

nr 8 p 100

$$a) D x^8 = 8 x^{8-1} = \boxed{8 x^7}$$

$$b) D (4,25) = \boxed{0}$$

$$c) D \sqrt[5]{x^{31}} = D x^{31/5} = \frac{31}{5} x^{31/5 - 1} = \frac{31}{5} x^{26/5} = \boxed{\frac{31}{5 \sqrt[5]{x^{26}}}}$$

$$d) D \left( \frac{1}{x^2} \right) = D x^{-2} = -2 x^{-3} = \boxed{\frac{-2}{x^3}}$$

$$e) D x^{2n} = \boxed{2n x^{2n-1}}$$

$$f) D x^{2n-3} = \boxed{(2n-3) x^{2n-4}}$$

$$g) D x^{3-m} = (3-m) x^{3-m-1} = \boxed{(3-m) x^{2-m}}$$

$$h) D (x^2 \sqrt{x}) = D (x^2 \cdot x^{1/2}) = D x^{5/2} = \frac{5}{2} x^{5/2 - 1} \\ = \frac{5}{2} x^{3/2} = \boxed{\frac{5}{2} x \cdot \sqrt{x}}$$