

Write the limit definition of the derivative of each of the following functions at the given  $x$ -value. If no  $x$ -value is stated, then write the limit definition of the derivative at  $x$ .

#	$f(x)$	$x$ -value	Limit definition of the derivative using $h$ or $\Delta x$
1.	$2x^2 - 7x$	$x = 2$	
2.	$\sin(x)$		
3.	$\log_2(x+1)$	$x = 7$	
4.	$e^{x^2}$		
5.	$\arctan(x)$	$x = \frac{1}{2}$	
6.	$3^{5-x}$	$x = 2$	
7.	$\csc(-x)$		
8.	$\frac{1}{x+1}$		
9.	$\sqrt{x+2}$		
10.	$ 2x+7 $	$x = -2$	