

EMT 121 - Worksheet V

Power Substitution

April 15, 2010

1. Integrate using the Power Substitution method.

(a) $\int \frac{1}{1 + \sqrt{x}} dx$

(b) $\int \frac{2 + \sqrt{x}}{3 - \sqrt{x}} dx$

(c) $\int \frac{3}{4 + x^{\frac{1}{3}}} dx$

(d) $\int x\sqrt{x+5} dx$

(e) $\int \frac{3x+2}{\sqrt{x-9}} dx$

(f) $\int \frac{1}{x^{2/3} - x^{1/3}} dx$

(g) $\int \frac{\sqrt{x} + 1}{\sqrt{x}(\sqrt[3]{x} + 1)} dx$

(h) $\int \sqrt{5 + \sqrt{x}} dx$

(i) $\int \frac{1}{\sqrt{2 + \sqrt{1 + \sqrt{x}}}} dx$

(j) $\int \frac{\sqrt{x}}{x - 1} dx$