

MAT 300
Spring 2008

Problem 24 of the Rhind Papyrus

A quantity and its $\frac{1}{7}$ added together become 19.
What is the quantity?
Assume 7.

$$\begin{array}{r} \frac{1}{7} \quad 7 \\ \frac{1}{7} \quad 1 \\ \hline \text{Total} \quad 8 \end{array}$$

As many times as 8 must be multiplied to give 19, so many times 7 must be multiplied to give the required number.

$$\begin{array}{r} 1 \quad 8 \\ \frac{1}{2} \quad 16 \\ \frac{1}{2} \quad 4 \\ \frac{1}{4} \quad 2 \\ \frac{1}{8} \quad 1 \\ \hline \text{Total} \quad 2\frac{4}{8} \end{array}$$

$$\begin{array}{r} \frac{1}{7} \quad 2\frac{4}{8} \\ \frac{1}{7} \quad 4\frac{2}{4} \\ \frac{1}{4} \quad 9\frac{2}{2} \end{array}$$

Do it thus.

$$\begin{array}{r} \text{The quantity is} \quad 16\frac{2}{8} \\ \frac{1}{7} \quad 2\frac{4}{8} \\ \hline \text{Total} \quad 19 \end{array}$$