Intro Notes:

* ORF starts with start codon (ATG or AUG for RNA) and continues until it reaches the first in-frame stop codon (TAA, TAG, TGA; or UAA, UAG, UGA).
* The stop codon is considered part of the ORF.
* The stop codon is not translated into an amino acid.
* The start codon is translated (into methionine).

Problem 1:

* Goal: Locate restriction sites flanking the yeast Aim2 gene, identify a compatible restriction site within the multiple cloning site of the pRS304 plasmid, and extract the appropriate genomic fragment and insert it into the cleaved location in the plasmid.
* The Aim2 yeast gene does not have introns.
* **Intron** -a segment of a DNA or RNA molecule which does not code for proteins and interrupts the sequence of genes.

1. The AIM2 gene is a Cytoplasmic protein involved in mitochondrial function or organization; null mutant displays reduced frequency of mitochondrial genome loss; potential Hsp82p interactor
2. 52595 – 51855 = 740 nucleotides
3. Since Aim2 does not have any introns, the expected product will be 270 amino acids. If Aim2 did contain intronic regions within its nucleotide sequence, it is expected that the resulting peptide would be shorter. Introns are segments of DNA (or RNA) which do not code for proteins so if the Aim2 nucleotide sequence had regions which did not code for proteins, there will be a shorter resulting peptide with less amino acids.