

Fraction Rules

5th Grade

Add, subtract, multiply and divide fractions — one worked example each.

ADD & SUBTRACT — denominators must match

Same bottom: $3/8 + 2/8 = 5/8$

Add the tops only. The bottom names the pieces — it does not change.

Different: $1/2 + 1/3 \rightarrow 3/6 + 2/6 = 5/6$

Find a common denominator first — the smallest number both bottoms divide into.

MULTIPLY — straight across

$2/3 \times 4/5 = 8/15$ tops $\times$ tops, bottoms $\times$ bottoms

"Of" means multiply: half of $1/3$ is $1/2 \times 1/3 = 1/6$.

Multiplying by a fraction less than 1 makes the answer smaller.

DIVIDE — keep, change, flip

$3/4 \div 2/5 = 3/4 \times 5/2 = 15/8 = 1 \frac{7}{8}$

Keep the first fraction. Change $\div$ to $\times$. Flip the second one over.

Dividing by a fraction less than 1 makes the answer bigger — you are asking "how many of these fit inside that?"

MIXED NUMBERS

$2 \frac{1}{3} \rightarrow (2 \times 3) + 1 = 7 \rightarrow 7/3$

Convert to improper fractions before multiplying or dividing. Convert back at the end.

$11/4 \rightarrow 4$ goes into 11 twice with 3 left $\rightarrow 2 \frac{3}{4}$

SIMPLIFY LAST

Divide top and bottom by the same number until nothing else goes into both.