

Maximum and Minimum Values



Question

If f has a critical point at $(3, 2)$, $f_{yy}(3, 2) < 0$ and $D = f_{xx}(3, 2)f_{yy}(3, 2) - (f_{xy}(3, 2))^2 > 0$, can you conclude that f has a local maximum $(3, 2)$?

- A. Yes, because $f_{xx}(3, 2)$ must also be negative.
- B. No, the second derivative test refers only to f_{xx} .
- C. Yes, whenever $D > 0$, f has a local maximum.
- D. No, because $f_{xx}(3, 2)$ could be positive.