

Grade 6 - Dividing Fractions by Fractions - Answer Key

Common Core 6.NS.A.1 · maths-pdf.fr/en/

This **divide fractions answers** for 6th Grade covers dividing fractions by fractions (Common Core 6.NS.A.1), with a free PDF to print.

Check each division with this answer key. The solutions show the reciprocal step, the simplified quotient, and a final answer in bold. Models and a multiplication check are included when they help you see why the answer works.

Grade 6 · Common Core State Standards: **6.NS.A.1**

Divide fractions answers: exercises 1 to 10

Exercise 1 - Thirds and sixths

How many sixths fit in one third? Two sixths fill one third.

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

2



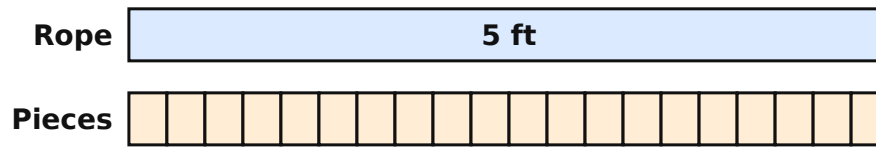
The answer is the number of sixths: 2.

Exercise 2 - Rope pieces

Each foot makes 4 pieces, so 5 feet make $5 \times 4 = 20$ pieces.

$$5 \div \frac{1}{4} = 5 \times 4 = 20$$

20 pieces



Twenty pieces of one fourth foot.

Exercise 3 - Sixths in two thirds

$$\frac{2}{3} \div \frac{1}{6} = \frac{2}{3} \times 6 = 4$$

4

Exercise 4 - Common numerators

$$\frac{5}{8} \div \frac{5}{16} = \frac{5}{8} \times \frac{16}{5} = 2$$

2

Exercise 5 - Divide fractions

$$\frac{7}{9} \div \frac{2}{3} = \frac{7}{9} \times \frac{3}{2} = \frac{7}{6} = 1\frac{1}{6}$$

$$\frac{7}{6} = 1\frac{1}{6}$$

Exercise 6 - Fraction divided by a whole number

$$\frac{6}{7} \div 3 = \frac{6}{7} \times \frac{1}{3} = \frac{2}{7}$$

$$\text{Check: } 3 \times \frac{2}{7} = \frac{6}{7}.$$

$$\frac{2}{7}$$

Exercise 7 - Divide into four groups

$$\frac{1}{3} \div 4 = \frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$$

$$\frac{1}{12}$$

Exercise 8 - Fifths over thirds

$$\frac{5}{6} \div \frac{1}{3} = \frac{5}{6} \times 3 = \frac{5}{2} = 2\frac{1}{2}$$

$$\frac{5}{2} = 2\frac{1}{2}$$

Exercise 9 - Mixed number quotient

$$2\frac{1}{2} \div \frac{1}{2} = \frac{5}{2} \div \frac{1}{2} = \frac{5}{2} \times 2 = 5$$

5

Exercise 10 - Mixed number by a fraction

$$2\frac{1}{4} \div \frac{3}{8} = \frac{9}{4} \div \frac{3}{8} = \frac{9}{4} \times \frac{8}{3} = 6$$

6

Exercises 11 and up

Exercise 11 - Mixed by mixed

$$3\frac{1}{3} \div 1\frac{2}{3} = \frac{10}{3} \div \frac{5}{3} = \frac{10}{3} \times \frac{3}{5} = 2$$

2

Exercise 12 - Reciprocals

Swap numerator and denominator (write a whole number as a fraction over 1).

(a) $\frac{7}{3}$. (b) $5 = \frac{5}{1}$, reciprocal $\frac{1}{5}$. (c) $1\frac{1}{2} = \frac{3}{2}$, reciprocal $\frac{2}{3}$.

$$\frac{7}{3}; \frac{1}{5}; \frac{2}{3}$$

Exercise 13 - Missing factor

The missing factor is $\frac{2}{3} \div \frac{3}{5}$.

$$\frac{2}{3} \div \frac{3}{5} = \frac{2}{3} \times \frac{5}{3} = \frac{10}{9} = 1\frac{1}{9}$$

$$\text{Check: } \frac{3}{5} \times \frac{10}{9} = \frac{30}{45} = \frac{2}{3}.$$

$$\frac{10}{9} = 1\frac{1}{9}$$

Exercise 14 - Ribbon pieces

$$\frac{3}{4} \div \frac{1}{8} = \frac{3}{4} \times 8 = 6$$

6 pieces



Six pieces of one eighth.

Exercise 15 - Trail mix bags

$$\frac{2}{3} \div 4 = \frac{2}{3} \times \frac{1}{4} = \frac{1}{6}$$

$\frac{1}{6}$ pound

Exercise 16 - Syrup servings

$$5\frac{1}{4} \div \frac{3}{8} = \frac{21}{4} \div \frac{3}{8} = \frac{21}{4} \times \frac{8}{3} = 14$$

14 servings

Exercise 17 - Missing side

Length = area $\div$ width.

$$\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times 2 = \frac{3}{2} = 1\frac{1}{2}$$

$1\frac{1}{2}$ ft

Exercise 18 - Painting rate

$$\frac{5}{6} \div \frac{2}{3} = \frac{5}{6} \times \frac{3}{2} = \frac{5}{4} = 1\frac{1}{4}$$

$\frac{5}{4} = 1\frac{1}{4}$ walls per hour

Exercise 19 - Find the mistake

Noah multiplied $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ instead of multiplying by the reciprocal.

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

Check: $2 \times \frac{1}{4} = \frac{1}{2}$.

The correct answer is 2.

Exercise 20 - Cookie batches

$$3\frac{1}{2} \div \frac{2}{3} = \frac{7}{2} \times \frac{3}{2} = \frac{21}{4} = 5\frac{1}{4}.$$

She can make 5 full batches using $5 \times \frac{2}{3} = \frac{10}{3} = 3\frac{1}{3}$ cups.

Left: $3\frac{1}{2} - 3\frac{1}{3} = \frac{7}{2} - \frac{10}{3} = \frac{21}{6} - \frac{20}{6} = \frac{1}{6}$ cup.

5 batches; $\frac{1}{6}$ cup left

Key facts behind this divide fractions answers

Key facts

- Dividing by a fraction means multiplying by its reciprocal.
- Reciprocals multiply to 1: $\frac{2}{3}$ and $\frac{3}{2}$.
- Write mixed numbers as improper fractions before dividing.
- Dividing by a fraction less than 1 gives a quotient greater than the dividend.
- Check a quotient by multiplying it by the divisor.

How to use this divide fractions answers

Cover each solution, solve the exercise again, then uncover it and compare every line. If your answer differs, find the first step that changed and redo the exercise from there.

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