Tutorial Exercises

Week 11

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1. Evaluate

   1. $\int \frac{dx}{\sqrt{9-x^2}}$

   2. $\int (\cos x) e^{\sin x} dx$

2. Approximate $\ln(2)$ using three terms of the series for $\ln\left(\frac{1+x}{1-x}\right)$ where $|x| < 1$.

3. Differentiate, i.e. find $\frac{dy}{dx}$ when

   1. $y = e^{(\cos x)(\sin x)}$

   2. $y = x^x$