

MA104 - Differential Calculus
Lesson 8: Derivatives of Power, Exponential, and Log Functions
Board Problems

Find the derivatives of the following functions, with respect to their independent variable.

1. $f(x) = 5x^2 + x + 6$

2. $g(t) = \frac{1}{t^3} - 4t^2$

3. $f(s) = \sqrt[3]{s} + 8 \ln(s)$

4. $h(w) = w^{-2/5}$

5. $R(\theta) = 6\theta^{-9} + 1.7e^\theta$

6. $V(r) = \frac{4}{3}\pi r^3$

7. $P(y) = \sqrt{2}e^y + y^2 + \ln(3)$

8. $u(x) = e^5x^2 + x^{2.2}$

9. $g(z) = 4 \ln(z) + \frac{3}{z}$

10. $f(x) = x^e + t$