		SAVE	IDEA
① $\frac{d}{dx}[\sin x] = \cos x$	$(\sin x)^{\text{POWER}}$	$\cos x$	CONVERT REST TO SIN'S
② $\frac{d}{dx}[\cos x] = -\sin x$	$(\cos)^{\text{POWER}}$	$\sin x$	CONVERT REST TO COS'S
③ $\frac{d}{dx}[\tan x] = \sec^2 x$	$(\tan)^{\text{POWER}}$	$\sec^2 x$	CONVERT REST TO TAN'S
④ $\frac{d}{dx}[\cot x] = -\csc^2 x$	$(\cot)^{\text{POWER}}$	$\csc^2 x$	CONVERT REST TO COT'S
⑤ $\frac{d}{dx}[\sec x] = \sec x \tan x$	$(\sec)^{\text{POWER}}$	$\sec x \tan x$	CONVERT REST TO SEC'S
⑥ $\frac{d}{dx}[\csc x] = -\csc x \cot x$	$(\csc)^{\text{POWER}}$	$\csc x \cot x$	CONVERT REST TO CSC'S

1. $\int \cos^3 x \sin^2 x \, dx$

RECALL

$\sin^2 x + \cos^2 x = 1$

$\cos^2 x = 1 - \sin^2 x$

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

$\int (1 - \sin^2 x) \sin^2 x \cos x \, dx$

$\int (\sin^2 x \cos x - \sin^4 x \cos x) \, dx$

$\int \sin^2 x \cos x \, dx - \int \sin^4 x \cos x \, dx$

$\int (\sin x)^2 \cos x \, dx - \int (\sin x)^4 \cos x \, dx$

$u = \sin x \quad du = \cos x \, dx$

$\int u^2 \, du - \int u^4 \, du$

$\frac{1}{3}u^3 - \frac{1}{5}u^5 + C$

$\frac{1}{3}\sin^3 x - \frac{1}{5}\sin^5 x + C$