

## Math 126 End of Week 7 Newsletter

Note: I am reposting some of my 15.1, 15.2, and integration materials links in this newsletter in case you missed it in last weeks newsletter.

### UPCOMING ASSIGNMENTS

- *Closing Tue:* HW 15.2, 10.3 Work on this now! Don't wait.
- *Closing Thu:* HW 15.3 Give yourself plenty of time for 15.3.
- *Open Fri-Sun:* Quiz 4 on 15.1, 15.2, 10.3, and 15.3 on **Canvas**

### UPCOMING SCHEDULE:

Monday:	Live-Stream – 15.3 (Double integrals using polar coordinates)	- <b>Watch 15.3 Before</b>
Tuesday:	Test Prep on 10.3/15.3 and HW Q & A	
Wednesday:	Live-Stream – 15.4 (Center of mass and other applications)	- <b>Watch 15.4 Before</b>
Thursday:	Review or Finish Test Prep or HW Q & A	
Friday:	Live- Stream – TN 1 (Taylor Polynomials and Error Bounds)	- <b>Watch TN 1 Before</b>

**POSTINGS:** Here again is my [extra materials/review website](#) (these are all my personal review sheets)

**15.1 and 15.2 Materials** (Fundamentals of Double Integrals):

1. [15.1/15.2 Terminology and Theory Review Sheet](#)
2. **Describing regions (very important)**, read thru and try these if you are still confused after lecture):  
[Describing regions practice sheet 1 - Solutions](#) (this is directly from a review from my Calc II class!)  
[Describing regions practice sheet 2 - Solutions](#) (lots of detail here, please use this practice!!!)
3. [15.2/15.3 Review](#) Sheet (containing even more practice drawing regions and reversing order)

**10.3 and 15.3 Materials** (Using Polar Coordinates to set up double integrals):

1. [My Trig Fact Sheet](#) (my personal review of trig... a list of the essential trig facts)
2. [My Polar Coordinates Review](#) (basic overview where I graph two polar curves)
3. [Polar Graph Paper \(Large Size\)](#) and [Polar Graph Paper \(Median Size\)](#) (not required, just for fun)
4. [Reminder of how to integrate trig functions](#) (the most common examples are shown and worked out)  
(If you want a longer review on integrating trig functions, check out my [7.2 lecture notes from calc II](#)).

**OLD EXAMS TO TRY:** Solutions and lot more practice is in [my exam archive](#).

For practice with 15.1/15.2 (setting up "word" problems):

[Winter 2015 – Dr. Loveless – Exam 2 – 3\(a\)](#)

[Spring 2014 – Dr. Loveless – Exam 2 – 2\(b\)](#)

[Spring 2013 – Dr. Loveless – Exam 2 – 3\(a\)](#)

For practice with 15.2 (draw region and reverse order):

[Winter 2015 – Dr. Loveless – Exam 2 – 2\(b\)](#)

[Fall 2013 – Dr. Loveless – Exam 2 – 2\(b\)](#)

[Spring 2014 – Dr. Loveless – Exam 2 – 2\(a\)](#)

For practice with 10.3 (general polar skills)

[Spring 2013 – Dr. Loveless – Exam 1 – 3\(a\)](#)

[Spring 2011 – Dr. Loveless – Exam 1 – 4\(a\)](#)

(Aside: I will NOT ask about *tangents* to polar curves like 4(b) on spring 2011, we no longer do that)

For practice with 10.3/15.3 (using polar coordinates to evaluate a double integral)

[Winter 2015 – Dr. Loveless – Exam 2 – 3\(b\)](#)

[Fall 2013 – Dr. Loveless – Exam 2 - 3](#)

[Spring 2011 – Dr. Loveless – Exam 2 – 4\(b\)](#)

For practice with 15.4 (center of mass):

[Spring 2013 – Dr. Loveless – Exam 2 - 4](#)

I hope some of this helps. - Dr. Loveless

*see the next page for links to integration review...*

**SUPPLEMENTAL POSTINGS ON INTEGRATION:** You now need to remember how to integrate. You are expected to know all integration techniques from Math 125. If you have forgotten integration, then see my website for even more review of integration. Here are a few specific links you might find useful.

1. **Integrals you can quote in one step:**

<https://sites.math.washington.edu/~aloveles/Math126Fall2020/CalculusFactSheet2.pdf>

2. **Very Basic Integrals I expect you to be able to do** quickly (only require simplification or substitution)

<https://sites.math.washington.edu/~aloveles/Math126Fall2020/BasicIntegralPage.pdf>

**Solutions:** <https://sites.math.washington.edu/~aloveles/Math126Fall2020/BasicIntegralPageSolutions.pdf>

3. **Full Review of Integration by parts:**

<https://sites.math.washington.edu/~aloveles/Math126Fall2020/m307LaplaceIntegrationFacts.pdf>

4. **Examples of Trig Integral Techniques** (you'll need this a lot in section 15.3):

<https://sites.math.washington.edu/~aloveles/Math126Fall2020/IntegratingPowersOfTrig.pdf>

5. **Several examples of substitution, by parts, and partial fractions:**

<https://sites.math.washington.edu/~aloveles/Math126Fall2020/m307BasicIntegrationExamples.pdf>

6. Here is my flowchart on how to do all integration problems (from Math 125):

<https://sites.math.washington.edu/~aloveles/Math125Fall2019/Integration%20Methods%20Flowchart.pdf>

I have a ton more things here: <https://sites.math.washington.edu/~aloveles/Math125Fall2019/index.html>  
(including lecture notes and explanations for each of these topics)