

3. (4) Determine $f'(x)$ for $f(x) = \frac{1}{x} \ln(x) + e \ln(x)$.

4. (3) Compute $\frac{d}{dt} [\arccos(e^{3t})]$.

5. (5) Given the function $f(x) = 2x^5 + 4x^3 + 3x + 1$:

(a) Find $f'(x)$.

(b) Find $f(1)$.

(c) Find $f'(1)$.

(d) Find $(f^{-1})'(10)$.