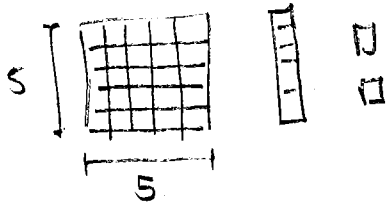


ex Compute $112_{\text{five}} \div 4_{\text{five}}$. two different ways.

Method 1: Let us recall that $112_{\text{five}} = 1 \text{ flat} + 1 \text{ long} + 2 \text{ units}$.

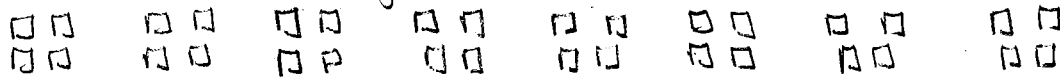
Since we are in base 5 we are looking at:



Let's use the measuring model of division, that is, we want to measure as many groups of 4_{five} or 4 units

as we can. To ease this we break apart

the flats and longs to $1, 2, 5 + 1, 5, 2$ or 32 units



It looks like we can measure out 8 groups of 4.

So 8 or $\begin{array}{|c|} \hline \square \\ \hline \square \\ \hline \square \\ \hline \square \\ \hline \end{array}$ or 1 long and 3 units or 13_{five} .

Method 2: Let's try long division. We set up the division

$$4_{\text{five}} \overline{) 112_{\text{five}}}$$

We focus on the flats. Notice we only have 1 flat, not four so we cannot easily divide the 1 flat (with the sharing method).

We'll shift our focus to the 1 flat and 1 long, or if we break the flat apart, the 5+1 or 6 longs. With the

$$4_{\text{five}} \overline{) 112_{\text{five}}} \\ \underline{-40_{\text{five}}} \\ 22_{\text{five}}$$

sharing method we are trying to give equal amounts to 4 locations. With 6 longs we can give 1 long to each, leaving 2 longs.

Now we have 2 longs and 2 units, or 12 units, to share equally across 4 buckets. Three units across 4 buckets should work with zero remainder?

$$4_{\text{five}} \overline{) 112_{\text{five}}} \\ \underline{-40_{\text{five}}} \\ 22_{\text{five}} \\ \underline{-22_{\text{five}}} \\ 0$$