Homework V - Chapters 7 and 8

due Friday, 05/27/11, 12:50pm, 370-370

For late homework, you are responsible to arrange drop off with our grader Kaushik Mani, kmani@stanford.edu. Once you have used up your three late days, you will no longer receive points for your homework. Here are our office hours and emails.

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<tr>
<td>Tuesdays</td>
<td>06:00 - 07:30pm</td>
<td>Durand 247</td>
<td>Charbel</td>
<td><a href="mailto:ceid@stanford.edu">ceid@stanford.edu</a></td>
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<td>Wednesdays</td>
<td>02:30 - 04:00pm</td>
<td>Durand 217</td>
<td>Ellen</td>
<td><a href="mailto:ekuhl@stanford.edu">ekuhl@stanford.edu</a></td>
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<td>Wednesdays</td>
<td>05:00 - 06:30pm</td>
<td>Durand 393</td>
<td>Chris</td>
<td><a href="mailto:cploch@stanford.edu">cploch@stanford.edu</a></td>
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<td>Thursdays</td>
<td>10:00 - 11:30am</td>
<td>Durand 203</td>
<td>Joules</td>
<td><a href="mailto:jmgould@stanford.edu">jmgould@stanford.edu</a></td>
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<td>Thursdays</td>
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<td>Durand 393</td>
<td>Estevan</td>
<td><a href="mailto:estevanm@stanford.edu">estevanm@stanford.edu</a></td>
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For this homework, you need to be familiar with chapters 7 and 8 of your book! 
Remember, all solutions must include free body diagrams!

**Problem 1**

Draw the shear and moment diagrams for the beam.
Problem 2

Draw the shear and moment diagrams for the beam.

Problem 3

Draw the shear and moment diagrams for the overhang beam.

Problem 4

Draw the shear and moment diagrams for the beam.
Problem 5

The 180-lb man climbs up the ladder and stops after he senses that the ladder is on the verge of slipping. Determine the coefficient of friction between the friction pad at $A$ and the ground if the inclination of the ladder is $\theta = 60^\circ$ and the wall at $B$ is smooth. The center of gravity for the man is at $G$. Neglect the weight of the ladder.

Problem 6

If the center of gravity of the stacked tables is at $G$, and the stack weighs 100 lb, determine the smallest force $P$ the boy must push on the stack in order to cause movement. The coefficient of static friction at $A$ and $B$ is $\mu_s = 0.3$. The tables are locked together.

Problem 7

Wear your E14 T-shirt and take a landscape format photo of yourself in a funny situation. The photo must contain either a shear and moment diagram situation (chapter 7) or a friction problem (chapter 8). Upload your photo through your coursework drop box. The five most creative photos will receive five extra bonus points.