

Al-Saudia Virtual Academy
Pakistan Online Tuition – Online Tutor Pakistan

PRODUCT RULE $Y = UV$

$$\frac{dy}{dx} = u \cdot \frac{dv}{dx} + v \cdot \frac{du}{dx}$$

EXAMPLE :-

1. $(3x + 1)(2x + 1)$
2. $(x^2 + 1)(1/2 + 1)$
3. $(3x - 5)(x^2 + 2x)$
4. $(x^2 + 3)(2x^2 - 1)$
5. $(x^2 + 4x)(3x^2 - x)$
6. $(x^2 + x + 1)(x - 1)$
7. $(x^2 - x + 1)(x - 1)$
8. $(x^2 + 4x + 5)(x^2 - 2)$
9. $(x^2 - 5)(x^2 + 5)$
10. $(x^2 - x + 1)(x^2 + x + 1)$
11. $(x - 2)(x^2 + 2x + 4)$
12. $(x^2 - 3)(3x^2 + x + 1)$
13. $(x - 1)(x + 1)(x^2 + 1)$
14. $(x + 1)(2x + 1)(3x + 2)$
15. $(ax^2 + bx + c)(px + q)$
16. $\sqrt{x}(2x - 1)(x^2 + x + 1)$
17. $2x^{3/2}(\sqrt{x} + 2)(\sqrt{x} - 1)$
18. $(2x + 3)(5x^2 - 6)$
19. $(x^2 + 1)(x^3 - x^2 + 2)(x - 1)$
20. $(x + 2)(x + 3)(x + 4)$
21. $(x^2 + 4)(2x^3 - 1)$
22. $(3x^2 + 6)(2x - 1/4)$
23. $(x^3 + 7x^2 - 8)(2x^{-3} + x^{-4})$
24. $(1/x + 1/x^2)(3x^3 + 7)$

$$25. (5x^2 - 3)(7x^3 + x)$$

$$26. (x^3 - 5)(2x + 3)$$

$$27. (2x + 1)(1 + 1/x)(x^{-3} + 7)$$

$$28. x^{-5}(x^2 + 2x)(4 - 3x)(2x^9 + 1)$$

$$29. Y = (3x + 2/x)(x^{-5} + 1)$$

$$30. Y = (2x^7 - x^2)(x - 1/x + 1)$$

$$31. Y = 2x^{1/2} (1/5x^2 - 1/3x + 2)$$

$$32. Y = (x^6 - 5x^4 + 3x^2)(2\sqrt{x^{-3}}\sqrt{x})$$

$$33. Y = (3\sqrt{x^2} - 1)(3x^2 - 2x + 5)$$

$$34. Y = (\sqrt{x} - 2x)(4x + 5)$$

$$35. Y = (x^2 - 2x^{-1})(1/2 x^2 - 2x)$$