1. **First Homework Assignment**

**Due Date:** January 23rd by 12:35 pm

The first assignment is to read pages 8-18 and type a 1 page summary.

Do all of the following problems and turn them in. Be sure to write legibly, explain your answers, and show all work.

1. Write 2,345 in Egyptian pictographs.
2. Write the number 4,423,545 in a) base 60, b) base 2 using modern notation.
3. Write the number \((1000100010001)_2\) in base 10. In general when is a number \((a_k a_{k-1} \cdots a_1 a_0)_2\) odd or even?
4. Explain why \(\frac{1}{7}\) is a repeating decimal in base 60. Approximate the number to four places using the base 60 system.
5. Show that \(\frac{2}{n} = \frac{1}{n} + \frac{1}{2n} + \frac{1}{5n} + \frac{1}{6n}\).
6. Explain why the Egyptians might have used unit fractions.
7. Find the product of \((2 + \frac{1}{3})\) and \((1 + \frac{1}{2} + \frac{1}{7})\) using the Egyptian method of doubling as explained in the book.
8. Explain in your own words what is being said about Problem 63 in the Rhind (Ahmes) Papyrus.