

Each problem is worth 0 points. In the event of a real quiz you would have been notified.

1. Find the local linearization of  $\sqrt{1+x}$  near  $x = 0$ .

2. Evaluate  $\lim_{x \rightarrow 0^+} x^2 \ln x$ .

3. Find the critical points and inflection points of the function  $f(x) = \frac{1}{1+x^2}$ .