Name _____

Homework 6
section 7.7 & 7.8

Determine whether each of the following integrals converges or diverges, and if it converges, find its value.

1. (3) $\displaystyle\int_2^\infty \frac{1}{4+z^2}\,dz$

2. (4) $\displaystyle\int_{-1}^1 \frac{x^4+1}{x}\,dx$

3. (3) $\displaystyle\int_{-\infty}^{-1} \frac{x}{x^2+6}\,dx$

Determine whether each of the following integrals converges or diverges. Explain your reasoning.

4. (4) $\displaystyle\int_{1}^{\infty} \frac{2+\cos\phi}{\phi^2}\,d\phi$

5. (3) $\displaystyle\int_0^\infty \frac{1}{e^z + 2}\, dz$

6. (3) $\displaystyle\int_2^\infty \frac{dt}{\sqrt{4 + t^2}}$ This one may be a bit tricky.