Calculating with mixed numbers

Use it when you add, subtract, multiply or divide with mixed numbers.

1 Improper fractions first Write each mixed number as an improper fraction.

$$\text{whole number}\ \frac{\text{numerator}}{\text{denominator}} = \frac{\text{whole number} \times \text{denominator} + \text{numerator}}{\text{denominator}}$$

the denominator stays the same
a whole number? write it over 1

2 Calculate Use the method for your operation.

× Multiply the numerators. Multiply the denominators.

$$\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d}$$

no common denominator needed

÷ Keep, change, flip. Then multiply.

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c}$$

flip the second fraction only

+ Find a common denominator. Add the numerators.

$$\frac{a}{d} + \frac{b}{d} = \frac{a+b}{d}$$

the denominator stays the same

− Find a common denominator. Subtract the numerators.

$$\frac{a}{d} - \frac{b}{d} = \frac{a-b}{d}$$

never subtract the denominators

3 Back to a mixed number Divide the numerator by the denominator.

numerator ÷ denominator = whole number remainder remainder

SO $\text{whole number}\ \frac{\text{remainder}}{\text{denominator}}$

simplify if you can
no remainder? the answer is a whole number

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