

**Exercise 1** Let  $f(x) = \ln(x)$  and  $a = 5$ . Observe the table of values for  $\frac{f(a+h) - f(a)}{h}$ :

$h$	$\frac{f(a+h) - f(a)}{h}$
-0.1	0.202027
-0.01	0.2002
0.01	0.1998
0.1	0.198026

The limit as  $h \rightarrow 0$  is approximately 0.2.