Math 126 End of Week 4 Newsletter

UPCOMING SCHEDULE:

Friday:	Section 13.4 and 10.3 (velocity/acceleration and polar)
Monday:	Section 10.3 and 14.1 (polar and intro to surfaces)
Tuesday:	Exam 1 Return, Worksheet, and HW Q&A
Wednesday:	Section 14.3 (Partial Derivatives)
Thursday:	HW Q&A
Next Friday:	Section 14.3, 14.4 (Partial Derivatives and Tangent Planes)

Here is the worksheet for next Tuesday:
Worksheet 4: https://sites.math.washington.edu/~aloveles/Math126Spring2018/sp18ws4.pdf

Exam 1 Reviewing, Reflection and Regrades Information:
Early next week, I will be emailing you exam information and statistics. I also will be emailing information about regrades and an exam reflection survey. So be looking for that email. Briefly, here are some important things I will say:

1. When you get your exam back, quickly review it and immediately report any miscalculations or tallying to your TA.
2. Then take your exam home and review the questions, carefully read and consider the posted solutions. Also fill out the exam reflection survey (more information to come).
3. If you have carefully considered the exam and the solutions and you have a complaint about grading, then you must bring me your exam by Friday (at lecture or office hours). I will take your exam and consider the issue and add comments. You can NOT bring me regrade questions after Friday. I expect you to review your midterm immediately and bring me your questions right away.

HOMEWORK: Closing Tuesday: 10.3 Closing Thursday: 14.1, 14.3 (part 1)

NEW POSTINGS: There are several new postings which should help over the next week:

1. **Polar Overview with two full examples**:
   https://sites.math.washington.edu/~aloveles/Math126Spring2018/Polar%20Coordinates%20Overview.pdf
2. **Trig Fact Sheet (unit circle):**
   https://sites.math.washington.edu/~aloveles/Math126Spring2018/Trig%20Facts.pdf
3. **Summary of 13.3, 13.4 and 14.1 (an example of a 14.1 problem is in here)**:
   https://sites.math.washington.edu/~aloveles/Math126Spring2018/sp10m126week4review.pdf
4. **Summary of 14.3**:
   https://sites.math.washington.edu/~aloveles/Math126Spring2018/sp10m126week6reviewA.pdf
5. **Practice with Partial Derivatives and review of derivative rules (including implicit differentiation)**:
   https://sites.math.washington.edu/~aloveles/Math126Spring2018/PartialDerivativesPractice.pdf

OLD EXAMS:
Remember there are many old exams (most with solutions) in the departmental **exam 2 archive** here:
http://www.math.washington.edu/~m126/midterms/midterm2.php
and in my additional exam archive here:
https://sites.math.washington.edu/~aloveles/Math126Spring2017/examarchive.html

For practice with 10.3 you might try:
Problem 4 from: http://www.math.washington.edu/~aloveles/Math126Spring2013/sp11m126e1.pdf
Problem 3 from: http://www.math.washington.edu/~aloveles/Math126Spring2013/sp10m126e1.pdf
Problem 1 from: http://www.math.washington.edu/~m126/midterms/midterm1/mid1_win09_perkins.pdf
Problem 4 from: http://www.math.washington.edu/~aloveles/Math126Spring2013/Taggartf09e1.pdf
Problem 5 from: http://www.math.washington.edu/~m126/midterms/midterm1/m126aut10conroyExI.pdf

COURSE MATERIAL NOTE (remembering Math 124):
Read this carefully and check out the links if you want to be ready for Chapter 14!

We have finished our discussion on 3D curves. Now we will discuss surfaces. The Chapter 14 discussion of surfaces is a lot like things you did in Math 124 for one variable functions. Here are skills I expect you to remember from Math 124.
Given a one variable function can you answer these questions

a) What is a critical value?
b) What is a local max/min?
c) What is a global max/min?
d) What are the first and second derivative tests?
e) How do you do applied optimization problems?

It will be easier to understand Chapter 14 if you remember these facts. The one variable facts above are all from Chapter 4 of our textbook which you could reread if you don't know the answers to the questions above. You can also read these review sheets from my **materials from my Math 124 course**:

My basic review of these facts from chapter 4 of Math 124:
http://www.math.washington.edu/~aloveles/Math124Winter2013/m124week7reviewNOMeanValue.pdf
and read my calculus 1 lecture notes on this topic:
https://sites.math.washington.edu/~aloveles/Math124Fall2017/4-3%20Notes%20-%20f17.pdf

Here is another sheet of example problems of max/min questions (from my business calculus class):
https://sites.math.washington.edu/~aloveles/Math112Winter2018/m112review10-1-10-3.pdf
(The link above contains 3 full examples with pictures).

Overhead examples of applied optimization problems that we ask our students to do in Math 124:
http://www.math.washington.edu/~aloveles/Math124Winter2013/4-7OptimizationOverheads.pdf
and here are my lectures notes on applied max/min from Math 124:
https://sites.math.washington.edu/~aloveles/Math124Fall2017/4-7%20Notes%20-%20f17.pdf

If you want some general practice with critical points and max and min from calculus 1, check out these old finals:
Problem 6 from: https://sites.math.washington.edu/~m112/Final/w18_final_loveless.pdf
Solutions: https://sites.math.washington.edu/~m112/Final/w18_final_loveless_sol.pdf
Problem 7 and 8 from: https://sites.math.washington.edu/~m124/source/Exams/Final/final_17sp/final.pdf
Answers: https://sites.math.washington.edu/~m124/source/Exams/Final/final_17sp/answers.pdf

I hope some of this helps.

Dr. Andy Loveless