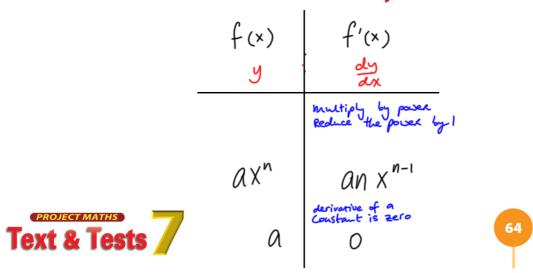
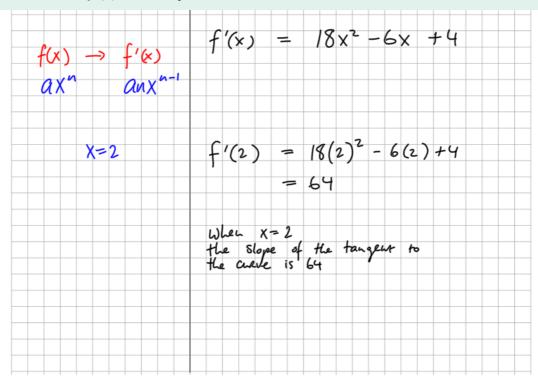
Differential Calculus 3th/₂

Section 2.3 Differentiation by rule



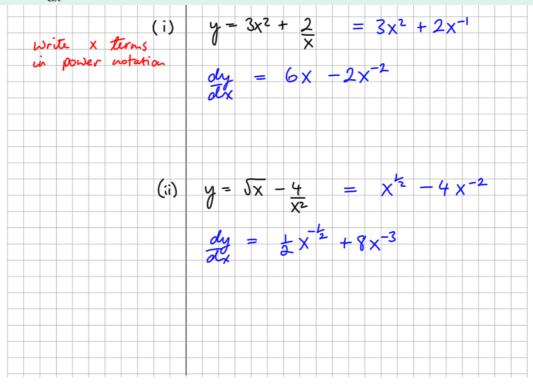
Example 1

Find the derivative of $f(x) = 6x^3 - 3x^2 + 4x$. Hence, find f'(2) and interpret the result.



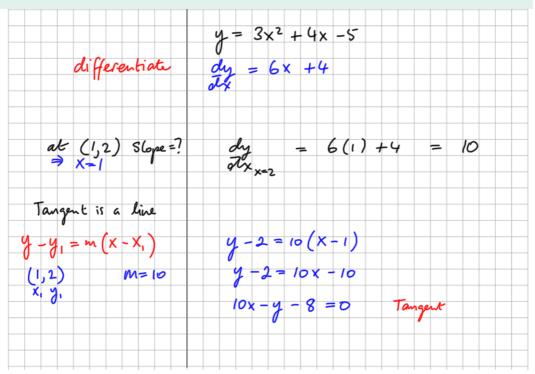
Example 2

Find $\frac{dy}{dx}$ for each of the following:



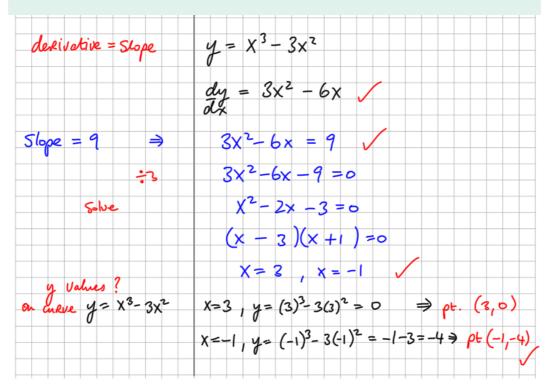
Example 3

Find the slope of the tangent to the curve $y = 3x^2 + 4x - 5$ at the point (1, 2). Hence, find the equation of the tangent at this point.



Example 4

Find the points on the curve $y = x^3 - 3x^2$ at which the slope of the tangent to the curve is 9.



7. If $f(x) = \frac{1}{\sqrt{x}}$, find f'(4) and express your answer as a fraction.

