

Math 125 End of Week 4 Newsletter

UPCOMING SCHEDULE:

Friday: Section 6.3 (Cylindrical Shells)
Monday: Section 6.4 (Work)
Tuesday: Exam 1 return and homework discussion (bring lots of homework questions!)
Wednesday: Section 6.5 (Average Value)
Thursday: Worksheet 5 – Integration by Parts
<http://www.math.washington.edu/~m125/Worksheets/IntByParts.pdf>
Friday: Section 7.1 (Integrating by parts)

HOMEWORK:

Closing **MONDAY**: HW_3C (this covers 6.3)
Closing **FRIDAY**: HW_4A, HW_4B, HW_4C (These cover 6.4 and 6.5)
HW_3A: median score = 96%, median time students had browser open to assignment = 120 minutes
HW_3B: median score = 94%, median time students had browser open to assignment = 130 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 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

Here, again, is the course website: <http://www.math.washington.edu/~aloveles/Math125Winter2017/index.html>

There are several new postings:

1. **Old lecture notes summarizing 6.5:**

<http://www.math.washington.edu/~aloveles/Math125Winter2017/6-4%20Lecture%20Review.pdf>

2. **Quick Overview of 6.4 and 6.5:**

<http://www.math.washington.edu/~aloveles/Math125Winter2017/EndOfChapter6.pdf>

3. Remember that **lecture materials are posted here:**

<http://www.math.washington.edu/~aloveles/Math125Spring2016/lecture.html>

4. **My old midterm questions on Work (6.5) compiled together:**

<http://www.math.washington.edu/~aloveles/Math125Winter2017/OldExamWorkProblems%20-%20Loveless.pdf>

My full solutions:

<http://www.math.washington.edu/~aloveles/Math125Winter2017/OldExamWorkProblems%20-%20Loveless%20-%20Solutions.pdf>

5. **Nearly every type of old final problem I could find on Work (6.5):**

<http://www.math.washington.edu/~aloveles/Math125Winter2017/sp13m125WorkExamples.pdf>

My full solutions:

<http://www.math.washington.edu/~aloveles/Math125Winter2017/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):

<http://www.math.washington.edu/~aloveles/Math125Winter2017/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: http://www.math.washington.edu/~m125/Quizzes/week8/win13_mid2.pdf

Problem 4: http://www.math.washington.edu/~m125/Quizzes/week8/win16_pollack_2.pdf

Pumping:

Problem 1: <http://www.math.washington.edu/~m125/Quizzes/week8/mid2h.pdf>

Problem 2: <http://www.math.washington.edu/~m125/Quizzes/week8/mid2b.pdf>

Problem 4: http://www.math.washington.edu/~m125/Quizzes/week8/125_Au14_MT2.pdf

Springs:

Problem 4: <http://www.math.washington.edu/~m125/Quizzes/week8/mid2p.pdf>

Problem 4: http://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