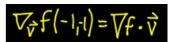


Consider function

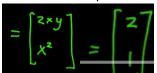
and a vector v (normalized)



Directional derivative at a specified point, say (-1, -1) is given by the formula



Gradient is computed using the formula

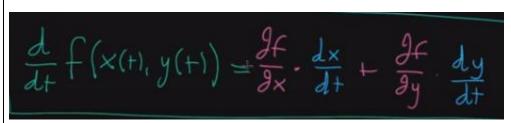




Now, substituting in the second equation above, we get the directional derivative as

For more details, watch <a href="https://www.youtube.com/watch?v=4tdyIGIEtNU">https://www.youtube.com/watch?v=4tdyIGIEtNU</a>

Multi-variable chain rule for differentiation



Watch the details at https://www.youtube.com/watch?v=NO3AqAaAE6o