Unit Fractions

Friday 11/7/08

Do-Now: Figuring out the fractions

The length measures shown below were used in ancient Mesopotamia for thousands of years:
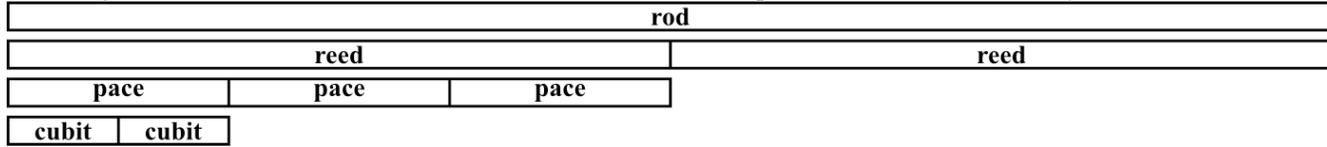
Based on that picture, fill in the following sentences with words:

1. A reed is a _____ of a rod.

2. A pace is a _____ of a reed.

3. A cubit is a _____ of a pace.

Now, write the same facts using math sentences:

    1 reed = _____ rod   **1 pace = _____ reed**   **1 cubit = _____ pace**

Unit fractions of a rod

Next, we will use the facts above to figure out what fraction of a rod a pace or cubit is.

4. Since a pace is a _____ of a reed, which is a _____ of a rod, a pace would be a _____ of a rod.

5. Since a cubit is a _____ of a pace, which we just discovered is a _____ of a rod, a cubit would be a _____ of a rod.

Now, write those same facts using math sentences:

    1 reed = _____ rod   **1 pace = _____ rod**   **1 cubit = _____ rod**

Writing fractional amounts

Fractions like the ones you have been using so far are called **unit fractions** because they act like units: they tell you the size of thing you are working with, whereas the **numerator** of the fraction will then tell you the number of those units that you have. So, a sixth of a rod is a particular size of thing; if I write 5/6 rod, I mean that I have five of them.

For each of the following, refer to the unit fractions you know from above to write the measurement as a fraction of a rod. Then, write out in words how you would read that fraction.

6. Seven reeds

7. Eleven paces

8. Five cubits

Writing mixed number amounts

An amount with both a whole number of rods and another set of units as well can be written as a mixed number of rods. So, for example:

```
2 rods + 4 paces = 2 rods + 4/6 rod = 2 4/6 rod
```

I read this measurement as "Two and four sixths of a rod," and I picture it as two whole rods, plus two parts taken from a rod that has been broken into six pieces.

For each of the measurements below, write it as a mixed number of rods. Then, write out in words how you would read that.

9. Three rods and five cubits

10. A rod and a reed

11. Four rods and two paces

12. Two rods, a reed, and a pace
    Hint: convert the reed into paces

13. Three rods, two paces, and a cubit
    Hint: convert the paces into cubits

14. Four rods, a reed, two paces, and a cubit

Unit Fractions Homework

For each problem, write out your answer using math, but then **also write it out in words**.

1. If there are seven blorbs in a krebf, what fraction of a krebf are three blorbs?

2. If a nitfol is a fourth of a gnusto, and a cleesh is a third of a nitfol, what fraction of a gnusto is a cleesh?

3. How would I write three pints as a fraction of a gallons?

4. How would I write a gallon and nine cups as a mixed number of gallons?

5. How would I write three cups, two pints, a quart, and two gallons as a mixed number of gallons?