

## Quiz 5

- (1) Determine the partial fraction decomposition of  $\frac{x^2 + 1}{x(x^2 + 2)}$  (e.g., the partial fraction decomposition of  $\frac{1}{x^2 - 1}$  is  $\frac{A}{x - 1} + \frac{B}{x + 1}$  for some  $A$  and  $B$ ). Do not solve for unknowns.

- (2) Evaluate  $\int \frac{1}{x(x + 1)^2} dx$  (Hint:  $\frac{1}{x(x + 1)^2} = \frac{1}{x} - \frac{1}{x + 1} - \frac{1}{(x + 1)^2}$ )