Remember that homework assignments are not collected or graded. So what does the due date mean? It is the date when you are responsible for the material and it might appear on a quiz. Normally this will be one week after it is assigned, but for Assignment #1 you have a little longer.

From the text, read sections §1.1–1.4 and do the Practice Problems. (These are usually absurdly easy, but they’re a good start.)

Then do the following exercises.

1. Solve the following simultaneous equations by adding or subtracting one equation from the other.
   \[
   \begin{align*}
   &2x + 3y = 5 \\
   &-2x - 8y = 0
   \end{align*}
   \]
   (a) \hspace{1cm}
   \[
   \begin{align*}
   3x + y &= 10 \\
   5x + y &= 16
   \end{align*}
   \]
   (b)

2. (a) In the combustion of methane, methane \( \text{CH}_4 \) combines with oxygen \( \text{O}_2 \) to form carbon dioxide \( \text{CO}_2 \) and water \( \text{H}_2\text{O} \). Write down the three conditions imposed on the amounts \( w, x, y, z \) of the four compounds by the conservation of carbon, hydrogen and oxygen. Does this system have 0, 1, or \( \infty \) solutions? Indeed, what is the general solution?
   
   (b) Same thing with methane replaced by benzene, \( \text{C}_6\text{H}_6 \). This one is a little trickier to balance.

Now do the following exercises from the text (the order reflects the treatment in the lectures):
From §1.3, do exercise 1.
From §1.4, do exercises 13, 15, 17, 25, 35, and 37.
From §1.1, do exercises 1, 17, 20, 35, 36, 39, 41, 43, and 45.