

**AcumenTeach**

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11+ MATHEMATICS

Fractions Worksheet

Free practice · 10 questions · Answers and worked solutions included

Name	
Date	
Score	/ 10

Instructions

1. Choose one answer, A, B, C or D, for each question.
2. Show your working on the lines under each question.
3. No calculator. Take your time: this is practice, not a timed test.
4. Check your answers with the worked solutions at the back.

Question 1

What is $\frac{2}{5}$ of 85?

A 30**B** 34**C** 36**D** 42**Question 2**

Calculate: $\frac{3}{4} + \frac{1}{6}$

A $\frac{4}{10}$ **B** $\frac{5}{6}$ **C** $\frac{11}{12}$ **D** $\frac{13}{12}$ **Question 3**

Write $\frac{36}{48}$ in its simplest form.

A $\frac{2}{3}$ **B** $\frac{3}{4}$ **C** $\frac{9}{16}$ **D** $\frac{4}{5}$

Question 4

Calculate: $2 \frac{1}{3} + 1 \frac{3}{4}$

A $3 \frac{4}{7}$ **B** $3 \frac{1}{12}$ **C** $4 \frac{1}{12}$ **D** $4 \frac{1}{7}$ **Question 5**

Calculate: $4 \frac{1}{2} - 2 \frac{2}{3}$

A $1 \frac{5}{6}$ **B** $2 \frac{1}{6}$ **C** $1 \frac{1}{6}$ **D** $2 \frac{5}{6}$ **Question 6**

Which fraction lies between $\frac{1}{3}$ and $\frac{1}{2}$?

A $\frac{2}{5}$ **B** $\frac{1}{4}$ **C** $\frac{3}{5}$ **D** $\frac{1}{6}$

Question 7

$\frac{5}{8}$ of a number is 45. What is the number?

A 56**B** 63**C** 72**D** 81**Question 8**

Which fraction is the smallest?

A $\frac{3}{7}$ **B** $\frac{4}{9}$ **C** $\frac{5}{12}$ **D** $\frac{2}{5}$ **Question 9**

Tom eats $\frac{1}{4}$ of a pizza and Amy eats $\frac{1}{3}$ of it. What fraction of the pizza is left?

A $\frac{5}{12}$ **B** $\frac{7}{12}$ **C** $\frac{2}{7}$ **D** $\frac{1}{2}$

Question 10

What is $\frac{2}{3}$ of $\frac{3}{4}$ of 120?

A 40**B** 60**C** 80**D** 90

Answers and Worked Solutions

For parents and tutors. Award 1 mark for each correct answer.

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	C	3	B	4	C	5	A
6	A	7	C	8	D	9	A	10	B

Diagram colour key

- Given in the question
 Worked out
 Groups and matching parts
 Final answer

Question 1

Core

What is $\frac{2}{5}$ of 85?

A 30 B 34 C 36 D 42

Step	What to do	Working
1	Find one fifth	$85 \div 5 = 17$
2	Multiply by 2	$17 \times 2 = 34$
✓	Answer	B = 34

Watch out: Finding one fifth (17) and stopping there.

Question 2

Core

Calculate: $\frac{3}{4} + \frac{1}{6}$

A $\frac{4}{10}$ B $\frac{5}{6}$ C $\frac{11}{12}$ D $\frac{13}{12}$

Step	What to do	Working
1	Find the lowest common denominator	4 and 6 $\rightarrow$ 12
2	Convert both fractions	$\frac{3}{4} = \frac{9}{12}$, $\frac{1}{6} = \frac{2}{12}$
3	Add the numerators	$\frac{9}{12} + \frac{2}{12} = \frac{11}{12}$
✓	Answer	C = $\frac{11}{12}$

Watch out: Adding tops and bottoms ($3 + 1$ over $4 + 6 = \frac{4}{10}$).

Question 3**Core**Write $36/48$ in its simplest form.A $2/3$ B $3/4$ C $9/16$ D $4/5$

Step	What to do	Working
1	Find the highest common factor	HCF of 36 and 48 = 12
2	Divide top and bottom by 12	$36 \div 12 = 3$, $48 \div 12 = 4$
✓	Answer	B = $3/4$

Watch out: Dividing by a smaller factor such as 4 ($9/12$) and stopping too soon.

Question 4**Stretch**Calculate: $2 \frac{1}{3} + 1 \frac{3}{4}$ A $3 \frac{4}{7}$ B $3 \frac{1}{12}$ C $4 \frac{1}{12}$ D $4 \frac{1}{7}$

Step	What to do	Working
1	Add the whole numbers	$2 + 1 = 3$
2	Add the fractions using 12ths	$4/12 + 9/12 = 13/12$
3	Change $13/12$ to a mixed number	$13/12 = 1 \frac{1}{12}$
4	Combine	$3 + 1 \frac{1}{12} = 4 \frac{1}{12}$
✓	Answer	C = $4 \frac{1}{12}$

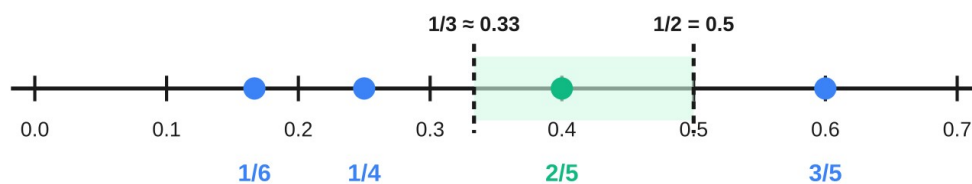
Watch out: Forgetting that $13/12$ is more than one whole ($1 \frac{1}{12}$).

Question 5**Stretch**Calculate: $4 \frac{1}{2} - 2 \frac{2}{3}$ A $1 \frac{5}{6}$ B $2 \frac{1}{6}$ C $1 \frac{1}{6}$ D $2 \frac{5}{6}$

Step	What to do	Working
1	Change to improper fractions	$9/2$ and $8/3$
2	Use sixths	$27/6 - 16/6$
3	Subtract	$11/6 = 1 \frac{5}{6}$
✓	Answer	A = $1 \frac{5}{6}$

Watch out: Subtracting $1/2 - 2/3$ the wrong way round, giving $2 \frac{1}{6}$.**Question 6****Stretch**Which fraction lies between $1/3$ and $1/2$?A $2/5$ B $1/4$ C $3/5$ D $1/6$

Step	What to do	Working
1	Write the limits as decimals	$1/3 \approx 0.33$, $1/2 = 0.5$
2	Write each option as a decimal	0.4, 0.25, 0.6, 0.17
3	Pick the one in between	$0.4 \rightarrow 2/5$
✓	Answer	A = $2/5$

Only $2/5 = 0.4$ lands between them**Watch out:** Choosing $1/4$ because 4 sits between 3 and 2 as a denominator.

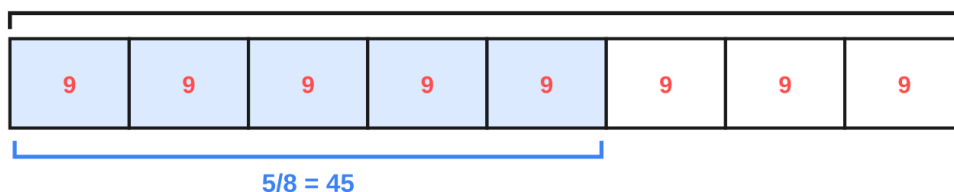
Question 7**Challenge**

$\frac{5}{8}$ of a number is 45. What is the number?

A 56 B 63 C 72 D 81

Step	What to do	Working
1	5 eighths = 45, so find one eighth	$45 \div 5 = 9$
2	Find all 8 eighths	$9 \times 8 = 72$
3	Check	$\frac{5}{8}$ of 72 = 45 ✓
✓	Answer	C = 72

Whole = ?



$$8 \times 9 = 72$$

Watch out: Finding $\frac{5}{8}$ of 45 instead of working backwards.

Question 8**Challenge**

Which fraction is the smallest?

A $\frac{3}{7}$ B $\frac{4}{9}$ C $\frac{5}{12}$ D $\frac{2}{5}$

Step	What to do	Working
1	Write each as a decimal	0.429, 0.444, 0.417, 0.400
2	Compare	0.400 is the smallest
✓	Answer	D = $\frac{2}{5}$

Watch out: Choosing the fraction with the biggest denominator ($\frac{5}{12}$).

Question 9**Core**

Tom eats $\frac{1}{4}$ of a pizza and Amy eats $\frac{1}{3}$ of it. What fraction of the pizza is left?

A $\frac{5}{12}$ B $\frac{7}{12}$ C $\frac{2}{7}$ D $\frac{1}{2}$

Step	What to do	Working
1	Add what was eaten	$\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$
2	Subtract from one whole	$\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$
✓	Answer	A = $\frac{5}{12}$

Watch out: Giving the amount eaten ($\frac{7}{12}$) instead of the amount left.

Question 10**Challenge**

What is $\frac{2}{3}$ of $\frac{3}{4}$ of 120?

A 40 B 60 C 80 D 90

Step	What to do	Working
1	Find $\frac{3}{4}$ of 120	$120 \div 4 \times 3 = 90$
2	Find $\frac{2}{3}$ of 90	$90 \div 3 \times 2 = 60$
✓	Answer	B = 60

Watch out: Stopping after the first step (90).

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