

Show all work clearly and in order. Justify your answers. You have 15 minutes for this quiz.

PROBLEM ONE Give the form of the partial fraction decomposition of the function. You do not need to find the value of the coefficients.

$$f(x) = \frac{x^3 + 5x}{(x^3 + x^2)(x^2 + 5)^2}$$

PROBLEM TWO Compute  $\int \frac{2}{x^3 - 2x^2} dx$