**Additional Homework for 7.8**

Use the technique that we discussed in section 7.8 to determine if the integrals converge or not. If they converge, find an upper bound.

1. $\int_2^\infty \frac{1}{\sqrt[3]{x^2-1}}\,dx$

2. $\int_1^\infty \frac{3}{\cos y + 2y}\,dy$

3. $\int_0^1 \frac{dx}{x^3+\sqrt{x}}$

4. $\int_1^\infty \frac{\sin^2 t + 2t}{t^3+4}\,dt$

5. $\int_1^\infty \left(\frac{3\cos x}{x}\right)^2 dx$

6. $\int_1^\infty \frac{\arctan z}{z^2}\,dz$