

Name: \_\_\_\_\_

## Trigonometric Integrals

**Exercise 1:** Find:

1)  $\int \sin^5 x \cos^4 x dx$

2)  $\int \sin^7 x \cos^4 x dx$

3)  $\int \sin^2 x \cos^3 x dx$

4)  $\int \sin^4 x \cos^5 x dx$

5)  $\int \sin^4 x \cos^2 x dx$

6)  $\int \sin^2 x \cos^4 x dx$

7)  $\int \tan^4 x \sec x dx$

8)  $\int \tan^5 x \sec x dx$

9)  $\int \tan^2 x \sec x dx$

10)  $\int \tan^7 x \sec x dx$

11)  $\int \tan^2 x \sec^2 x dx$

12)  $\int \tan^9 x \sec^2 x dx$

13)  $\int \tan^6 x \sec^2 x dx$

14)  $\int \tan^4 x \sec^2 x dx$

15)  $\int \tan x \sec^7 x dx$

16)  $\int \tan x \sec^6 x dx$

17)  $\int \tan^3 x \sec^4 x dx$

18)  $\int \tan^3 x \sec^3 x dx$

**Exercise 2:** Evaluate the definite integral

1)  $\int_0^{\pi} \sin^2 x \cos^2 x dx$

2)  $\int_0^{\frac{\pi}{2}} \sin^3 x \cos^2 x dx$

3)  $\int_{\frac{\pi}{3}}^{\frac{2\pi}{3}} \sin^2 x \cos^3 x dx$

4)  $\int_{\frac{\pi}{4}}^{\frac{\pi}{3}} \sin^2 x \cos^5 x dx$

5)  $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \sin^4 x \cos^3 x dx$

6)  $\int_{\frac{\pi}{6}}^{\frac{\pi}{2}} \sin^5 x \cos^4 x dx$

7)  $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \tan^4 x \sec^2 x dx$

8)  $\int_0^{\frac{\pi}{3}} \tan x \sec^6 x dx$