

Quiz 1

Name: _____ Section and/or TA: _____

Answer all questions in a clear and concise manner. Unsupported answers will receive *no credit*.

1. (2 points) Find $\int x^5 \ln x \, dx$ using integration by parts. Be sure to show your work.

2. (3 points) Write down the form of the partial fraction decomposition for each of the following rational functions. *Do not* solve for constants and *do not* try to compute any integrals!

(a) (1 point) $\frac{x+2}{(x-1)(x-2)}$

(b) (1 point) $\frac{x+4}{(x-1)(x+1)^2}$

(c) (1 point) $\frac{x^3-1}{(x^2+4)(x^2-4)}$