

# Directional Derivatives and the Gradient



## Question

Using the table of values of  $f(x, y)$  shown at right, estimate  $D_{\vec{u}}f(1, 2)$  where  $\vec{u} = \frac{1}{\sqrt{2}}(\vec{i} + \vec{j})$ .

$x \backslash y$	0	1	2	3
0	-1	1	0	2
1	0	5	3	2
2	1	6	6	5
3	3	7	9	7

- A. 2
- B.  $-1/\sqrt{2}$
- C. -3
- D.  $2/\sqrt{2}$