1. Given the function \( f(x) = x^2 - 4x \),
   (a) Find the average rate of change of the function over \([1,3]\).
   (b) Find the slope of the curve at \( x = 1 \).
   (c) Find the equation of the tangent line at \( x = 1 \).

2. Evaluate \( \lim_{x \to -2} \frac{x + 2}{\sqrt{x^2 + 5} - 3} \) if it exists.