

**Verified**  
Certificate



A handwritten signature in black ink, reading "Larry Guth".

**Larry Guth**

Claude Shannon Professor of Mathematics  
MacVicar Faculty Fellow  
*Massachusetts Institute of Technology*

A handwritten signature in black ink, reading "Sanjay Sarma".

**Sanjay Sarma**

Vice President for Open Learning  
*Massachusetts Institute of Technology*

This is to certify that

**Sandipan Dey**

successfully completed and received a passing grade in

**18.02.1x: Multivariable Calculus 1: Vectors and Derivatives**

a course of study offered by MITx, an online learning initiative of the Massachusetts Institute of Technology.



**Verified Certificate**  
Issued October 6, 2021

**Valid Certificate ID**  
[4a24a7b8a52946fe8d3a6bbeb966c165](https://courses.edx.org/certificates/4a24a7b8a52946fe8d3a6bbeb966c165)