

Derivatives of Polynomials, Sin, cos using the chain rule

Compute the derivatives of the following functions

1. $\cos(x^3)$

2. $\sin(3x^2 + 2x + 10)$

$$3. \cos(x^2 + 2x)$$

$$4. \sin(x)^6$$

$$5. \sin(x^2 + 3x + 1)^2$$

$$6. \cos(2x^3)$$

$$7. \sin(4x^3 + 3x^2 - 5x + 12)$$

$$8. 5\cos(x)^6$$

$$9. 3\sin(3x)^3$$

$$10. 3\cos(x^2 + 3x + 2)^3$$

$$11. \sin (2x^4)^2$$

$$12. 4\cos (x^2+2x)$$

$$13. \cos (x^3+3x^2)^4$$

$$14. 2\cos (x^5+3x^2)^2$$

$$15. \cos(5x^2)$$

$$16. 7\sin(x^3)^3$$

$$17. -\sin(x^2 + 3x + 1)^3$$

$$18. \sin(x^2 + 1)^2$$

$$19. \quad 3 \sin(x^3)$$

$$20. \quad 4 \cos(4x^3)^2$$

$$21. \quad \cos(x^6)^2$$

$$22. \quad 5 \sin(4x^4 + 12x^3 - 2x)^3$$