

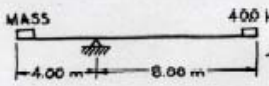
# Homework Rules

- All work containing more than one page must be stapled - no paper clips and no folded corners. In order to facilitate grading of homework problems, homework shall meet the following specifications:
  1. Hand written or typed single-sided on 8.5"x11" paper.
  2. If not typed then for text and equations, use an HB or No. 2 pencil (or darker), or blue or black ink. (Pencil is preferred.) No other colors please, except in diagrams or graphs.
  3. All pages should be numbered i/j in top right hand corner, with your name appearing at the top of each page. It is O.K. to use your initials after the first page.
  4. All work must be shown for full grade - be as thorough as possible.
  5. Writing should be legible and literate - if the grader cannot read your handwriting, you will receive no credit for the problem.

# Homework Format

6. Answers are to be boxed and right justified, with the variables, values (if any) and units (if any), included in the box. Right justified means placed on the right side of the page.
7. Leave half an inch between consecutive parts of a question, and draw a line across the page at the end of each complete question.
8. No part of a question should appear in any margin of the paper.
9. Diagrams and graphs should be of a good size (say at least 3x5 sq. inch), and may contain colors. Diagrams and graphs must be titled, labeled, and clearly drawn. Tables should also be titled.
10. Graphs should be scaled (put number on axes), labeled (put names /units on axes), and titled at the bottom of the graph. Any graph which occupies an area of less than 3x5 sq. inch and which is not titled will not be graded.
11. Where possible use conventional units such as bits/sec, Hz and km

Figure 3.1

8-26-XX	F R E 155 PROBS. 5.1, 5.4, 5.9	Course no. DOE, JOHN B.	Sheet no. 164239
Date due	Problems in set	Name	Number of total pages for this problem set
<p><b>PROBLEM 5.1</b></p> <p style="text-align: center;">Problem Identification</p> <p style="text-align: center;">Problem statement</p> <p style="text-align: center;">CALCULATE THE MASS NECESSARY TO BALANCE THE BEAM SHOWN.</p>			
 <p style="text-align: center;">Sketch showing known data and unknown quantity</p>			
<p><b>THEORY</b></p> <p style="text-align: center;">Engineering principle</p> <p>FOR AN OBJECT IN STATIC EQUILIBRIUM, <math>\sum M_o = 0</math> WHERE <math>M_o</math> IS THE MOMENT PRODUCED BY EACH FORCE ABOUT THE PIVOT O.</p>			
<p><b>ASSUMPTION</b></p> <p style="text-align: center;">Assumption necessary to work problem</p> <p>THE MASS OF THE BEAM IS NEGLIGIBLE.</p>			
<p><b>SOLUTION</b></p> <p style="text-align: center;">SUMMING MOMENTS ABOUT O, CCW POSITIVE (LET g = ACCEL. OF GRAVITY)</p> <p style="text-align: center;"><math>\sum M_o = (\text{MASS})g(4.00\text{ m}) - (40.0\text{ kg})g(8.00\text{ m}) = 0</math></p>			
<p style="text-align: center;">Step-by-step solution</p> <p style="text-align: center;"> <math display="block">\text{MASS} = \frac{(40.0\text{ kg})(8.00\text{ m})}{(4.00\text{ m})} = 80.0\text{ kg}</math> </p> <p style="text-align: center;">Double underline answer with units</p>			
<p style="text-align: center;">Separate problems</p>			
<p><b>PROBLEM 5.4</b></p> <p style="text-align: center;">SOLVE THE FOLLOWING EQUATION FOR S: <math>s^2 + 5s + 6 = 0</math></p>			
<p><b>THEORY</b></p> <p style="text-align: center;">APPLY QUADRATIC FORMULA.</p> <p style="text-align: center;"><math>s = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}</math> WHERE <math>as^2 + bs + c = 0</math></p>			
<p><b>SOLUTION</b></p> <p style="text-align: center;"> <math display="block">s = \frac{-5 \pm \sqrt{5^2 - 4(1)(6)}}{2(1)} = \frac{-5 \pm \sqrt{25 - 24}}{2} = \frac{-5 \pm 1}{2} = -3, -2</math> </p> <p style="text-align: center;"><u>s = -3, s = -2</u></p>			
<p style="text-align: center;">In this example, no assumptions or diagram is needed</p>			

Binding Margin - Do Not Use

Right Margin - Do Not Use