

(3.5 Supplement) Order (Determining the larger of two fractions)

When two fractions share a common denominator, the larger number can be found by comparing numerators. For example:

$$\frac{4}{5} > \frac{3}{5}$$

Similarly, because $-2 > -5$, we have

$$\frac{-2}{11} > \frac{-5}{11}$$

When the fractions do not share a common denominator, find the LCD and multiply by 1 to make the denominators the same. For example: which is larger: $\frac{5}{8}$ or $\frac{2}{3}$?

The LCD of $\frac{5}{8}$ and $\frac{2}{3}$ is 24. We multiply by 1 to make the denominators the same:

$$\frac{5}{8} \cdot \frac{3}{3} = \frac{15}{24}; \quad \frac{2}{3} \cdot \frac{8}{8} = \frac{16}{24}$$

Since $15 < 16$, it follows that $\frac{15}{24} < \frac{16}{24}$, thus $\frac{5}{8} < \frac{2}{3}$.

Class Example: Use $<$ or $>$ for $?$ to form a true sentence:

$$-\frac{89}{100} ? -\frac{9}{10}$$