## .83

## Congratulations! You passed!

Next Item



1. In this quiz you will put into practice how to calculate the Jacobian from the lecture video.



For  $f(x,y)=x^2y+\frac{3}{4}xy+10$ , calculate the Jacobian row vector J.



Correct Well done!

- $J = \left[2xy + \frac{3}{4}y + 10, x^2 + \frac{3}{4}x + 10\right]$



 $\label{eq:cos} \text{2.} \quad \text{For } f(x,y) = e^x cos(y) + xe^{3y} - 2 \text{, calculate the Jacobian row vector } J.$ 

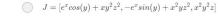


Correct

Well done!



 $\label{eq:cos} \mbox{$\beta$}. \quad \mbox{For } f(x,y,z) = e^x cos(y) + x^2 y^2 z^2 \mbox{, calculate the Jacobian row vector } J.$ 



Correct

Well done!

- $\qquad J = [e^x cos(y) + 2xy^2z^2, e^x sin(y) + 2x^2yz^2, 2x^2y^2z^2]$



4. For  $f(x,y,z)=x^2+3e^ye^z+cos(x)sin(z)$ , calculate the the Jacobian row vector and evaluate at the point (0,0,0).



(0,0,0) = [0,3,4]

Well done!



 $5. \quad \mbox{ For } f(x,y,z)=xe^ycos(z)+5x^2sin(y)e^z,$  calculate the the Jacobian row vector and evaluate at the point (0,0,0).



- J(0,0,0) = [0,0,1]

- J(0,0,0) = [1,0,0]

Correct

Well done!