Daily Prep Assignment for March 30th

Overview

In 11.8 we consider two other coordinates systems for 3D space, cylindrical and spherical coordinates. Just as we learned how to integrate in polar coordinates we can use these new coordinate systems to write triple integrals.

To prepare for class

Preview activities: Read the example preview activity solution on the course website then,

- Preview activity 11.8.1

Reading:

- Read section 11.8

Watching: Watch these additional resources if you need support reading the text.

1. Overview 11.6: `https://youtu.be/I2oEoymy82g`

During and after class

- Activity 11.8.2
- Activity 11.8.3
- Activity 11.8.4
- Activity 11.8.5
- Activity 11.8.6
- Activity 11.8.7
- Consider the integral

$$\int_0^2 \int_0^{1-\frac{1}{2}x} \int_0^z dy\, dz\, dx$$

    1. Sketch the volume we are integrating over.
    2. Rewrite the integral in the order $dx\, dz\, dy$.
    3. Rewrite the integral in the order $dz\, dy\, dx$.