

**Problem 1** Calculate  $\int \frac{x}{x^2 + 2x + 5} dx$ .

**Problem 2** Calculate  $\int_1^\infty \frac{1}{x^2 + x} dx$ . It may help to recall  $\ln(a) - \ln(b) = \ln\left(\frac{a}{b}\right)$  for when calculating the limit.