

Lesson 3-6 Notes Comparing and Ordering Fractions

Review:

List the multiples of each number below. Find the LCM.

3: 3 6 9 (12) 15

12

4: 4 8 (12)

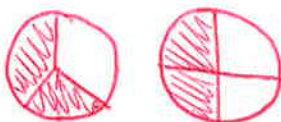
Which is greater?

$\frac{5}{8}$ or $\frac{3}{8}$



$\frac{4}{10}$ or $\frac{6}{10}$

$\frac{2}{3}$ or $\frac{2}{4}$



*Different denominators

In order to compare fractions we need them to have the same denominator.

When comparing and ordering fractions, it is helpful to find the Least Common Multiple (LCM) of the denominators. We call this the Least Common Denominator (LCD).

Which is greater $\frac{7}{10}$ or $\frac{5}{8}$?

Step 1: Find a common denominator. To do this, find the LCM of 10 and 8.

The denominators are 10 and 8, so we need to find the LCM of these two numbers.

10: 10 20 30 40 50 60 70 80
8: 8 16 24 32 40 48

LCM:
40

The LCM of 10 and 8 is 40. This becomes your "new" denominator.

Step 2: Write equivalent fractions with the LCM as the denominator.

$$\frac{7}{10} = \frac{28}{40}$$

(Handwritten: $\times 4$ above the arrow from 10 to 40, and $\times 4$ below the arrow from 7 to 28)

$$\frac{5}{8} = \frac{25}{40}$$

(Handwritten: $\times 5$ above the arrow from 8 to 40, and $\times 5$ below the arrow from 5 to 25)

Step 3: Compare the "new" fractions.

$\frac{28}{40}$ or $\frac{25}{40}$

$\frac{7}{10} > \frac{5}{8}$

You Try! Compare the fractions $\frac{6}{7}$ and $\frac{4}{5}$. Use $>$, $<$ or $=$.

$$\frac{6}{7} = \frac{30}{35}$$

$$\frac{4}{5} = \frac{28}{35}$$

$$\frac{4}{5} < \frac{6}{7}$$

We can put fractions in order by following the same steps.

Step 1: Find a common denominator.

Step 2: Rewrite the fractions with the new denominator.

Step 3: Compare the fractions.

Order the fractions below from least to greatest.

$$\frac{2}{3} \quad \frac{1}{6} \quad \frac{5}{12}$$

Answer: $\frac{1}{6}$, $\frac{5}{12}$, $\frac{2}{3}$

Handwritten work for the first problem:

3: 3 6 9 (12)

6: 6 (12)

12: (12)

$\frac{2}{3} = \frac{8}{12}$ (multiplied by 4)

$\frac{1}{6} = \frac{2}{12}$ (multiplied by 2)

$\frac{2}{12}, \frac{5}{12}, \frac{8}{12}$

$\downarrow \quad \downarrow \quad \downarrow$

$\frac{1}{6} \quad \frac{5}{12} \quad \frac{2}{3}$

$$\frac{3}{10} \quad \frac{1}{5} \quad \frac{1}{2} \quad \frac{7}{12}$$

Answer: $\frac{1}{5}$, $\frac{3}{10}$, $\frac{1}{2}$, $\frac{7}{12}$

Handwritten work for the second problem:

$\frac{3}{10} = \frac{2}{10}$

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

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

$\frac{7}{12} = \frac{70}{120}$

$\frac{5}{10} = \frac{60}{120}$

$\frac{2}{10} \quad \frac{3}{10} \quad \frac{5}{10} \quad \frac{7}{12}$