

Required reading:

- Larson 9e: section 13.1, read pages 886-888, skim pages 889-893
- Dawkins: Calculus III, section 1-1: The 3-D Coordinate System
<http://tutorial.math.lamar.edu/Classes/CalcIII/3DCoords.aspx>
 - Notes: Read all. (Last modified: 11/29/2018)
 - Practice Problems: Review all. (Last modified: 11/29/2018)
- Dawkins: Calculus III, section 1-5: Functions of Several Variables
<http://tutorial.math.lamar.edu/Classes/CalcIII/MultiVrbleFcns.aspx>
 - Notes: Read from the beginning through Example 2.
Skim the remaining of the reading (starting with level/contour curves.) (Last modified: 11/29/2018)
 - Practice Problems: Review Problems 1-4. (Last modified: 11/29/2018)

Required homework:

- Larson 9e: page 894, problems 3, 5, 11, 13, 19, 21, 23, 25, 27, 29

Additional comments regarding this topic:

Complete the reading for Dawkins section 1-1 before completing the other readings.

Calculus I and II were about single-variable calculus; Calculus III and IV are about multivariable calculus. This section is an introduction to multivariable content; there isn't any calculus content, but it sets the foundation for the calculus content to come. These ideas can be very difficult to grasp initially, so we need to try our best to comprehend as much as we can.

Additional comments regarding the Larson reading:

In Example 1, part (a), we note that the radicand must be non-negative: $x^2 + y^2 - 9 \geq 0$. That is how Larson obtains $x^2 + y^2 \geq 9$.

In Example 1, part (b), we note that the radicand must be positive: $9 - x^2 - y^2 - z^2 > 0$. That is how Larson obtains $x^2 + y^2 + z^2 < 9$.