

# GUIDELINES FOR HOMEWORK ASSIGNMENTS

## DO:

- Whenever possible (virtually always), provide a diagram and a clear, concise problem statement (distill the salient points from the textbook's problem narrative)
- Provide enough room for a clear layout and don't hesitate to continue on the next page
- Use engineering paper or other paper with a plain, light-colored background, and use a dark pencil or ink
- Before starting to solve a problem, always expect to recopy it after working through it the first time (this will encourage you to try alternate methods and double-checks, as well as ensuring a neat well laid-out solution)
- State assumptions; explain your reasoning!
- Follow rules for significant figures (see below)
- Recopy a problem neatly if it begins to look jumbled after revisions

## DON'T:

- Write lightly in pencil on a light background with dark rules (hard to read)
- Make random disembodied calculations without explanation (hard to understand)
- Submit papers with ragged edges (hard to handle)

Significant figures. There are detailed rules about how many significant figures to retain when numbers are added or multiplied. For our purposes, acceptable rules are as follows: (1) the result of an addition or subtraction should only have significant figures up to the "column" where all the numbers being added or subtracted have significant figures. In other words, if a number with significant figures through the "tenths" column is added with another that has significant figures up to the "thousandths" column, the result can only have significant figures to the tenths column. If numbers are multiplied or divided, the number of significant figures in the result is the same as that in the number that has fewest significant figures of any in the calculation. For example, multiplying  $2.1 \times 3.44$  yields 7.2, not 7.224 (no matter what your calculator says!). Note that pure numbers (like the 2 in 2gh) are assumed to be known exactly, and hence have infinite implied significant figures.

Extraneous digits have no validity and give a false impression about the reliability of the result. make no sense, especially given the precision of the instruments we use.