



Multiplying fractions

No common denominator needed

- Today: the rule you just learned does NOT apply here.

The interference

- $\frac{2}{3} \times \frac{1}{4}$. Convert to twelfths: $\frac{8}{12}$ and $\frac{3}{12}$.
- Multiply tops, keep the bottom: $\frac{24}{12}$.

2. From two numbers under one.

Check first

- Both numbers are less than 1.
- So the answer is less than both.

Under $\frac{1}{4}$. So under 0.25. Not 2.

× means “of”

- $2/3 \times 1/4$ is a QUARTER OF two thirds.
- Take $2/3$. Cut it into 4. Keep one piece.

$$2/12 = 1/6.$$

Where the 12 comes from

- A third cut into four is a TWELFTH.
- The new unit is made by the cutting.

So the bottoms multiply. $3 \times 4 = 12$.

A fraction of a whole

- $\frac{2}{3}$ of 12. Divide by 3: that is 4.
- Now take TWO of them.

8. Dividing was step one of two.

Mixed numbers: use improper

- $2\frac{1}{2} \times 1\frac{1}{2} = \frac{5}{2} \times \frac{3}{2} = \frac{15}{4} = 3\frac{3}{4}$.
- Part by part gives $2\frac{1}{4}$ — two pieces missing.

$2 \times \frac{1}{2}$ and $1 \times \frac{1}{2}$. That is the $1\frac{1}{2}$.

Your turn

- $\frac{3}{4} \times \frac{2}{5}$. Then $\frac{5}{6}$ of 18. Then $2\frac{1}{2} \times 1\frac{1}{2}$.
- Before each: bigger or smaller than what you started with?

Which rule does this question need?