



Inside engage

March, 2009

Online Homework for EF 151, 152, Physics for Engineers I, II

For approximately the past five years we have used an online homework system in that was developed by Prof. Will Schleter. All of the students get the same problem, but each have different numerical values. A sample homework is shown below, with some of the features pointed out. As you can see, we try to make the problems more interesting than the normal physics problem.

rbennet2 - On-Line HW 4.1-2

Current time: Fri Mar 6, 09:11:40
 Deadlines:
 Full credit: Tue Feb 24, 23:59
 75% credit: Fri Mar 6, 23:59
 50% credit: Mon Apr 27, 23:59


View Discussions about this question
 General Instructions
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Clicking here takes students directly to our discussion board, and filters for only posts on this problem.

Show Solution Edit mode Clear View all Utilities Reset Quiz Reset Quiz (test values) Reset Answers

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Test/Question ID: 278/1132

2. 

Dr. Bennett's and Prof. Schleter's daughters both want an iPod dock for Christmas. Since a normal iPod dock isn't geeky enough they each decide to build a custom dock, vacuum tube amplifier, and speaker system. Sparing no expense, Professor Schleter incorporates a 280 watt amplifier, while frugal Dr. Bennett uses a cheap 58 watt amplifier.

If students do not complete the problem by the first due date, they can get 75% credit if the problem is worked by the module exam, and 50% credit if worked by the end of the semester.

Notes/Calcs:
 Save Params /* */

Students can type equations/notes here. EF staff can look at these notes when providing help.

Notes box contains a built-in calculator.

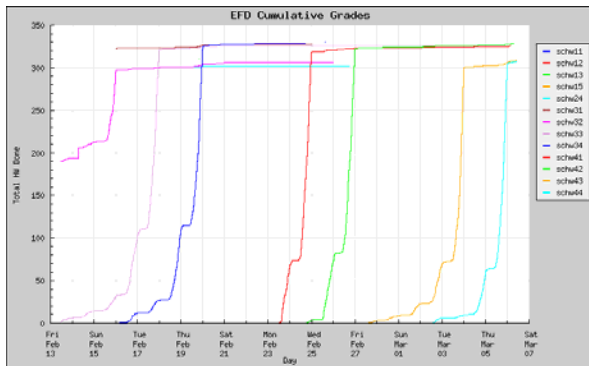
Check out the link at http://dvice.com/archives/2008/04/top_ten_ways_to.php

Part	Description	Answer	Chk	History
A.	What is the intensity of the sound from a speaker connected to Prof. Schleter's amp 3.5 m from the speaker? (W/m^2)		6.25 pts. 0 hints 2% try penalty	
B.	What is the sound level in decibels at 3.5 m from a speaker connected to Prof. Schleter's amp? (± 0.2 db)		6.25 pts. 0 hints 2% try penalty	

A small penalty is assessed for each wrong answer to encourage students to think about answer before submitting.

A history of the tries can be reviewed to see potential errors (e.g. sign error).

One of the things the online homework system has enabled us to examine is when students work the homework. About 3/4 of the students work the problem within 8 hours of the due time, as shown in the graph below, which examines total homework done. As a result of this, we set due dates close after the material is presented, as students will wait until right before the homework is due, no matter what.



Homework by the Numbers

In EF 151, Fall 2008, each student had 466 questions (many were multiple parts to the same problem), for a class total of 199,914 possible answers. There were 164,537 correct homework answers submitted, or 82% of the homework problems were worked correctly. There were 294,877 tries. In other words, the average problem was worked correctly in 1.8 tries. The most efficient student had 465 correct answers out of 580 tries.