

Assignment 2 (1/7/16)

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Problem 1

Problems 7.8.(17, 29, 31).

Problem 2

Find the integrals of the following functions:

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

(b) $x \arcsin(x)$

(c) $x \sec^2 x$ and $x \frac{\sec(2x) - 1}{\sec(2x) + 1}$

(d) $\arctan(x)$

(e) $\sqrt{a^2 - x^2}$ and $\sqrt{4x - x^2}$

(f) $\sin^{5/2} x \cos^3 x$

(g) $\frac{1}{x^2 \sqrt{x^2 - 4}}$

(h) $\frac{\sqrt{1 - x^2}}{x^4}$

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

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

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