

## AP Calculus AB

## Integration Practice Worksheet

1) $\int \sec^2 x \tan x dx$ $\frac{1}{2} \tan^2 x + c$	2) $\int (x^2 + 1) \sqrt{1 + 3x + x^3} dx$ $\frac{2}{9} (1 + 3x + x^3)^{\frac{3}{2}} + c$
3) $\int \frac{x^2}{\sqrt{5+x^3}} dx$ $\frac{2}{3} \sqrt{5+x^3} + c$	4) $\int x \cos(x^2) \sin^3(x^2) dx$ $\frac{1}{8} \sin^4(x^2) + c$
5) $\int_1^4 \frac{e^{\sqrt{t}}}{\sqrt{t}} dt$ $2e^2 - 2e$	6) $\int_0^{\pi/2} \sin^5 t \cos t dt$ $\frac{1}{6}$
7) $\int \sec 2\theta \tan 2\theta d\theta$ $\frac{1}{2} \sec(2\theta) + c$	8) $\int \cos^4 \theta \sin \theta d\theta$ $-\frac{1}{5} \cos^5(\theta) + c$

Answer to Integration Puzzle: loop d(loop)

The anti-derivative movement