

Name: \_\_\_\_\_

**Compare each pair of fractions** (find which one is larger)

- Using the online fraction virtual manipulatives for the first half of each set of problems.
- Each set of fractions follows a single rule. It is your job to find the rule and write it in an if-then format: if you have this kind of fractions, then this is a way to tell which is larger.
- None of your rules should be “find a common denominator” or “compare the decimal versions”—they should be reasoning just by comparing the sizes of the unit fractions and the number of units.
- You need to explain why your rule makes sense (if your rule doesn’t always work and make sense, it’s not the right rule).

Explaining the rules: To explain why each rule works and makes sense, you must include two parts:

- Are the **unit fractions** the same or different? If they are different, explain why the bigger one is bigger using a parts of the whole explanation.
- Do the fractions have the same **number of units**? If not, which has more units?

Then put the parts together to explain why your rule works.

1. Find a rule that tells you which is larger in the first 3 pairs of fractions.

$\frac{a}{b}$	<>	$\frac{c}{d}$	Rule: If ...
$\frac{3}{7}$		$\frac{2}{7}$	Then...
$\frac{7}{10}$		$\frac{9}{10}$	
$\frac{2}{9}$		$\frac{1}{9}$	
$\frac{a}{b}$	<>	$\frac{c}{d}$	Which of these does the rule help you answer (why or why not)?
$\frac{4}{21}$		$\frac{8}{21}$	
$\frac{7}{12}$		$\frac{5}{6}$	
$\frac{86}{100}$		$\frac{90}{121}$	

Why does rule #1 make sense? (make sure that you are including your “if” condition to help you explain why it makes sense)

2. Find a rule that tells you which is larger in the first 4 pairs of fractions.

$\frac{a}{b}$	<>	$\frac{c}{d}$	Rule
$\frac{1}{6}$		$\frac{1}{5}$	
$\frac{1}{7}$		$\frac{1}{9}$	
$\frac{3}{4}$		$\frac{3}{5}$	
$\frac{2}{7}$		$\frac{2}{9}$	
$\frac{a}{b}$	<>	$\frac{c}{d}$	Which of these does the rule help you answer (why or why not)?
$\frac{8}{26}$		$\frac{8}{21}$	
$\frac{7}{10}$		$\frac{4}{7}$	
$\frac{90}{120}$		$\frac{100}{130}$	
$\frac{91}{115}$		$\frac{2}{5}$	

Why does rule #2 make sense?

3. Use the comparative sizes of unit fractions and number of units to explain which is bigger of these two and how you know:

$\frac{3}{7}$		$\frac{2}{8}$
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