

Name: _____ Section: _____

Answer all questions and show your work. Unsupported answers may receive *no credit*. You may not use a calculator on this quiz. Allow 15 minutes for the quiz.

1. (3 points) Give the partial fraction decomposition for the function $f(x) = \frac{1}{x^2 + 2x}$.

2. (4 points) Give the form of the partial fraction decomposition for the function $g(x) = \frac{x^2}{(x^2 - 2x + 1)(x^4 - 1)}$. **Do not solve for the coefficients.**

3. (3 points) (a) Find R_3 , the right endpoint approximation to the integral $I = \int_1^4 \frac{1}{t} dt$.
(b) Is the value R_3 greater or less than I ? You may use a sketch to justify your answer.