

This quiz is worth 10 points and you have 10 minutes to complete it. Show all work and circle your final answers.

Calculators are NOT allowed today.

1. (10 pts) Consider the function $f(x) = \ln\left(\frac{x+3}{x^2+3}\right)$. Show all work for each part below.

a. (1 pt) Find $f(0)$.

b. (3 pts) Find the domain of $f(x)$.

c. (3 pts) Find the derivative of $f(x)$.

d. (3 pts) Find $\lim_{x \rightarrow \infty} f(x)$.