

Comparing Ratios and Rates

- When comparing two ratios or two rates, you must compare them using a **common denominator** or their **decimal representation**.

Examples:

3:4 and 4:5

Common Denominator Method:

$$\frac{3}{4} \xrightarrow{\times 5} \frac{15}{20}$$

$$\frac{4}{5} \xrightarrow{\times 4} \frac{16}{20}$$

$$\frac{15}{20} < \frac{16}{20} \quad \frac{3}{4} < \frac{4}{5}$$

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Quotient Method:
(Decimal)

$$3 \div 4 = 0.75 < 4 \div 5 = 0.80 \quad \frac{3}{4} < \frac{4}{5}$$

Comparing two rates requires expressing them in the same units.

equal

Two rates or ratios are equivalent if they have the same decimal representation. $3:4=0.75$ $6:8=0.75$ $3:4=6:8$

We obtain an equivalent ratio by multiplying or dividing the first term and the second term of the ratio by the same non-zero number.