

Grade 5 · Dividing Unit Fractions and Whole Numbers · Quiz

Common Core 5.NF.B.7 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

Ten multiple-choice questions on dividing unit fractions by whole numbers and whole numbers by unit fractions. Each question has one correct answer, and the explanation after it names the mistake behind the wrong choices.

Grade 5 Common Core: 5.NF.B.7

Questions

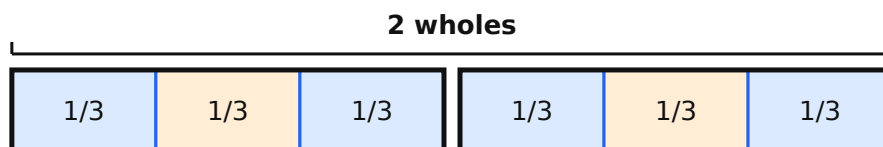
Question 1

What is $\frac{1}{4} \div 2$?

- A. $\frac{1}{8}$
- B. $\frac{1}{2}$
- C. 8
- D. $\frac{1}{5}$

Question 2

The model shows 2 wholes cut into thirds. What is $2 \div \frac{1}{3}$?



Two wholes cut into thirds.

- A. $\frac{2}{3}$
- B. $\frac{1}{6}$
- C. 5
- D. 6

Question 3

What is $5 \div \frac{1}{3}$?

- A. $\frac{5}{3}$

- B. 15
- C. $\frac{1}{15}$
- D. 8

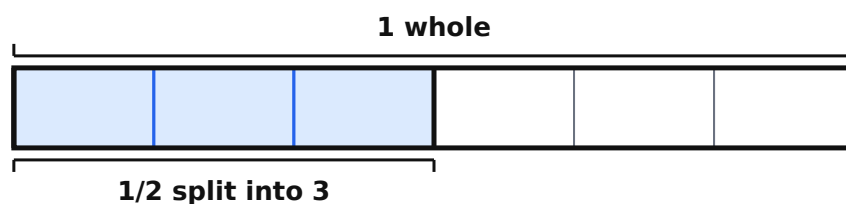
Question 4

What is $\frac{1}{5} \div 3$?

- A. $\frac{3}{5}$
- B. 15
- C. $\frac{1}{15}$
- D. $\frac{1}{8}$

Question 5

Half of a chocolate bar is shared equally by 3 friends, as shown. What fraction of the whole bar does each friend get?



One half of the bar is shaded.

- A. $\frac{1}{6}$
- B. $\frac{1}{3}$
- C. $\frac{1}{4}$
- D. $\frac{1}{5}$

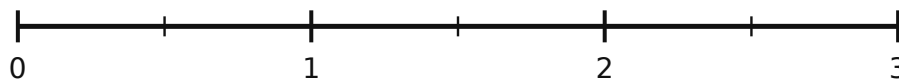
Question 6

Which equation checks that $6 \div \frac{1}{4} = 24$?

- A. $24 \times \frac{1}{4} = 6$
- B. $6 \times 24 = \frac{1}{4}$
- C. $24 \times 4 = 6$
- D. $\frac{1}{4} \times 6 = 24$

Question 7

Sofia has 3 cups of milk. Each serving is $\frac{1}{2}$ cup. How many servings can she pour?



Number line marked in halves.

- A. $\frac{3}{2}$
- B. 6
- C. $\frac{1}{10}$
- D. $\frac{1}{20}$

Question 8

A deli splits $\frac{1}{3}$ pound of cheese equally among 4 sandwiches. How much cheese is on each?



One third pound in 4 equal parts.

- A. $\frac{4}{3}$ lb
- B. 12 lb
- C. $\frac{1}{7}$ lb
- D. $\frac{1}{12}$ lb

Question 9

Which quotient is greater than 1?

- A. $\frac{1}{2} \div 4$
- B. $4 \div \frac{1}{2}$
- C. $\frac{1}{3} \div 2$
- D. $\frac{1}{10} \div 5$

Question 10

Ms. Lee cuts a 2-yard rope into pieces that are $\frac{1}{8}$ yard long. How many pieces does she get?

- A. $\frac{1}{16}$
- B. 4
- C. 16
- D. 10

Answer key

1. **A** - Splitting one fourth into 2 pieces makes eighths: $\frac{1}{4 \times 2} = \frac{1}{8}$. Multiplying by 2 gives $\frac{1}{2}$, a common mistake.
2. **D** - Each whole holds 3 thirds, so $2 \times 3 = 6$. The value $\frac{2}{3}$ comes from multiplying by $\frac{1}{3}$ instead.
3. **B** - $5 \times 3 = 15$ thirds fit in 5 wholes. Adding 5 and 3 gives 8, which is not a division answer.
4. **C** - $\frac{1}{5 \times 3} = \frac{1}{15}$. Adding the denominators ($\frac{1}{8}$) is a common mistake.
5. **A** - The half is split into 3 pieces, each one of 6 equal parts: $\frac{1}{2} \div 3 = \frac{1}{6}$.
6. **A** - Multiplying the quotient by the divisor must return the starting number: $24 \times \frac{1}{4} = 6$.
7. **B** - There are 2 halves in each cup: $3 \div \frac{1}{2} = 3 \times 2 = 6$.
8. **D** - $\frac{1}{3} \div 4 = \frac{1}{12}$. Dividing 4 by $\frac{1}{3}$ would count pieces and give 12, but here the cheese is split.
9. **B** - $4 \div \frac{1}{2} = 8$. The other three split a unit fraction, so each quotient is smaller than 1.
10. **C** - $2 \div \frac{1}{8} = 2 \times 8 = 16$. Adding 2 and 8 gives 10, which is a common mistake.

Remember:

- A unit fraction has a numerator of 1, such as $\frac{1}{5}$.
- A unit fraction divided by a whole number: $\frac{1}{n} \div k = \frac{1}{n \times k}$.
- A whole number divided by a unit fraction: $k \div \frac{1}{n} = k \times n$.
- Splitting a fraction makes smaller pieces; counting unit fractions in a whole number gives a larger answer.
- Check division by multiplying the quotient by the divisor.