Further Pure 1 Methods in Calculus

Use Leibnitz's theorem to evaluate $\frac{d^2}{dx^2}(2x^2 - 3x)(2x^3 + 3x - 1)$

$$\frac{d^2}{dx^2}(2x^2 - 3x)(2x^3 + 3x - 1) = 4(2x^3 + 3x - 1) + 2(4x - 3)(6x^2 + 3) + (2x^2 - 3x)(12x)$$

$$= 8x^3 + 12x - 4 + 48x^3 - 36x^2 + 24x - 18 + 24x^3 - 36x^2$$

$$= 80x^3 - 72x^2 + 36x - 22$$

Bury Maths Tutor