

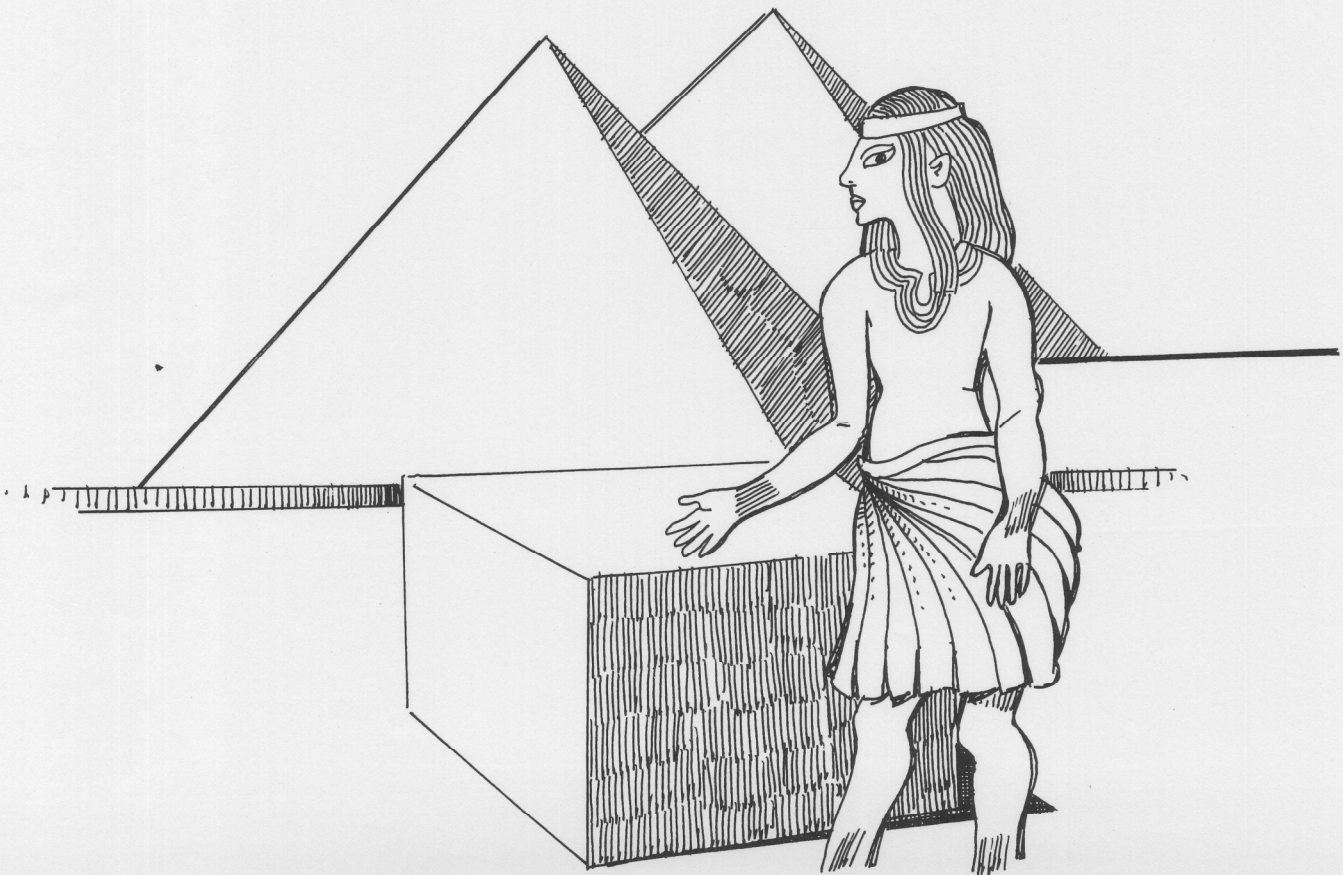
# AMAZING MEASUREMENTS

The last person just made it to his seat as the bell rang. The teacher waited for everyone's attention. She began, "Ancient measurements are really interesting. Hold one of your arms in front of you. Bend the elbow, but keep your hand outstretched. Look at the distance from your elbow to the tip of your middle finger. This measure was used in building all of the Egyptian pyramids. Put one hand flat on your desk. Keep your fingers together and look at the width. This very old measurement is still being used to measure horses. Another ancient measure was based on the length of the left feet of the first 16 men out of church on a certain Sunday. Does anyone know what any of these three measurements were called?"

"The first measurement you talked about was a cubit. I think it was mentioned in the Bible story about Noah's Ark," suggested Matthew.

"I know the second one! Sometimes we use hands to measure horses," said Tessa.

"Does anyone know the name for the measure of the left feet of 16 men?" asked the teacher. "It is a rod. Also, a rod is supposed to equal 8 cubits, or 16 spans, or a double fathom. These are some other very old measures. Many early measures were based on parts of the human body. Why do you suppose body parts were used? Why didn't they use rulers and other measuring devices?"



“Was it because people didn’t always have rulers? But they always had their body parts with them. I know that I sometimes use parts of my body to make approximate measurements,” said Dave.

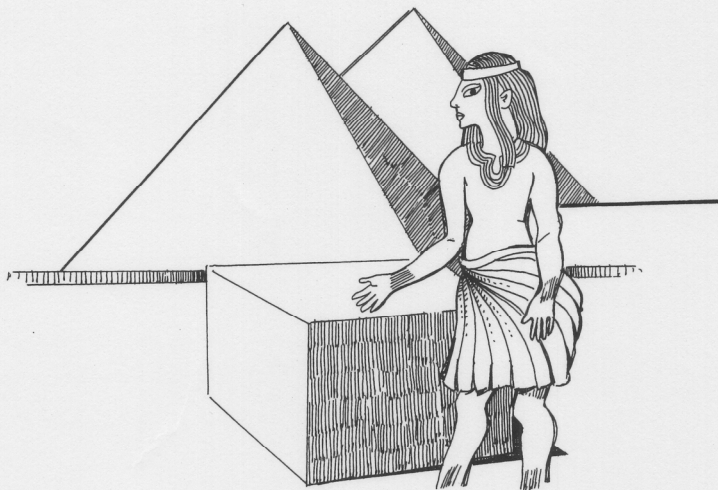
“That’s a good deduction,” said the teacher. “Body parts were often used in ancient times. They continue to be used for many types of measurement today. In fact, for today’s math you will need to use your own body to measure some things at school or at home. You will also need to find the meanings for a number of ancient measurements like fathoms and barleycorns. You already know that the cubit is the distance from the elbow to the tip of your middle finger. So your first task will be to find out how many cubits long and wide our room is.”

# Amazing Measurements

## Problem Set B

**Directions:** First read the story "Amazing Measurements." Information from the story will help you to solve some of these problems. You will also need to find the meanings for some measurements from math books, encyclopedias, and so on.

Please email your responses to your Math teacher.



1. The basic unit of measure for building the Egyptian pyramids was the "cubit." What is the perimeter, in cubits, of an Egyptian pyramid? About how many inches long is a cubit?
2. Nautical measurement still includes the ancient Egyptian "fathom." About how long is a fathom? Explain how one span, one fathom and one cable's length are related.
3. The "mille" or "statute mile" that the Romans set is still used today. How did they decide on the length of the mile? How do a "statute mile" and a "meridian mile" compare? What buildings or landmarks are about one statute mile from the school? What is about one meridian (nautical) mile from your school?
4. Find out what Irish thumbs, English barleycorns, and the more precise use of poppyseeds and human hairs had to do with the inch.
5. Here are some other very early measurements. Use resource books to find as much as you can about them.

span   palm   rod   yard   furlong   league   acre