4$

$$f'(x) = 3x^2(x^2 - 4)^4 + x^3 \cdot 4(x^2 - 4)^3 \cdot 2x = \underline{3x^2(x^2 - 4)^4 + 8x^4(x^2 - 4)^3}$$

e)  $f(x) = \cos^2(x) - \cos(x)$

$$f'(x) = 2\cos(x) \cdot (-\sin(x)) \cdot 1 - (-\sin(x) \cdot 1)$$

$$\Rightarrow f'(x) = \underline{-2\cos(x)\sin(x) + \sin(x)}$$