Math 141 Section 5.5 Study Guide

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Problem 1) Evaluate the following integrals:

- $\int x(1-5x^2)^5\,dx$
- $\int \frac{\sqrt{\ln(x)}}{x}\,dx$
- $\int 6qe^{q^2+1}\,dq$
- $\int \frac{4x^3}{x^4+1}\,dx$
- $\int \frac{e^t}{e^t+5}\,dt$
- $\int \frac{e^x-e^{-x}}{e^x+e^{-x}}\,dx$
- $\int_4^9 \frac{e^{\sqrt{y}}}{\sqrt{y}}\,dy$
- $\int_0^1 \frac{x+1}{x^2+2x+19}\,dx$
- $\int \tan(x)\,dx$
- $\int \cot(x)\,dx$
- $\int \sec(x)\,dx$
- $\int \csc(x)\,dx$
- $\int \frac{(3+\ln(x))^2(2-\ln(x))}{4x}\,dx$
- $\int_0^9 \sqrt{4-\sqrt{x}}\,dx$
- $\int_{e^2}^{e^3} \frac{1}{x(\ln(x))^3}\,dx$ [**Note:** The limits of integration are e^2 and e^3, respectively.]