Worksheet - Adding and subtracting fractions

Year: Year 4 · 20

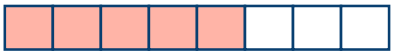
Show your working.

Question 1

Question 1 – Naming fractions *(Section A · Practice)*

Write the fraction of each bar that is shaded. Then write the fraction that is not shaded.

a. 

b. 

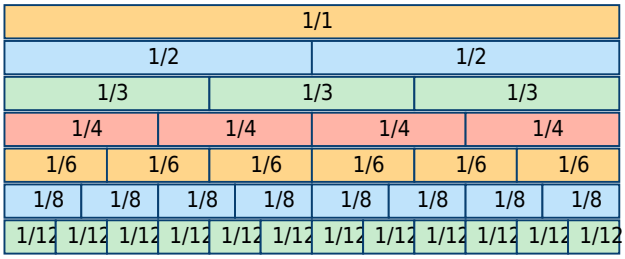
c. 

d. 

Question 2

Question 2 – Equivalent fractions *(Section A · Practice)*

Use the fraction wall to help you. Find the missing numbers.



a. $\frac{1}{2} = \frac{?}{8}$
b. $\frac{3}{4} = \frac{?}{8}$
c. $\frac{2}{3} = \frac{?}{12}$
d. $\frac{5}{10} = \frac{?}{2}$

Question 3

Question 3 – Adding fractions *(Section A · Practice)*

Work out each addition. Write the answer as a mixed number if it is bigger than 1.

a. $\frac{2}{9} + \frac{3}{9}$
b. $\frac{4}{10} + \frac{5}{10}$

c. $\frac{5}{6} + \frac{4}{6}$
d. $\frac{3}{8} + \frac{5}{8}$

Question 4

Question 4 – Subtracting fractions *(Section A · Practice)*

Work out each subtraction. Say whether each answer can be simplified.

a. $\frac{5}{7} - \frac{2}{7}$
b. $\frac{9}{10} - \frac{4}{10}$
c. $\frac{11}{12} - \frac{5}{12}$
d. $\frac{6}{6} - \frac{3}{6}$

Question 5

Question 5 – Improper fractions and mixed numbers *(Section A · Practice)*

Write each improper fraction as a mixed number, and each mixed number as an improper fraction.

a. $\frac{7}{4}$
b. $\frac{11}{5}$
c. $2\frac{1}{3}$
d. $1\frac{3}{8}$

Question 6

Question 6 – Fractions of amounts *(Section A · Practice)*

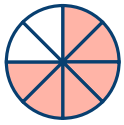
Work out each fraction of the amount. Show both steps.

a. $\frac{3}{4}$ of 20
b. $\frac{2}{5}$ of 30
c. $\frac{5}{6}$ of 24
d. $\frac{7}{10}$ of 50

Question 7

Question 7 – Pizza party *(Section B · Real-life practice)*

Four friends share a large pizza that is cut into 8 equal slices. Anna eats 2 slices, Ben eats 3 slices and Cara eats 1 slice. Dan eats the rest.



a. What fraction of the pizza does each of Anna, Ben and Cara eat?
b. What fraction do Anna and Ben eat together?
c. What fraction of the pizza is left for Dan?
d. Dan says "I ate $^{2}/_{8}$." Is he right? Explain.

Question 8

Question 8 – Water bottles *(Section B · Real-life practice)*

A school buys bottles of water for sports day. The children drink $^{3}/_{10}$ of the bottles before the races, $^{4}/_{10}$ during the races and $^{2}/_{10}$ after the races.

a. What fraction of the bottles do the children drink before and during the races?
b. What fraction do they drink in total?
c. What fraction of the bottles is not drunk?
d. There were 50 bottles. How many bottles were not drunk?

Question 9

Question 9 – Garden beds *(Section B · Real-life practice)*

Mr Okafor has a vegetable garden divided into 12 equal beds. He plants potatoes in 5 beds, carrots in 3 beds and beans in 2 beds.

a. What fraction of the garden has potatoes? Write it as a fraction of 12.
b. What fraction has carrots and beans together? Simplify your answer.
c. What fraction of the garden is still empty?
d. He wants to put flowers in half of the garden. How many beds is that? Is there enough space?

Question 10

Question 10 – Marbles *(Section B · Real-life practice)*

Lucy has 36 marbles. She gives $^{1}/_{4}$ of them to her brother and $^{1}/_{3}$ of them to her cousin.

a. How many marbles does Lucy give to her brother?
b. How many marbles does Lucy give to her cousin?
c. How many marbles does she have left?
d. Lucy’s brother gives her back $^{2}/_{3}$ of the marbles he got. How many marbles is that?

Question 11

Question 11 – Reading a book *(Section B · Real-life practice)*

Priya is reading a book with 120 pages. On Saturday she reads $^{1}/_{5}$ of the book and on Sunday she reads $^{2}/_{5}$ of the book.

a. How many pages does she read on Saturday?
b. How many pages does she read on Sunday?
c. What fraction of the book has she read altogether?
d. How many pages are left to read?

Question 12

Question 12 – Painting the fence *(Section B · Real-life practice)*

Jack and Amy paint a fence. Jack paints $\frac{3}{8}$ of the fence on Monday. Amy paints $\frac{2}{8}$ of the fence on Tuesday. They finish the rest on Wednesday.

a. What fraction have they painted by the end of Tuesday?
b. What fraction is left for Wednesday?
c. The fence is 40 m long. How many metres did Jack paint?
d. How many metres are left to paint on Wednesday?

Question 13

Question 13 – Sports club survey *(Section B · Real-life practice)*

There are 30 children in the sports club. Each child chooses one sport.

Sport	Fraction of the children
Football	$\frac{1}{3}$
Swimming	$\frac{1}{5}$
Tennis	$\frac{1}{6}$
Gymnastics	the rest

a. How many children chose football?
b. How many chose swimming and how many chose tennis?
c. What fraction chose football, swimming or tennis? (Use a denominator of 30.)
d. How many children chose gymnastics?

Question 14

Question 14 – Recipe cups *(Section B · Real-life practice)*

A recipe for pancakes uses $\frac{3}{4}$ of a cup of flour and $\frac{2}{4}$ of a cup of milk. Raj wants to make 2 batches.

a. How much flour and milk are in one batch together? Write your answer as a mixed number.
b. How much flour is needed for 2 batches?
c. How much milk is needed for 2 batches? Give your answer as a mixed number.
d. Raj has 2 cups of flour. How much will be left after 2 batches?

Question 15

Question 15 – School trip fractions *(Section C · Problem solving)*

There are 60 children in Year 4 and they go on a trip. The table shows how they travel.

Transport	Fraction of the children
Coach	$\frac{1}{2}$
Minibus	$\frac{1}{5}$
Train	$\frac{1}{4}$
Walk	the rest

a. How many children travel by coach?
b. How many travel by minibus and how many by train?
c. What fraction of the children walk? Use a denominator of 20 to help.
d. How many children walk?
e. The teacher says "More than $\frac{3}{4}$ of the children use a vehicle." Is she right?

Question 16

Question 16 – Pocket money *(Section C · Problem solving)*

Ella has £60. She spends $\frac{1}{4}$ of her money on a book, $\frac{1}{3}$ on a game and $\frac{1}{6}$ on sweets and drinks. She saves the rest.

a. How much does Ella spend on the book?
b. How much does she spend on the game and on the sweets and drinks?
c. How much does she spend altogether?
d. What fraction of her money does she save? Check using a denominator of 12.
e. How much money does she save?

Question 17

Question 17 – The long journey *(Section C · Problem solving)*

The Davies family drive 240 km to the seaside. They drive $\frac{3}{8}$ of the way before lunch. After lunch they drive $\frac{1}{4}$ of the whole journey. They stop for a rest and then drive the rest of the way.

a. How many kilometres do they drive before lunch?
b. How many kilometres do they drive after lunch?
c. What fraction of the journey do they drive before the rest stop? (Use eighths.)
d. What fraction is left? How many kilometres is that?
e. They drive at an average of 60 km every hour. How long is the part after the rest stop?

Question 18

Question 18 – Class art project *(Section C · Problem solving)*

A class of 24 children makes a mural. The mural is divided into 12 equal sections. The children paint the sections on different days. The table shows the sections.

Day	Sections painted
Monday	3
Tuesday	4
Wednesday	2
Thursday	?

a. What fraction of the mural is painted on Monday and Tuesday together?
b. The mural is finished on Thursday. How many sections are painted on Thursday?
c. What fraction of the mural is painted on Thursday? Simplify your answer.
d. On Wednesday $\frac{1}{3}$ of the children are away. How many children are at school?
e. The teacher says, "Wednesday was $\frac{1}{6}$ of the mural." Is she right?

Question 19

Question 19 – The sweet shop *(Section C · Problem solving)*

A sweet shop has 48 jars of sweets. $\frac{1}{6}$ of the jars are chocolates, $\frac{1}{4}$ are jellies and $\frac{1}{3}$ are toffees. The rest are mints.

a. How many jars of chocolates are there?
b. How many jars of jellies and how many jars of toffees?
c. What fraction of the jars are chocolates, jellies or toffees? Use twelfths.
d. How many jars of mints are there?
e. The shop owner sells $\frac{3}{4}$ of the toffee jars. How many jars is that? How many toffee jars are left?

Question 20

Question 20 – Challenge: eighths *(Section D · Challenge)*

Use only the fractions $\frac{1}{8}$, $\frac{2}{8}$, $\frac{3}{8}$, $\frac{4}{8}$, $\frac{5}{8}$, $\frac{6}{8}$ and $\frac{7}{8}$. Choose three different fractions each time.

a. Find three different fractions that add up to exactly 2 wholes. List every possible answer.
b. Find two different fractions from the list with a difference of $\frac{3}{8}$. Give two different pairs.
c. Explain why $\frac{1}{8} + \frac{1}{8} + \frac{1}{8}$ is not allowed for part (a).