Math 125 End of Week 4 Newsletter

UPCOMING SCHEDULE:

Friday:	Section 6.4 (Work)
Monday:	Section 6.4/6.5 (Work and Average Value)
Tuesday:	Exam 1 return and homework discussion (bring lots of homework questions!)
Wednesday:	Section 7.1 (Integration by parts)
Thursday:	Worksheet 5 – Integration by Parts http://www.math.washington.edu/~m125/Worksheets/IntByParts.pdf
Next Friday:	Section 7.2 (Trig Integrals)

Homework Schedule: Closing **THURSDAY:** HW_4A, HW_4B, HW_4C (These cover 6.4 and 6.5)

Homework Stats:
HW_3A: median score = 96%, median time = 120 minutes
HW_3B: median score = 94%, median time = 130 minutes
HW_3C: median score = 94%, median time = 220 minutes

HOMEWORK COMMENTS AND HINTS:

On HW_4A*:* You'll want to read all my posted examples before you start!

On Problem 5, if I was doing this in class, I would break it up into two problems. But Webassign requires you type on the set up all in one box. Not to worry, here is a hint: the work to lift the coal is 500 lbs * 300 ft = 150000 ft-lbs (your numbers will be different). But that is the same as $\int_0^{300} 500\ dx$. Now your job is to figure out the work to lift the cable which will look like $\int_0^{300} ???\ dx$ (you need to fill in the questions marks). So the total answer is $\int_0^{300} ???\ dx + \int_0^{300} 500\ dx = \int_0^{300} ??? + 500\ dx$. Meaning in the given blanks your answer will be ??? + 500.

On Problem 8, don't overthink it. If you are given $PV^{1.4} = k$, then $P = k/V^{1.4}$. The problem tells you to integrate this to get work. But you need to start by converting some units. And you need to find k (you can find k because they give you a particular value of P and V).

On HW_4B: I don't think you'll need any hints here.

On HW_4C: Students often struggle with problem 2. Start by drawing an accurate picture for the start of the problem, label "x". Then draw a picture for the end of the problem. What is the formula for the distance traveled by a subdivision at x (think about where it started and where it ended up).

NEW POSTINGS

Students often struggle initially with the concept of "Work" from section 6.4. Part of the problem is there aren't very many examples in the book. So I have created an extensive archive of additional examples which I hope you find useful.

These include:

1. **6.4 Summary and Basic Practice Problems:**
   https://sites.math.washington.edu/~aloveles/Math125Fall2017/m125WorkReview.pdf
   Solutions: https://sites.math.washington.edu/~aloveles/Math125Fall2017/m125WorkReviewSolns.pdf
2. **6.4 Old Exam Questions:**
   https://sites.math.washington.edu/~aloveles/Math125Fall2017/OldExamWorkProblems%20-%20Loveless.pdf

Sol'ns: https://sites.math.washington.edu/~aloveles/Math125Fall2017/OldExamWorkProblems%20-%20Loveless%20-%20Solutions.pdf

3. **6.4 Challenge Problems** (these are some of the more challenging problems from old exams, don't try these unless you have tried everything else and done the homework)
   https://sites.math.washington.edu/~aloveles/Math125Fall2017/sp13m125WorkExamples.pdf
   solutions: https://sites.math.washington.edu/~aloveles/Math125Fall2017/sp13m125WorkExamplesSolns.pdf

OLD EXAMS:
The math departmental **exam 2 archive** is here: http://www.math.washington.edu/~m125/Quizzes/Q8.php
My personal exam 2 archive is here (scroll down the page):
https://sites.math.washington.edu/~aloveles/Math125Fall2017/LovelessExamArchive.html
Here are some targeted practice problems from old exams on the current material:

for practice using Section 6.4 material:
Chain:
Problem 3: https://www.math.washington.edu/~m125/Quizzes/week8/win13_mid2.pdf
Problem 4: https://www.math.washington.edu/~m125/Quizzes/week8/win16_pollack_2.pdf
Pumping:
Problem 1: https://www.math.washington.edu/~m125/Quizzes/week8/mid2h.pdf
Problem 2: https://www.math.washington.edu/~m125/Quizzes/week8/mid2b.pdf
Problem 4: https://www.math.washington.edu/~m125/Quizzes/week8/125_Au14_MT2.pdf
Springs:
Problem 4: https://www.math.washington.edu/~m125/Quizzes/week8/mid2p.pdf
Problem 4: https://www.math.washington.edu/~m125/Quizzes/week8/win16_ostroff_2.pdf

See a lot more practice in my other postings from the previous page!!!

I hope some of this helps.

Dr. Andy Loveless