

Derivative Practice

For each of the problems below, find the derivative using the rules we know so far. If this can't be done, explain why.

1. $y = 7 \cdot 7^x + 3x^3$

2. $f(t) = e^t + t^e$

3. $y = (\ln 3)3^t$

4. $y = \frac{x^2}{2^x}$

5. $y = x^2 + 2^x$

6. $y = x^2 \cdot 2^x$

7. $y = e^{5+x}$

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

9. $g(x) = e^{(x^5)}$

10. $f(z) = (\sqrt{3})^z$

11. $y = \sqrt{3x}$

12. $y = \sqrt{3+x}$

13. Find the coordinates of the point where the tangent line to the graph of $y = 3^x$ at $x = 0$ intersects the x -axis.