

Math 126 Final Exam Checklist

The final exam is cumulative.

That is, it could include ANYTHING from this quarter. Here is what you should do:

1. First make sure you understand the Taylor notes and finish the last homework.
2. Work through many, many old finals.
3. Go back and look at homework from parts of the course you struggled with.
4. Make sure you have all formulas on your notesheet.

Chapters 10 and 12

- Dot product, cross product, what they give
- Distance formula, sphere equation
- Equations for lines and planes
- Calculus for parametric curves
- Polar coordinates and calculus

Chapters 13

- Position, Velocity, Acceleration Vectors
- Unit Tangent, Principal Unit Normal, Binormal
- Normal Plane and Osculating Plane
- Tangential and Normal Component of Acceleration
- Curvature for 2D and 3D.

Chapter 14

- Drawing level curves/traces
- Partial Derivatives
- Tangent Plane/Linear Approx/Differential
- Second Derivative Test to classify critical points.
- Absolute maximum over a region (a rectangle, triangle, or circle).

Chapter 15

- Iterated Integrals over general regions.
- Switching order of integration.
- Iterated Integrals over polar regions and area of polar regions.

Taylor Polynomials and Series

- Finding Taylor polynomials via derivatives.
- Given a base and an interval: bounding the error using Taylor's inequality.
- Given a base and an error: finding an interval with no more than this error.
- Taylor series and the appropriate interval of convergence.
- Substitution into these Taylor series.
- Integrating and differentiating Taylor series.
- Giving the first several nonzero terms of the Taylor series.