

Grade 5 - Dividing Unit Fractions and Whole Numbers - Test Answer Key

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

Use this answer key to score the test out of 20 points. Each solution shows the work and a scoring guide. Give partial credit when the method is right but a small arithmetic slip changes the final answer.

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

Question 1 - Unit fractions divided by whole numbers [2 pts]

a. $\frac{1}{3} \div 2 = \frac{1}{6}$
b. $\frac{1}{5} \div 3 = \frac{1}{15}$

Scoring: 1 point for each correct quotient.

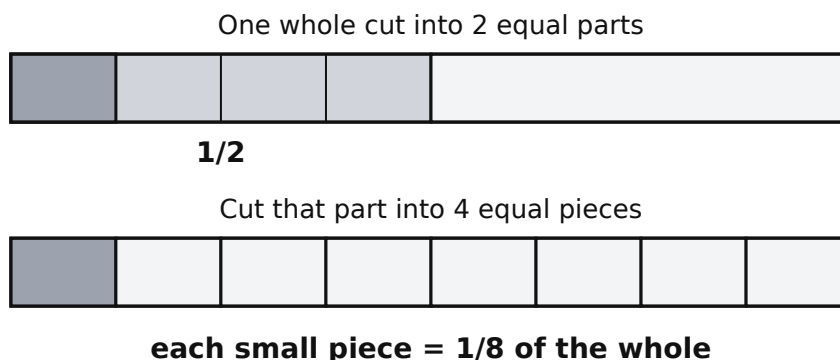
Question 2 - Whole numbers divided by unit fractions [2 pts]

a. $4 \div \frac{1}{3} = 4 \times 3 = 12$
b. $7 \div \frac{1}{2} = 7 \times 2 = 14$

Scoring: 1 point for each correct quotient.

Question 3 - Read the model [2 pts]

One half is cut into 4 equal pieces, so the whole has $2 \times 4 = 8$ pieces and each piece is $\frac{1}{8}$.



Each small piece is one eighth.

$$\frac{1}{2} \div 4 = \frac{1}{8}$$

Scoring: 1 point for the equation $\frac{1}{2} \div 4$, 1 point for the quotient $\frac{1}{8}$.

Question 4 - Compare two quotients [2 pts]

$$6 \div \frac{1}{4} = 6 \times 4 = 24 \text{ and } 6 \div \frac{1}{3} = 6 \times 3 = 18.$$

$6 \div \frac{1}{4}$ is greater (24 > 18).

Scoring: 1 point for each correct value; the comparison must match the values.

Question 5 - Missing dividend [2 pts]

Work backward with multiplication: $\frac{1}{15} \times 3 = \frac{3}{15} = \frac{1}{5}$.

Check: $\frac{1}{5} \div 3 = \frac{1}{15}$.

$$\frac{1}{5}$$

Scoring: 1 point for the answer, 1 point for a correct check or explanation.

Question 6 - Number line jumps [2 pts]

Each jump is $\frac{1}{2}$. There are 2 jumps in each whole, so $3 \times 2 = 6$ jumps.

6 jumps of $\frac{1}{2}$ make 3



Six jumps of one half reach 3.

$$3 \div \frac{1}{2} = 6$$

Scoring: 1 point for the equation, 1 point for the quotient 6.

Question 7 - Slices of cheese [2 pts]

$$\frac{1}{4} \div 3 = \frac{1}{12}. \text{ Check: } \frac{1}{12} \times 3 = \frac{1}{4}.$$

$\frac{1}{12}$ **pound**

Scoring: 1 point for dividing correctly, 1 point for the answer with the unit.

Question 8 - Servings of rice [3 pts]

- a. $5 \div \frac{1}{3} = 5 \times 3 = 15$ servings
- b. $15 - 6 = 9$ servings
- c. $9 \times \frac{1}{3} = 3$ cups

Scoring: 1 point per part. In part (c), accept $5 - 6 \times \frac{1}{3} = 3$ as correct.

Question 9 - Juice bottles [3 pts]

- a. $\frac{1}{2} \div 4 = \frac{1}{8}$ gallon
- b. $2 \div \frac{1}{8} = 2 \times 8 = 16$ bottles
- c. In (a) the juice is cut into smaller pieces, so each piece is less than $\frac{1}{2}$. In (b) each bottle is a small part of a gallon, so many bottles fit and the count is greater than 2.

Scoring: 1 point per part. For part (c), award the point for any explanation that compares piece size with the number of pieces.

Total**20 points**