

Chain Rule

Directions: Use the chain rule to find each derivative.

1. $y = \sin 5x$

11. $y = e^{5x^3}$

2. $y = \cos 4x$

12. $y = 5^{8x}$

3. $y = \tan\left(\frac{1}{7}x\right)$

13. $y = \pi^{x^2}$

4. $y = \sec(x^2)$

14. $y = 10^{x^2-3}$

5. $y = \cot(5x^3)$

15. $y = \ln(x^3)$

6. $y = \csc(10x)$

16. $y = \ln(\sin x)$

7. $y = \cos(x^3 + x^2)$

17. $y = \ln(x - \tan x)$

8. $y = \sin(3x^5 - 7x + 1)$

18. $y = \log_7(x^3 - 1)$

9. $y = e^{5x}$

19. $y = \log(x^2 + x + 1)$

10. $y = e^{-\frac{1}{2}x}$

20. $y = \log_3(3x^3 - x)$