

EMT 121 - Worksheet IV

Trigonometric Integrals

April 15, 2010

1. Evaluate the following.

(a) $\int \sin^3 x \cos^2 x \, dx$

(b) $\int \sin^6 x \cos^3 x \, dx$

(c) $\int_0^{\frac{\pi}{4}} \sin^4 x \cos^2 x \, dx$

(d) $\int \tan^3 x \sec x \, dx$

(e) $\int \sin^5 x \, dx$

(f) $\int \sin 3x \sin 6x \, dx$

(g) $\int \frac{1 - \tan^2 x}{\sec^2 x} \, dx$

(h) $\int \frac{\tan^3 \theta}{\cos^4 \theta} \, d\theta$