

Grade 5 - Fractions as Division - Answer Key

Common Core 5.NF.B.3 · maths-pdf.fr/en/

This answer key gives a full worked solution for each of the 20 problems. Every solution shows the division, the fraction, and the mixed number, with the final answer in bold. Compare each step with the student paper to find where a mistake started.

Grade 5 · Common Core State Standards: **5.NF.B.3**

Exercise 1 - Half of a share

A fraction bar means division, so $1 \div 2 = \frac{1}{2}$.

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

Exercise 2 - Three fifths

A fraction bar means division, so $3 \div 5 = \frac{3}{5}$.

$$\frac{3}{5}$$

Exercise 3 - Fraction to division

The numerator is divided by the denominator.

$$\frac{4}{9} = 4 \div 9$$

4 shared equally among 9 people gives each person $\frac{4}{9}$.

Exercise 4 - Seven eighths

A fraction bar means division, so $7 \div 8 = \frac{7}{8}$.

$$\frac{7}{8}$$

Exercise 5 - Sandwiches for three



Each friend gets 1 piece from each sandwich: 2 thirds.

Division problem: $2 \div 3$.

A fraction bar means division, so $2 \div 3 = \frac{2}{3}$.

$$\frac{2}{3}$$

Each friend gets $\frac{2}{3}$ of a sandwich.

Exercise 6 - Improper fraction

A fraction bar means division, so $5 \div 4 = \frac{5}{4}$.

4 goes into 5 exactly 1 times with 1 left over. The 1 left over is split into 4 equal parts, which is $\frac{1}{4}$ of a whole.

$$\frac{5}{4} = 1\frac{1}{4}$$

$$1\frac{1}{4}$$

Exercise 7 - Nine halves

A fraction bar means division, so $9 \div 2 = \frac{9}{2}$.

2 goes into 9 exactly 4 times with 1 left over. The 1 left over is split into 2 equal parts, which is $\frac{1}{2}$ of a whole.

$$\frac{9}{2} = 4\frac{1}{2}$$

$$4\frac{1}{2}$$

Exercise 8 - Eleven thirds

A fraction bar means division, so $11 \div 3 = \frac{11}{3}$.

3 goes into 11 exactly 3 times with 2 left over. The 2 left over is split into 3 equal parts, which is $\frac{2}{3}$ of a whole.

$$\frac{11}{3} = 3\frac{2}{3}.$$

$$3\frac{2}{3}$$

Exercise 9 - Thirteen fifths

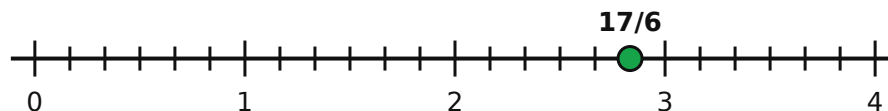
A fraction bar means division, so $13 \div 5 = \frac{13}{5}$.

5 goes into 13 exactly 2 times with 3 left over. The 3 left over is split into 5 equal parts, which is $\frac{3}{5}$ of a whole.

$$\frac{13}{5} = 2\frac{3}{5}.$$

$$2\frac{3}{5}$$

Exercise 10 - Between two whole numbers



$17/6$ is between 2 and 3.

A fraction bar means division, so $17 \div 6 = \frac{17}{6}$.

6 goes into 17 exactly 2 times with 5 left over. The 5 left over is split into 6 equal parts, which is $\frac{5}{6}$ of a whole.

$$\frac{17}{6} = 2\frac{5}{6}.$$

$$2\frac{5}{6}$$

The quotient is between 2 and 3.

Exercise 11 - Compare two quotients

$$7 \div 4 = \frac{7}{4} = 1\frac{3}{4}.$$

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

Compare $1\frac{3}{4}$ and $1\frac{1}{2}$: $\frac{3}{4} > \frac{1}{2}$.

$7 \div 4$ is greater.

Exercise 12 - Missing number

The fraction $\frac{3}{5}$ means $3 \div 5$.

The missing number is 3.

Exercise 13 - Simplify the share

A fraction bar means division, so $8 \div 12 = \frac{8}{12}$.

Simplify by dividing the top and bottom by 4: $\frac{8}{12} = \frac{2}{3}$.

$$\frac{2}{3}$$

Exercise 14 - Fifteen sixths

A fraction bar means division, so $15 \div 6 = \frac{15}{6}$.

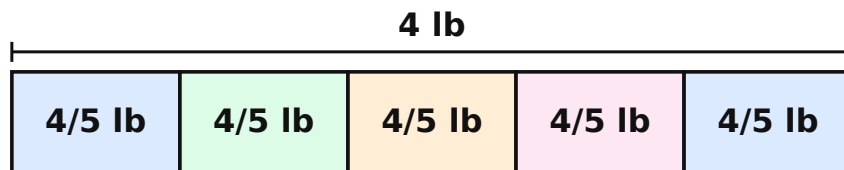
6 goes into 15 exactly 2 times with 3 left over. The 3 left over is split into 6 equal parts, which is $\frac{3}{6}$ of a whole.

$$\frac{15}{6} = 2\frac{3}{6}.$$

Simplify: $2\frac{3}{6} = 2\frac{1}{2}$.

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

Exercise 15 - Trail mix



Each friend gets $\frac{4}{5}$ pound.

A fraction bar means division, so $4 \div 5 = \frac{4}{5}$.

$$\frac{4}{5}$$

Each friend gets $\frac{4}{5}$ pound.

Exercise 16 - Pizza for the team

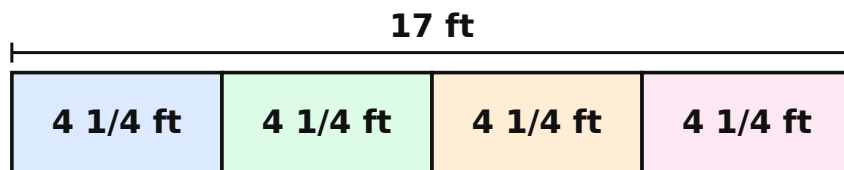
A fraction bar means division, so $3 \div 8 = \frac{3}{8}$.

$$\frac{3}{8}$$

Each player gets one slice from each pizza, so each player gets 3 slices out of 8.

Each player gets $\frac{3}{8}$ of a pizza.

Exercise 17 - Ribbon pieces



Each piece is $4 \frac{1}{4}$ feet.

A fraction bar means division, so $17 \div 4 = \frac{17}{4}$.

4 goes into 17 exactly 4 times with 1 left over. The 1 left over is split into 4 equal parts, which is $\frac{1}{4}$ of a whole.

$$\frac{17}{4} = 4\frac{1}{4}$$

$$4\frac{1}{4}$$

Each piece is $4\frac{1}{4}$ feet long.

Exercise 18 - Bags of apples

A fraction bar means division, so $25 \div 6 = \frac{25}{6}$.

6 goes into 25 exactly 4 times with 1 left over. The 1 left over is split into 6 equal parts, which is $\frac{1}{6}$ of a whole.

$$\frac{25}{6} = 4\frac{1}{6}.$$

$$4\frac{1}{6}$$

$4\frac{1}{6}$ is between 4 and 5.

Each bag holds $4\frac{1}{6}$ pounds, and yes, that is between 4 and 5 pounds.

Exercise 19 - Juice at recess

A fraction bar means division, so $9 \div 12 = \frac{9}{12}$.

Simplify by dividing the top and bottom by 3: $\frac{9}{12} = \frac{3}{4}$.

$$\frac{3}{4}$$

Each small cup gets $\frac{3}{4}$ cup of juice.

Exercise 20 - Clay for art class

First find each group's share.

A fraction bar means division, so $22 \div 8 = \frac{22}{8}$.

8 goes into 22 exactly 2 times with 6 left over. The 6 left over is split into 8 equal parts, which is $\frac{6}{8}$ of a whole.

$$\frac{22}{8} = 2\frac{6}{8}.$$

Simplify: $2\frac{6}{8} = 2\frac{3}{4}$.

$$2\frac{3}{4}$$

Now subtract what was used: $2\frac{3}{4} - 1\frac{1}{4} = 1\frac{2}{4} = 1\frac{1}{2}$.

Each group has $1\frac{1}{2}$ pounds of clay left.