## Basic properties of fractions

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$$\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$$

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

$$\frac{a}{b} + \frac{c}{d} = \frac{ad + cb}{cd} \quad \frac{a}{b} + \frac{c}{b} = \frac{a + c}{b}$$

$$\frac{ac}{bc} = \frac{a}{b}$$

$$\frac{a}{b} = \frac{c}{d} \implies ad = bc$$