**Tombs and Greeks and Synthetic Division, Oh, My!**

For the ancient Greeks, Romans, and Egyptians, a sarcophagus was a work of art created to honor a loved one. They decorated the stone tomb (placed above ground) with elaborate inscriptions and ornaments. The name “sarcophagus” means “flesh-eating” in Greek. The limestone used by the ancient Greeks allegedly consumed the whole body, except for the teeth, within 40 days.



The volume in cubic feet of a sarcophagus (excluding the cover) can be expressed as the product of three dimensions: V = x3 – 13x + 12.

The length is x + 4.

a) Find linear expressions with integer coefficients for the other dimensions. Assume that the width is greater than the height.

b) If the length of the sarcophagus is 10 ft., what are the other two dimensions?