

$$(1 + 2x + 3x^2 + 4x^3) \cdot (x + x^2 + x^3 + x^4) = (2 + 6x + 12x^2) \cdot (x + x^2 + x^3 + x^4) +$$

the derivative of, open bracket, one plus two x plus three x square plus four x cubed, close bracket, times, open bracket, x plus x square plus x cube plus x to the fourth power, close bracket

firstly I'll write derivatives of components of first bracket and it's two plus six x plus twelve x square, times second bracket without changes

$$+ (1 + 2x + 3x^2 + 4x^3) \cdot (1 + 2x + 3x^2 + 4x^3) = 1 + 6x + 18x^2 + 40x^3 + 45x^4 + 42x^5 + 28x^6$$

secondly I'll write first bracket without changes times derivatives of components of second bracket and it's one plus two x plus three x square plus four x cubed

after simplification the result is one plus six x plus eighteen x square plus forty x cubic plus forty five x to the fourth power plus forty two x to the fifth power plus twenty eight x to the sixth power

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