

Fraction Division Quest

Divide unit fractions and whole numbers with confidence.

GRADE 5 • MA.5.FR.2.4

MA.5.FR.2.4 "Extend previous understanding of division to explore the division of a unit fraction by a whole number and a whole number by a unit fraction."

NAME _____

DATE _____

THE BIG IDEA

When you divide a unit fraction by a whole number, multiply the denominator by that whole number. When you divide a whole number by a unit fraction, multiply the whole number by the denominator.

WORKED EXAMPLE

Find $1/11 \div 4$.

1. Start with $1/11 \div 4$.
2. Multiply the denominator by 4.
3. $11 \times 4 = 44$.
4. So, $1/11 \div 4 = 1/44$.

Answer: 1/44

PRACTICE 6 problems

1 Find $1/3 \div 2$.

ANSWER _____

2 Find $1/6 \div 5$.

ANSWER _____

3 Find $9 \div 1/3$.

ANSWER _____

4 Find $5 \div 1/2$.

ANSWER _____

5 Find $1/10 \div 3$.

ANSWER _____

6 Find $12 \div 1/6$.

ANSWER _____

APPLY IT Show your work

- 1** Maya has $\frac{1}{8}$ yard of glow-in-the-dark tape. She cuts the tape into 2 equal pieces. How long is each piece?

WORK SPACE

ANSWER _____

- 2** A game designer has 8 meters of LED strip. Each game badge uses $\frac{1}{2}$ meter of LED strip. How many badges can the designer make?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Which quotient is greater, $\frac{1}{6} \div 5$ or $5 \div \frac{1}{6}$? Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Find $1/3 \div 2$.	1/6
2	Find $1/6 \div 5$.	1/30
3	Find $9 \div 1/3$.	27
4	Find $5 \div 1/2$.	10
5	Find $1/10 \div 3$.	1/30
6	Find $12 \div 1/6$.	72

PART 2 • APPLY IT

1. **1/16 yard** Divide $1/8$ by 2. Multiply the denominator 8 by 2, so each piece is $1/16$ yard.
2. **16 badges** Find $8 \div 1/2$. There are 16 halves in 8 wholes, so the designer can make 16 badges.

CHALLENGE

$5 \div 1/6$ is greater. $1/6 \div 5 = 1/30$, and $5 \div 1/6 = 30$.

Accept equivalent fraction forms when appropriate. For the challenge, accept an explanation that correctly compares $1/30$ and 30.