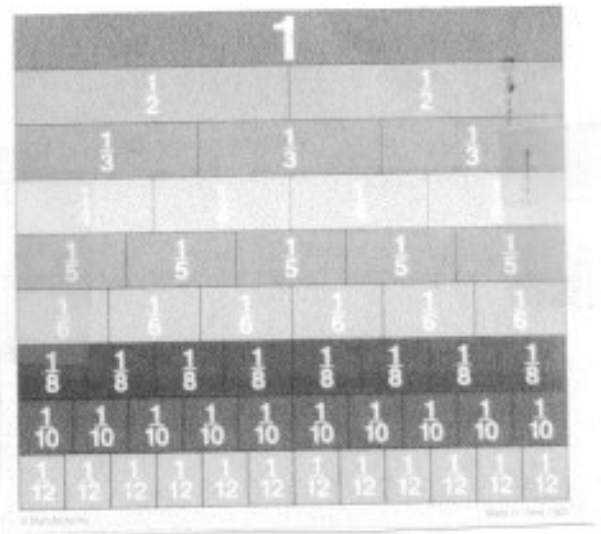
Three ways I can compare fractions with unlike denominators ...

by using fraction bars,

by using benchmark fractions (< ½, > ½, > 1), or

by finding a common denominator.



Benchmark Fractions (use fraction bars)

$\frac{1}{2} = \frac{1}{2}$

$\frac{1}{3} < \frac{1}{2}$ $\quad \frac{2}{3} > \frac{1}{2}$

$\frac{2}{4} = \frac{1}{2}$

$\frac{1}{5} < \frac{1}{2}$ $\quad \frac{2}{5} < \frac{1}{2}$ $\quad \frac{3}{5} > \frac{1}{2}$ $\quad \frac{4}{5} > \frac{1}{2}$

$\frac{3}{6} = \frac{1}{2}$

$\frac{4}{8} = \frac{1}{2}$

$\frac{5}{10} = \frac{1}{2}$

$\frac{6}{12} = \frac{1}{2}$

numerator — If numerator > denominator, fraction is greater than 1
denominator

Example: $\frac{5}{3} > 1$

Finding a common denominator (multiply by same numerator/same denominator to get an equivalent fraction with that common denominator)

Example: Comparing $\frac{2}{3}$ and $\frac{7}{12}$

$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$, $\frac{8}{12} > \frac{7}{12}$, so $\frac{2}{3} > \frac{7}{12}$

5 strategies to compare two fractions:

1. Check if one fraction is greater than 1 and the other fraction is less than 1.

$\frac{4}{3} \bigcirc \frac{2}{5}$

$\frac{4}{3} > 1$ and $\frac{2}{5} < 1$, so $\frac{4}{3} > \frac{2}{5}$

2. Check if one fraction is greater than ½ and the other fractions is less than ½.

$\frac{5}{6} \bigcirc \frac{3}{8}$

$\frac{3}{6} = \frac{1}{2}$, so $\frac{5}{6} > \frac{1}{2}$; $\frac{4}{8} = \frac{1}{2}$, so $\frac{3}{8} < \frac{1}{2}$; so $\frac{5}{6} > \frac{3}{8}$

3. If two fractions have the same denominator, compare the numerators.

$\frac{7}{12} \bigcirc \frac{5}{12}$

$7 > 5$, so $\frac{7}{12} > \frac{5}{12}$

4. If two fractions have the same numerator, compare the denominators.

$\frac{5}{6} \bigcirc \frac{5}{10}$

sixths are larger than tenths, so $\frac{5}{6} > \frac{5}{10}$

5. Use equivalent fractions to rewrite the fractions so they have the same denominator.

$\frac{3}{4} \bigcirc \frac{7}{12}$

$\frac{3}{4} \times \frac{3}{3} = \frac{9}{12}$, $\frac{9}{12} > \frac{7}{12}$, so $\frac{3}{4} > \frac{7}{12}$