



Multiplying fractions

GRADE 5 MATH

Name _____

Date _____

Before each one, say whether the answer will be bigger or smaller than what you started with. One skill: **multiplying fractions**.

WORKED EXAMPLE

Multiplying needs **no common denominator** — that rule is for adding. $\times$ means **of**: $2/3 \times 1/4$ is a quarter **of** two thirds, so cut two thirds into four and keep one piece. A third cut into four is a **twelfth**, which is why the bottoms multiply: $2/3 \times 1/4 = 2/12 = 1/6$.

Multiplying by less than one makes an answer **smaller**, so $1/6$ must be under both $2/3$ and $1/4$. For a fraction of a whole number there are **two** steps: $2/3$ of 12 is $12 \div 3 = 4$, then **two** of them = 8. For mixed numbers, use improper fractions: $2\frac{1}{2} \times 1\frac{1}{2} = 5/2 \times 3/2 = 15/4 = 3\frac{3}{4}$.

1. Work out $3/4 \times 2/5$ and $5/6$ of 18.

FLUENCY

Show your thinking

Answer

2. Work out $2\frac{1}{2} \times 1\frac{1}{2}$.

FLUENCY

Show your thinking

Answer

3. Sam works out $\frac{2}{3} \times \frac{1}{4}$ by converting to twelfths, getting $\frac{8}{12} \times \frac{3}{12}$, then multiplying the tops and keeping the bottom: $\frac{24}{12} = 2$. His conversion to twelfths is correct. Explain why the answer cannot be right, and what he should have done instead.

REASONING

Show your thinking

Answer

4. Ada works out $2\frac{1}{2} \times 1\frac{1}{2}$ as $2\frac{1}{4}$, from 2×1 and $\frac{1}{2} \times \frac{1}{2}$. Name the two pieces she has missed, and say what they add up to.

REASONING

Show your thinking

Answer