

Evaluate the integrals. If you have extra time, check your answers by differentiating.

1. $\int \frac{x+2}{x^2+2} dx$

2. $\int \frac{x^2+2}{x+2} dx$

3. $\int \frac{1}{x^2-4x-12} dx$

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

5. This is a difficult one from the book: see how far you can get. $\int \frac{x^3}{x^3+1} dx$

6. First make the substitution $u = \sqrt[3]{x}$. $\int \frac{1}{1+\sqrt[3]{x}} dx$