

Comparing Fractions

How can we tell if one fraction represents a larger amount than another fraction? There are a couple of ways.

- I. Get a common denominator and compare numerators.
- II. Cross multiply.

One thing to keep in mind is that the denominator tells us the size of the piece we're dealing with. The larger the denominator, the smaller the piece.

So, let's compare $\frac{2}{5}$ and $\frac{2}{9}$. Both contain two pieces, so which is the larger value and why?

I.

If we don't have a common numerator so that we can compare denominators, we can always get a common denominator and then compare the numerators. The numerator with the largest number of pieces is bigger. See how this is different than with denominators.

Examine $\frac{3}{5}$ and $\frac{7}{12}$. Which represents a larger amount?

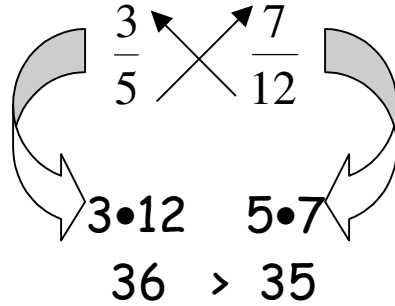
If we get a common denominator, we can compare them more

easily. $\frac{3}{5} = \frac{3}{5} \cdot \left[\frac{12}{12} \right] = \frac{36}{60}$ $\frac{7}{12} = \frac{7}{12} \cdot \left[\frac{5}{5} \right] = \frac{35}{60}$

So, now that we have all of our pieces in the same size (sixtieths!), check to see which one has more pieces!

II.

Another way to do this involves making a "heart" shape and cross multiplying.



So, again the $\frac{3}{5}$ is bigger. Notice that in this case, the numbers 36 and 35 that we get by cross multiplying are the same as the numerators we got the first way we did it.

So, try these. Do it whichever way you want! Write $>$ or $<$ to accurately describe the relationship between the two fractions.

1) $\frac{9}{14}$ $\frac{2}{3}$

2) $\frac{12}{17}$ $\frac{7}{10}$