

9. (12 points) (a) Give the formula that defines the derivative of a function f at a point a .

(b) Using the definition of the derivative, write the formula for $f'(1)$ if $f(x) = (4 + x)^x$.

(c) Numerically approximate $f'(1)$ correct to at least three decimal places. To receive full credit, you must show the calculations you used to justify your answer.