Antiderivatives Handout Math 1131 Class #29

Name: ______________________ Section: ______________________

If $n \neq -1$,	$\frac{d}{dx}\frac{x^{n+1}}{n+1} = x^n$	so the antiderivative of	x^n	is	$\frac{x^{n+1}}{n+1} + C$
Because	$\frac{d}{dx}\ln(\lvert x\rvert) = \frac{1}{x}$	the antiderivative of	$\frac{1}{x}$	is	$\ln(\lvert x\rvert) + C$
Because	$\frac{d}{dx}e^x = e^x$	the antiderivative of	e^x	is	$e^x + C$
Because	$\frac{d}{dx}(-\cos(x)) = \sin(x)$	the antiderivative of	$\sin(x)$	is	$-\cos(x) + C$
Because	$\frac{d}{dx}\sin(x) = \cos(x)$	the antiderivative of	$\cos(x)$	is	$\sin(x) + C$
Because	$\frac{d}{dx}\tan(x) = \sec^2(x)$	the antiderivative of	$\sec^2(x)$	is	$\tan(x) + C$
Because	$\frac{d}{dx}\sec(x) = \sec(x)\tan(x)$	the antiderivative of	$\sec(x)\tan(x)$	is	$\sec(x) + C$
Because	$\frac{d}{dx}\tan^{-1}(x) = \frac{1}{1+x^2}$	the antiderivative of	$\frac{1}{1+x^2}$	is	$\tan^{-1}(x) + C$
Because	$\frac{d}{dx}\sin^{-1}(x) = \frac{1}{\sqrt{1-x^2}}$	the antiderivative of	$\frac{1}{\sqrt{1-x^2}}$	is	$\sin^{-1}(x) + C$