

Giant One

(Multiplicative Identity)

Vocabulary

If any number or expression is multiplied by the number 1, the result is equal to the original number or expression. The number 1 is called the **multiplicative identity**.

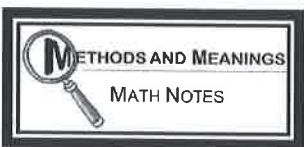
One way the multiplicative identity is used is to create equivalent fractions using a Giant One.

$$\frac{2}{3} \cdot \frac{2}{2} = \frac{4}{6}$$

Key Idea:

Multiplying any fraction by a Giant One will create a new fraction **equivalent** to the original fraction.

equal



Adding and Subtracting Fractions

To add or subtract two fractions that are written with the same denominator (the number on the bottom), simply add or subtract the numerators (the numbers on the top).

For example: $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$

If the fractions have different denominators, **rewrite them first** as fractions with the same denominator. (One way to do this is to use a **Giant One**.) Below are examples of adding and subtracting two fractions with different denominators.

Addition example: $\frac{1}{5} + \frac{2}{3} \Rightarrow \frac{1}{5} \cdot \frac{3}{3} + \frac{2}{3} \cdot \frac{5}{5} \Rightarrow \frac{3}{15} + \frac{10}{15} = \frac{13}{15}$

Subtraction example: $\frac{5}{6} - \frac{1}{4} \Rightarrow \frac{5}{6} \cdot \frac{2}{2} - \frac{1}{4} \cdot \frac{3}{3} \Rightarrow \frac{10}{12} - \frac{3}{12} = \frac{7}{12}$