

Questions

1. Do we stop adding fractions?

No because there are large numbers that are prime numbers and composite numbers that don't go into what's already there.

2. When does a Farey sequence have a lot of entries?

When the denominator is a prime number.

For example: $\frac{0}{1}, \frac{1}{7}, \frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{2}{7}, \frac{1}{3}, \frac{2}{5}, \frac{3}{7},$
 $\frac{1}{2}, \frac{4}{7}, \frac{3}{5}, \frac{2}{3}, \frac{5}{7}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, \frac{6}{7}, 1$

with Farey Sequence 7 all of the fractions of seven are added to the sequence except $\frac{7}{7}$ because it's a whole number.

3. When does it only have a few entries?

When the denominator is a composite number.

Example: $\frac{0}{1}, \frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{1}{3}, \frac{2}{5}, \frac{1}{2}, \frac{3}{5}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}, 1$

with this sequence only two of the six fractions are added because the other numbers simplify into a number already there.