Answer on Question #49992 – Math – Calculus

Using the product rule derivative how do you solve (4x+1)^2

Solution

$$\frac{d}{dx}(4x+1)^2 = \frac{d}{dx}(4x+1)(4x+1) = (4x+1)\cdot\left(\frac{d}{dx}(4x+1)\right) + \left(\frac{d}{dx}(4x+1)\right)\cdot(4x+1) =$$

$$= 2(4x+1)\frac{d}{dx}(4x+1) = 2(4x+1)\cdot 4 = 8(4x+1)$$

The product rule for derivative is

$$\frac{d}{dx}(u(x)\cdot v(x)) = v(x)\frac{d}{dx}u(x) + u(x)\frac{d}{dx}v(x)$$