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Comparing Unlike Fractions- Guided Lesson Explanation

#1 Explanation. Step 1 – Convert the fraction from unlike (different denominators) to like fraction by finding a common denominator:

$\frac{4}{9}$ ———— $\frac{3}{7}$

A very easy way is to just multiply the denominators: 7 x 9 = 63.

9 goes into 63 7 times, so $\frac{7x\ 4}{63} = \frac{28}{63}$

7 goes into 63 9 times, so $\frac{9\ x\ 3}{63} = \frac{27}{63}$

Step 2 – Rewrite the problem with the common denominator.

$\frac{4}{9}$ ———— $\frac{3}{7}$

$\frac{28}{63}$ ——— $\frac{27}{63}$

Step 3 – Compare them by simply pointing the arrow to the smaller numerator.

$\frac{28}{63} > \frac{27}{63}$ or

$\frac{4}{9} > \frac{3}{7}$

#2 Explanation. This is very similar to the last problem we did; it just is not in numeric form. Step 1 will be to get the visual fractions in numeric form.

A fraction is simply: $\frac{parts}{whole}$

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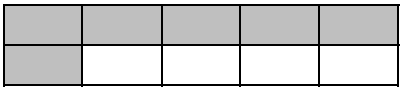
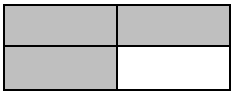
Step 1- Convert to numeric form:

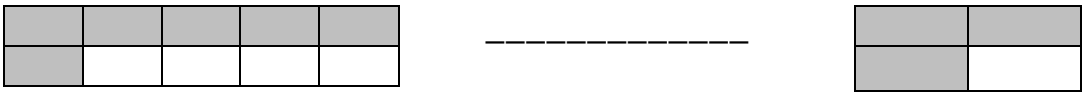


This fraction has 6 shaded parts out of a total of 10 parts. We can write this as: $\frac{6}{10}$



This fraction has 3 shaded parts out of a total of 4 parts. We can write this as: $\frac{3}{4}$

We can rewrite the problem as:



$$\frac{6}{10} \text{ ———— } \frac{3}{4}$$

Step 2 – We need to rewrite them with a common denominator. Both denominators evenly go into 20. Let's rewrite them with that common denominator.

10 goes into 20; 2 times.

$$\frac{6}{10} = \frac{2\ x\ 6}{20} = \frac{12}{20}$$

4 goes into 20; 5 times.

$$\frac{3}{4} = \frac{5\ x\ 3}{20} = \frac{15}{20}$$

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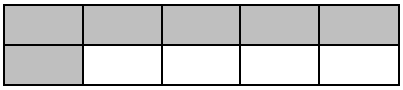
Step 3- Compare the fractions with their common denominator.

Let's restate the problem in visual form and numeric with common denominators:



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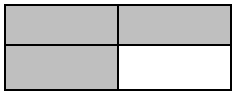

$\frac{12}{20}$ _____ $\frac{15}{20}$

Always remember to point to the smaller number. In this case within the numerator (12 is less than 15).

$\frac{12}{20} < \frac{15}{20}$

Explanation #3:

Step 1- Find a common denominator for all three fractions.

30 goes evenly into all the denominators. Time to convert all the fraction to an equivalent fraction with the denominator of 30.

To convert $\frac{2}{5}$; 5 goes into 30; 6 times. This means that we multiply the numerator by 6.

$\frac{2 \, x \, 6}{30} = \frac{12}{30}$

To convert $\frac{1}{3}$; 3 goes into 30; 10 times. This means that we multiply the numerator by 10.

$\frac{1 \, x \, 10}{30} = \frac{10}{30}$

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To convert $\frac{4}{6}$; 6 goes into 30; 5 times. This means that we multiply the numerator by 5.

$$\frac{4 \, x \, 5}{30} = \frac{20}{30}$$

Step 2- Rewrite the problem with the equivalent denominator.

$\frac{2}{5}$, $\frac{1}{3}$, $\frac{4}{6}$ is the same as

$\frac{12}{30}$, $\frac{10}{30}$, $\frac{20}{30}$

Step 3 – Reorder the like fractions. We list the numerators from least to greatest:

$\frac{10}{30}$, $\frac{12}{30}$, $\frac{20}{30}$

Step 4- Just rewrite the equivalent fractions in the same order.

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