

## Calculator Practice 1: Finding Values of Derivatives Using the Graphing Calculator

For each of the functions below, find the value of  $f'(x)$  at the indicated value of  $x$  using the graphing calculator. Then, determine if the function is increasing, decreasing, has a horizontal tangent or has a vertical tangent. Give a reason for your answer.

Function	Value of $f'(a)$	Is $f(x)$ increasing or decreasing, or does $f(x)$ have a horizontal or a vertical tangent?	Is $f(x)$ concave up or concave down at $x = a$ ?
1. $f(x) = 3e^x \sin x$	$a = -2$		
2. $f(x) = 3e^x \sin x$	$a = 1$		
3. $f(x) = \frac{\ln(\cos x)}{x^2}$	$a = \frac{\pi}{3}$		
4. $f(x) = \frac{\ln(\cos x)}{x^2}$	$a = \pi$		
5. $f(x) = e^{\tan(0.34x)}$	$a = 0$		
6. $f(x) = 5 \sin^2(\ln x)$	$a = 1$		