

# Math 2300-007: §5.7 - Trig Integrals

(With thanks to Faan Tone Liu)

## Key points:

- To integrate powers of  $\sin(x)$  and  $\cos(x)$  when at least one power is odd...
- To integrate powers of  $\sin(x)$  and  $\cos(x)$  when at both powers are even...
- To integrate powers of  $\sec(x)$  and  $\tan(x)$ ...
- Helpful Trig Identities:

## Examples:

1.  $\int \sin^3 x \cos^4 x dx$

2.  $\int_0^{\pi/4} \sin^2 \theta \, d\theta$

3.  $\int \sin^2 \theta \cos^2 \theta \, d\theta$

4.  $\int \tan^4 x \sec^2 x \, dx$

5. 
$$\int \tan^2 x \sec^4 x \, dx$$

6. 
$$\int \tan^3 x \sec^5 x \, dx$$

7. 
$$\int \tan^3 x \, dx$$

8.  $\int \tan^4 x \, dx$

9.  $\int \sec^5 x \, dx$