

2. Evaluate the following derivatives

f	f'
1. $3x^2 + \sin x$	$6x + \cos x$
2. $\pi x^5 + 3$	$5\pi x^4$
3. $x \cos(x^2)$	$\cos(x^2) - 2x^2 \sin(x^2)$
4. $\frac{x^2}{x^2 + 1}$	$\frac{(x^2 + 1)2x - x^2 2x}{(x^2 + 1)^2}$
5. $\sin(\cos(e^x))$	$\cos(\cos(e^x))(-\sin(e^x))e^x$
6. $e^x \ln x$	$e^x(1/x) + e^x \ln x$

3. Fill in the table below.

	F , the antiderivative of f	The function f	f' , the derivative of f
1.	$.25x^4 - 18x^{3/2} + C$	$6x^{23} - 27\sqrt{x}$	$6 \cdot 23 x^{22} - (27/x)x^{-.5}$
2.	$5e^x - 5x^2 - 4x + C$	$5e^x - 10x - 4$	$5e^x - 10$
3.	$x \ln x - x + (20/9)x^{9/5} + C$	$\ln x + 4x^{4/5}$	$1/x + (16/5)x^{-2}$
4.	$-(5/3)\cos(3x) - \ln x + C$	$5 \sin(3x) - \frac{1}{x}$	$15 \cos(3x) + 1/x^2$
5.	$235x + (23/6)x^{-6} + (7/2)x^2 + C$	$235 - \frac{23}{x^7} + 7x$	$(23 \cdot 7)/x^8 + 7$