# Practice Problems (short documentation for HW\_\_\_\_)

The purpose of practice problems is getting you comfortable with applying engineering concepts to the problem-solving process. You should show enough work that you can refresh yourself on what you had done at some future time, or you can use your solution to walk other students through your solution process.

Your solution should include the following:

## Given:

This is usually the problem statement. In most homework problems, the problem statement is provided. In many real-world problems you have to come up with the problem statement. This may include a figure, data points, etc. Just document what problem it is you are trying to solve.

## Find:

What parameters are you trying to solve for in this problem? Are there any conditions on these parameters (i.e. Find the heat required assuming the process is isothermal)?

## Expected Answer:

Before calculating anything you should give some thought to what the answer might be. If you have a lot of insight you may be able to guess within 5-10% of the actual answer. But even if you don’t know much about the problem you can probably put reasonable bounds on the answer. i.e. efficiency greater than 100% doesn’t make sense in most cases.

## Solution:

This is just the calculation part. Especially in thermodynamics, make sure you have put units in each variable of your calculation, and tracked the units through the solution. Many great engineers have done things like missed landing on a planet due to a simple unit mistake that wasn’t accounted for.

At the end of the solution, make sure to box your final answer(s) so the engineer doesn’t have to search all over for it.