

Required reading:

- Larson 9e: section 13.8, pages 954-958
- Dawkins: Calculus III, section 3-3: Relative Minimums and Maximums
<http://tutorial.math.lamar.edu/Classes/CalcIII/RelativeExtrema.aspx>
 - Notes: Read all. (Last modified: 10/22/2019)
 - Practice Problems: Review all. (Last modified: 06/04/2018)

Required homework:

- Larson 9e: page 960, problems 9, 11, 13, 21, 23, 25

Additional comments regarding the Larson reading:

In Example 1, we use the fact that $(-2, 3)$ is a critical point to *consider* that it may be the location of a relative extremum. This alone, however, does not guarantee it is a relative extremum. By knowing what the graph of $f(x, y)$ looks like, we can determine that this is the location of a relative minimum. A similar argument holds for Example 2.

If we do not know what these graphs look like, however, we could be in trouble... thankfully, we have the Second Partials Test. The Second Partials Test does not work for all cases, however. We are not going to concern ourselves too much with multivariable graphs, but hopefully we see by this exercise that they can be really useful, despite being confusing!