

Mathematics 1: Calculus with Algebra
Homework 12
Due Monday November 3

Directions: Find the derivative of each of the following functions.

1. $f(x) = \sin(e^{x^2})$

2. $s(t) = te^t + \cos t$

3. $g(t) = e^{\sin(t^2)}$

4. $k(t) = (2^t)^2 - 2^{(t^2)}$

5. $z(x) = (e^{\sin x})^2$

6. $p(x) = (x \sin x + 1)^{50}$

7. $w(t) = e^{(\sin t)(\cos t)}$

8. $q(t) = e^{t^2-3t+2} \sin t$

9. $y(x) = \sin(e^x(x^2 + 1))$

10. $h(t) = \sin(\cos(\sin t))$

11. $f(x) = \sqrt{2}e^x(x^2 + 2x + e)$

12. $s(x) = 2^2e^2(\cos^2 2) \cos^2(x^2)$

13. $g(t) = 2^t e^t$

14. $k(x) = (\ln 19)19^{\cos x}$

15. $z(x) = e^{(2^x)}$

16. $p(t) = 7^{\sin(7t)} + 7 \sin(7t)$

17. $w(t) = (\ln 10)(\sin t + e^t)^2$

18. $q(x) = \frac{1}{2} (e^{4 \cos x} - e^{-4 \cos x})$

19. $y(x) = e^x \sin x + 2^x + x^2 + \pi$

20. $h(x) = \cos^2(\sin x)$