

1 Fill in the blank entries of the following table:

$f(x)$	$f'(x)$	$f''(x)$
e^{Ax}		
\sqrt{x}		
$\ln x$		
$\sin(2x)$		
$\cos(2x)$		
$\tan(4x)$		
$\sec(5x)$		
$\cot(6x)$		
$\csc(7x)$		
$\arcsin(x)$		
$\arccos(x)$		
$\arctan(x)$		

2 Fill in the blank entries of the following table.

$f(x)$	$f'(x)$	$f''(x)$
	$\cos(2x)$	
	$\sin(x)^2$	
	$\cos(x)^2$	
	$\sec(x)^2$	
	x^{-1}	
	$4x^{-1}$	
	$\csc(x)^2$	
	$\sec(x) \tan(x)$	
$\ln(\sec(x))$		
$\ln(x + \sqrt{x^2 + 1})$		
$\ln(\sec(x) + \tan(x))$		

3 Fill in the blank entries of the following table.

	$\frac{1}{\sqrt{3-2x}}$	
	xe^{3x}	
	$\sinh(x)$	
	$\cosh(x)$	
	$\ln(x)$	
	$\arcsin(x)$	
	$\arctan(x)$	
	$\operatorname{arcsinh}(x)$	
	$\ln(x + \sqrt{x^2 + 1})$	
	$\operatorname{arctanh}(x)$	
	$\ln\left(\sqrt{\frac{1+x}{1-x}}\right)$	
	$\operatorname{arccosh}(x)$	