

Grade 5 - Dividing Unit Fractions and Whole Numbers - Quiz

Common Core 5.NF.B.7a, 5.NF.B.7b, 5.NF.B.7c · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Test yourself with 10 multiple-choice questions on dividing unit fractions and whole numbers. Pick the one correct answer, then read the explanation to see the typical mistake behind each wrong choice.

Grade 5 · Common Core State Standards: **5.NF.B.7a**, **5.NF.B.7b**, **5.NF.B.7c**

Questions

Question 1

What is $\frac{1}{4} \div 3$?

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

Question 2

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

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

Question 3

Which equation matches the model?

One whole cut into 4 equal parts



$\frac{1}{4}$

Cut that part into 2 equal pieces

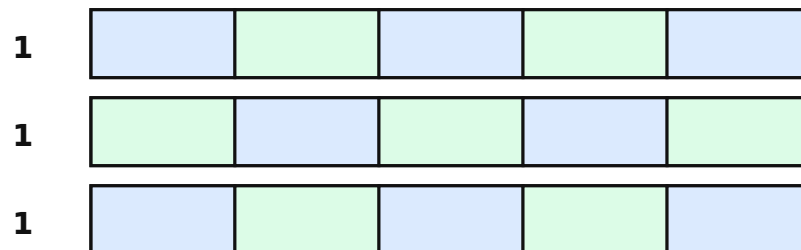


A model.

- A. $\frac{1}{4} \div 2 = \frac{1}{2}$
- B. $2 \div \frac{1}{4} = 8$
- C. $\frac{1}{4} \div 2 = \frac{1}{8}$
- D. $\frac{1}{4} \div 2 = \frac{1}{6}$

Question 4

How many fifths are in 3 wholes?



Each whole is cut into 5 equal pieces

Three wholes cut into fifths.

- A. 15
- B. 8
- C. $\frac{3}{5}$
- D. $\frac{3}{10}$

Question 5

Maya has $\frac{1}{2}$ pound of nuts. She puts them equally into 4 bags. How much is in each bag?

- A. 2 pounds
- B. $\frac{1}{8}$ pound
- C. $\frac{1}{4}$ pound
- D. $\frac{1}{8}$ pound

Question 6

Diego has 6 yards of rope. He cuts pieces that are $\frac{1}{2}$ yard long. How many pieces does he get?

- A. 3 pieces
- B. 12 pieces
- C. 24 pieces
- D. $6\frac{1}{2}$ pieces

Question 7

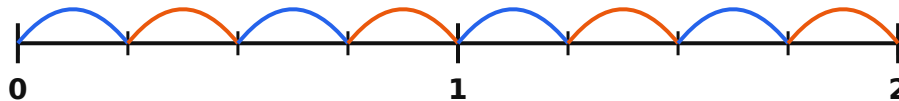
Which quotient is the greatest?

- A. $4 \div \frac{1}{6}$
- B. $4 \div \frac{1}{2}$
- C. $4 \div \frac{1}{3}$
- D. $4 \div \frac{1}{4}$

Question 8

Which division equation does the number line show?

Each jump is $\frac{1}{4}$



Jumps on a number line.

- A. $\frac{1}{4} \div 2 = \frac{1}{8}$
- B. $2 \div \frac{1}{4} = 8$
- C. $2 \div \frac{1}{4} = \frac{1}{2}$
- D. $2 \div \frac{1}{4} = 6$

Question 9

What number makes this true? $\frac{1}{10} \div ? = \frac{1}{30}$

- A. 20
- B. $\frac{1}{3}$
- C. 3
- D. 30

Question 10

One third of a pizza is left. Two friends share it equally. What fraction of the whole pizza does each friend get?

- A. $\frac{2}{3}$

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

Answers

1. **A** - Cutting one fourth into 3 equal pieces makes twelfths, so the answer is $\frac{1}{12}$. Multiplying $\frac{1}{4}$ by 3 gives $\frac{3}{4}$, a common mistake.
2. **B** - Each whole has 3 thirds, so 5 wholes have $5 \times 3 = 15$ thirds. Writing $\frac{5}{3}$ is a common mistake.
3. **C** - One fourth is cut into 2 pieces, so the whole has 8 equal pieces and each is $\frac{1}{8}$.
4. **A** - Each whole has 5 fifths, so 3 wholes have $3 \times 5 = 15$ fifths.
5. **D** - Divide $\frac{1}{2}$ by 4: $2 \times 4 = 8$, so each bag holds $\frac{1}{8}$ pound. Dividing 4 by $\frac{1}{2}$ would give 8, a different problem.
6. **B** - $6 \div \frac{1}{2} = 6 \times 2 = 12$. Each yard makes 2 pieces.
7. **A** - Smaller pieces mean more pieces. $4 \div \frac{1}{8} = 32$, which is greater than 8, 12 and 16.
8. **B** - There are 4 fourths in each whole, so 2 wholes have 8 jumps of $\frac{1}{4}$.
9. **C** - Cutting $\frac{1}{10}$ into 3 pieces gives $\frac{1}{30}$, because $10 \times 3 = 30$.
10. **D** - $\frac{1}{3} \div 2 = \frac{1}{6}$, because $3 \times 2 = 6$. The answer must be less than $\frac{1}{3}$.

Remember

- A unit fraction has a numerator of 1, like $\frac{1}{4}$ or $\frac{1}{8}$.
- A unit fraction divided by a whole number n is 1 over (denominator times n).
- A whole number divided by a unit fraction $\frac{1}{b}$ equals the whole number times b .
- Check any quotient by multiplying it by the divisor to get the dividend.
- Bar models and number lines show how many pieces there are.