

Tiny Piece Division

Divide unit fractions by whole numbers.

GRADE 5 • 5.NF.B.7a

CCSS.Math.Content.5.NF.B.7a "Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient..."

NAME _____

DATE _____

SPLIT INTO EQUAL SHARES

When you divide a unit fraction by a whole number, you split that fraction into equal shares. Keep the numerator 1 and multiply the denominator by the whole number. Check by multiplying your quotient by the whole number to get the starting fraction.

WORKED EXAMPLE

Compute $1/8 \div 3$.

1. Start with $1/8$.
2. Split that eighth into 3 equal smaller pieces: $8 \times 3 = 24$ equal pieces in the whole.
3. Each share is $1/24$.
4. Check: $3 \times 1/24 = 3/24 = 1/8$.

Answer: $1/24$

PRACTICE 6 problems

1 Compute $1/2 \div 4$.

ANSWER _____

2 Compute $1/3 \div 2$.

ANSWER _____

3 Compute $1/4 \div 5$.

ANSWER _____

4 Compute $1/5 \div 3$.

ANSWER _____

5 Compute $1/6 \div 6$.

ANSWER _____

6 Compute $1/9 \div 4$.

ANSWER _____

APPLY IT Show your work

- 1** The art club has $\frac{1}{12}$ of a roll of vinyl left. They cut it into 5 equal pieces for a small project. What fraction of the whole roll is each piece?

WORK SPACE

ANSWER _____

- 2** Jordan has $\frac{1}{7}$ meter of ribbon for 3 matching friendship bracelet tags. Jordan cuts the ribbon into 3 equal lengths. How much ribbon is used for each tag?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Ava says that $\frac{1}{5} \div 4 = \frac{1}{9}$ because $5 + 4 = 9$. Is Ava correct? Explain how you know, and give the correct quotient.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Compute $\frac{1}{2} \div 4$.	$\frac{1}{8}$
2	Compute $\frac{1}{3} \div 2$.	$\frac{1}{6}$
3	Compute $\frac{1}{4} \div 5$.	$\frac{1}{20}$
4	Compute $\frac{1}{5} \div 3$.	$\frac{1}{15}$
5	Compute $\frac{1}{6} \div 6$.	$\frac{1}{36}$
6	Compute $\frac{1}{9} \div 4$.	$\frac{1}{36}$

PART 2 • APPLY IT

- $\frac{1}{60}$ of the roll** Compute $\frac{1}{12} \div 5$ by multiplying the denominator by 5. Since $12 \times 5 = 60$, each piece is $\frac{1}{60}$ of the roll.
- $\frac{1}{21}$ meter** Compute $\frac{1}{7} \div 3$. Since $7 \times 3 = 21$, each tag uses $\frac{1}{21}$ meter of ribbon.

CHALLENGE

Ava is not correct. $\frac{1}{5} \div 4 = \frac{1}{20}$ because $4 \times \frac{1}{20} = \frac{1}{5}$.

Accept equivalent fractions when they are correct, although the simplest unit-fraction form is preferred. For the challenge, accept any explanation that correctly uses multiplication to check $\frac{1}{20}$.