

- (1) Find the equation of the line tangent to the curve $y = x^{100} - 50x + 9$ at $a = 1$.
- (2) Find all points on the graph of the curve $f(x) = e^x - x$ at which the tangent line is horizontal.
- (3) Find all points on the graph of the curve $f(x) = 2x^3 - 15x^2 + 24x + 1$ at which the tangent line is horizontal.
- (4) Find $f''(x)$ and $f'''(x)$ for $f(x) = 2e^x - x^4 + 3x^2$.