Homework Set 8  
(sect 5.7: Partial Fractions)

Decompose the given fractions into their corresponding partial fractions. Do not integrate.

1. \( \frac{1}{(x+1)(x-1)} \)

2. \( \frac{x+1}{(x-1)(x^2+4)} \)

3. \( \frac{1}{x(x+1)^2} \)
Use partial fractions to find the indefinite integrals.

4. \( \int \frac{x+3}{x^2+x} \, dx \)

5. \( \int \frac{1}{x(x^2+1)} \, dx \)

6. \( \int \frac{x^3}{x^2+3x+2} \, dx \)