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.

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.

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### 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.

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### Problem Details

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
<th>Answer</th>
<th>Score</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>what is the intensity of the sound from a speaker connected to Prof. Schleter's amp 3.5 m from the speaker? (W/m²)</td>
<td>6.25</td>
<td>6.25</td>
<td>6.25</td>
</tr>
<tr>
<td>B.</td>
<td>what is the sound level in decibels at 3.5 m from a speaker connected to Prof. Schleter's amp? (in dB)</td>
<td>6.25</td>
<td>6.25</td>
<td>6.25</td>
</tr>
</tbody>
</table>

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

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

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

Notes box contains a built-in calculator.

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