Assignment 4 (1/11)

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Problem 1

Find the integrals of the following functions:

(a) $\frac{1}{\ln x} - \frac{1}{(\ln x)^2}$

(b) $\frac{1}{\sqrt{(x-a)(b-x)}}$, $b > a$

(c) $\frac{\sin(2x)}{\sin^4 x + \cos^4 x}$

(d) $\frac{1}{\sqrt{x^2 - a^2}}$

(e) $\sqrt{x^2 - 2x - 1}$ and $(2x - 1)\sqrt{x^2 - 2x - 1}$

(f) $\frac{x^3}{\sqrt{9 + x^2}}$

(g) $\frac{x}{\sqrt{x^2 - 2x + 3}}$

(h) $\frac{1}{(x^2 + 1)^2}$