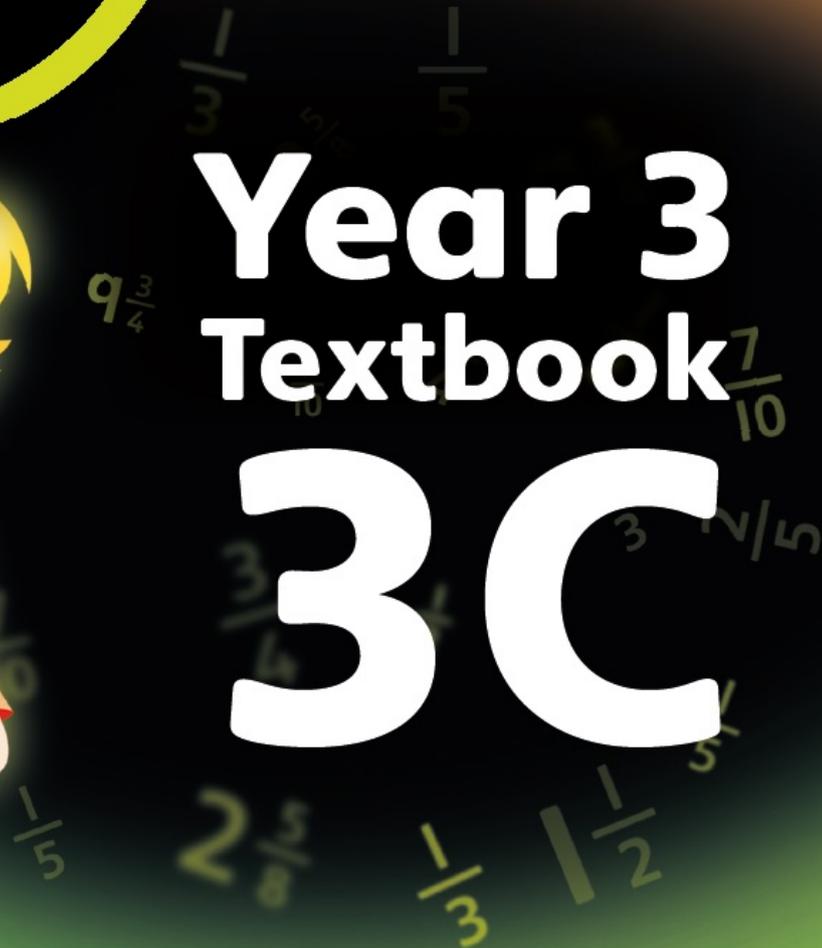


White Rose  
**MATHS**

White Rose Maths Edition



# Year 3 Textbook 3C



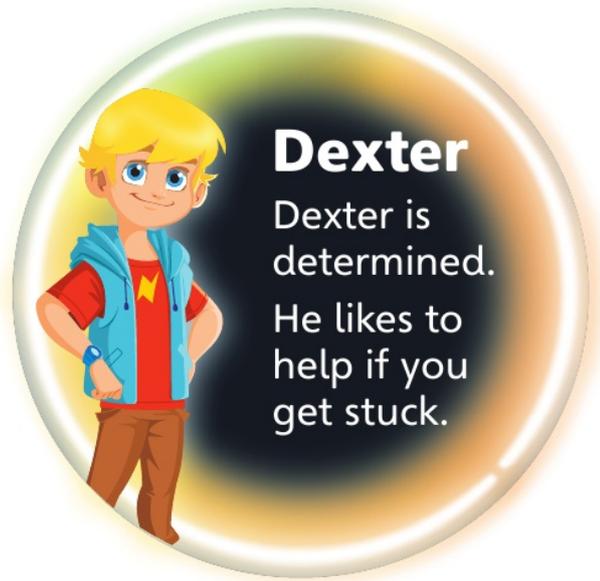


# Year 3 Textbook 3C

Series Editor: Tony Staneff



White Rose Maths Edition



helpful



**Sparks**

flexible



**Flo**

brave



**Astrid**

curious



**Ash**

Series editor: Tony Staneff

Lead author: Josh Lury

Consultants (first edition): Professor Liu Jian and Professor Zhang Dan

Author team (first edition): Tony Staneff, Josh Lury, Tim Handley,

Belle Cottingham and Paul Wrangles

# Contents

## Unit II – Fractions (2)

Add fractions  
Subtract fractions  
Partition the whole  
Problem solving – add and subtract fractions  
Unit fractions of a set of objects  
Non-unit fractions of a set of objects  
Reason with fractions of an amount  
Problem solving – fractions of measures  
End of unit check

## Unit I2 – Money

Pounds and pence  
Convert pounds and pence  
Add money  
Subtract money  
Find change  
End of unit check

## Unit I3 – Time

Roman numerals to I2  
Tell the time to 5 minutes  
Tell the time to the minute  
Read time on a digital clock  
Use am and pm  
Years, months and days  
Days and hours  
Hours and minutes – start and end times  
Hours and minutes – durations  
Hours and minutes – compare durations  
Minutes and seconds  
Solve problems with time  
End of unit check

6

8

12

16

20

24

28

32

36

40

42

44

48

52

56

60

64

66

68

72

76

80

84

88

92

96

100

104

108

112

116

Your teacher will tell you which page you need.



## Unit 14 – Angles and properties of shapes

Turns and angles	120
Right angles in shapes	124
Compare angles	128
Measure and draw accurately	132
Horizontal and vertical	136
Parallel and perpendicular	140
Recognise, draw and describe 2D shapes	144
Recognise and describe 3D shapes	148
Make 3D shapes	152
End of unit check	156

## Unit 15 – Statistics

Interpret pictograms (1)	160
Interpret pictograms (2)	164
Draw pictograms	168
Interpret bar charts (1)	172
Interpret bar charts (2)	176
Collect and represent data in a bar chart	180
Simple two-way tables	184
End of unit check	188
What do we know now?	191

118

120

124

128

132

136

140

144

148

152

156

158

160

164

168

172

176

180

184

188

191

Let's go and find some new maths adventures!



# How to use this book

These pages make sure we are ready for the unit ahead. Find out what we will be learning and brush up on your skills!



**Unit 12**  
**Money**



In this unit we will ...

- ⚡ Record money in £ and p
- ⚡ Convert money
- ⚡ Add and subtract amounts of money
- ⚡ Solve problems including ones that involve finding change



We will need some maths words. How many of these can you remember?

pounds (£)

pence (p)

convert

total

difference

change



In Year 2, we counted money in pounds and in pence. How much money is here?





We will also need to be able to add and subtract numbers. What calculations are shown here?

	H	T	O
	5	6	
+	7	9	
	1	3	5

$$\begin{array}{r} -24 \\ -65 \\ \hline 71 \end{array}$$

$$\begin{array}{r} -24 \\ -65 \\ \hline 165 \end{array}$$

42
43

## Discover

Lessons start with **Discover**.  
 Here, we explore new maths problems.  
 Can you work out how to find the answer?

Do not be afraid to make mistakes.  
 Learn from them and try again!

Unit 12: Money, Lesson 1

### Pounds and pence

**Discover**



Sofia      Lee

- 1 a) How much money does Lee have?
- b) Sofia has these coins in her purse:



She gives Lee £2 and 28p.  
Which coins did Sofia give Lee?

44      Key   1p   2p   5p   10p   20p   50p   £1   £2



# Share

Next, we share our ideas with the class.

Did we all solve the problems the same way?  
What ideas can you try?

**Share**

a) Sort the notes and coins into pounds (£) and pence (p).

I counted the pounds first and then the pence. I used a number line to find the total amount. I started with the highest value.

Lee has 12 pounds.  
Lee has 88 pence.  
Lee has £12 and 88p.

b) Sofia gave Lee a £2 coin and 20p, 5p, 2p and 1p coins.

# Think together

Then we have a go at some more problems together. Use what you have just learnt to help you.

We will try a challenge too!



This tells you which page to go to in your **Practice Book**.

**Think together**

1 How much money does Sofia have?

Sofia has  pounds and  pence.  
Sofia has £  and  p.

2 Lee takes 25 pounds and 37 pence from his money box. Choose some of the notes and coins to make this amount.

3 Sofia is trying to make £1 with different numbers of coins. Complete the table using one more coin in each row.

I have £1 in total. I have fewer than 10 coins.

Number of coins	Possible
1	
2	
3	Not possible
4	
5	
6	
7	
8	
9	

I remember that 100 pence is equal to £1.

At the end of each unit there is an **End of unit check**. This is our chance to show how much we have learnt.

**End of unit check**

1 How much money is shown here?

£7 and 42p   £7 and 42p   £7 and 37p

2 What is 408p in pounds and pence?

£4 and 58p   £45 and 8p   £458   £4 and 80p

3 Which of the following sets of coins does not make £1?

4 How much money is shown here?

£6 and 87p   £7 and 87p   £787   87p

5 A sandwich cost £3 and 65p. Kate pays with £2 and 35p. How much change does Kate get?

£2 and 35p   £1 and 45p   £1 and 35p   £2 and 45p

6 Olivia wants to buy a new sports cap. She has £4 and 20p. Her mum gives her £5 and 10p. Does she have enough to buy the sports cap?

# Unit II

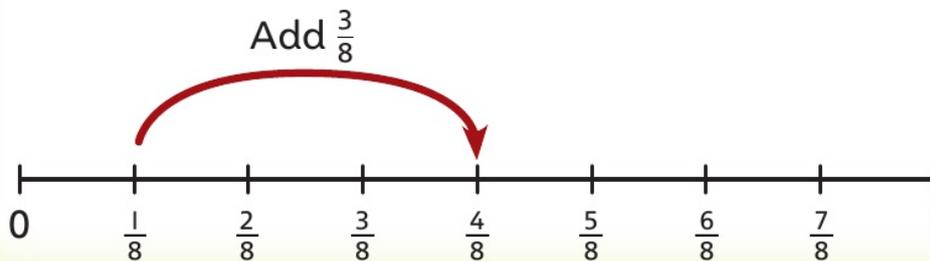
## Fractions 2



In this unit we will ...

- ⚡ Add and subtract fractions
- ⚡ Calculate fractions of a set of objects
- ⚡ Find fractions of amounts
- ⚡ Solve word problems about fractions
- ⚡ Solve word problems about finding fractions of amounts and measures

Do you remember what this is called? Use it to find what fraction is  $\frac{3}{8}$  more than  $\frac{1}{8}$ .





We will need some maths words.  
Which of these have you met before?

numerator

denominator

add

subtract

fraction

whole

equal to

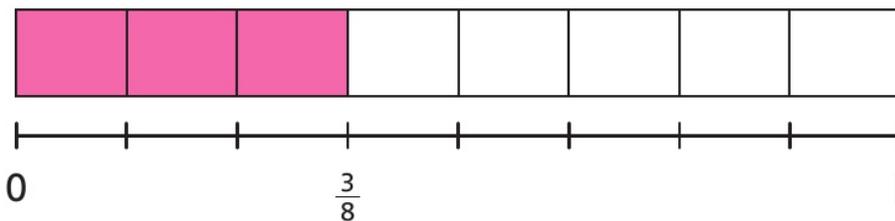
multiply

divide

parts

set of objects

We will need fraction strips too. Use the information in the fraction strip and number line to work out what fraction is shaded.



# Add fractions

## Discover



Zac

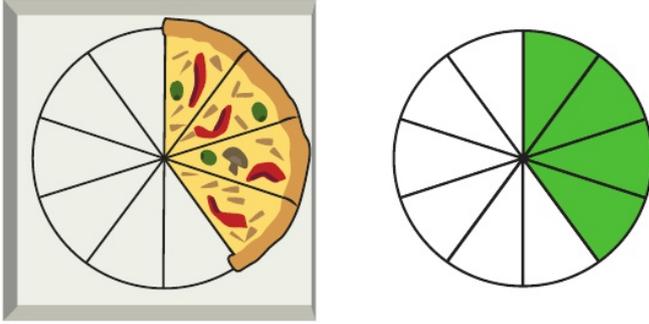
Isla

- 1** a) What fraction of the pizza does Zac have left?  
What fraction of the pizza does Isla have left?
- b) Add these two fractions together.

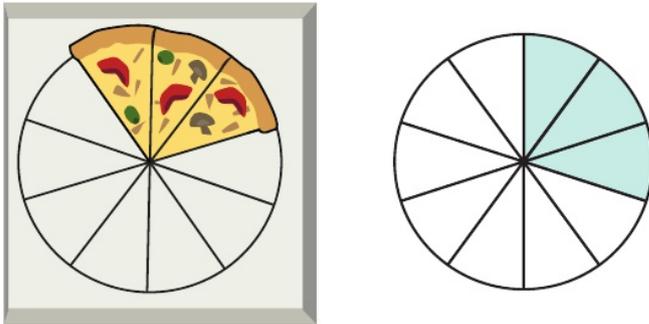
# Share

a) Each pizza is divided into 10 equal parts.

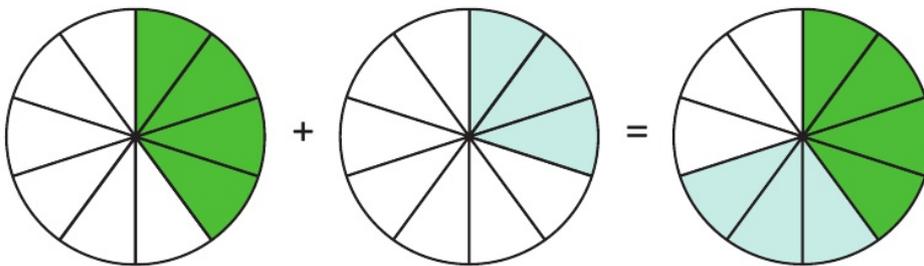
Zac has  $\frac{4}{10}$  of the pizza left.



Isla has  $\frac{3}{10}$  of the pizza left.



b)



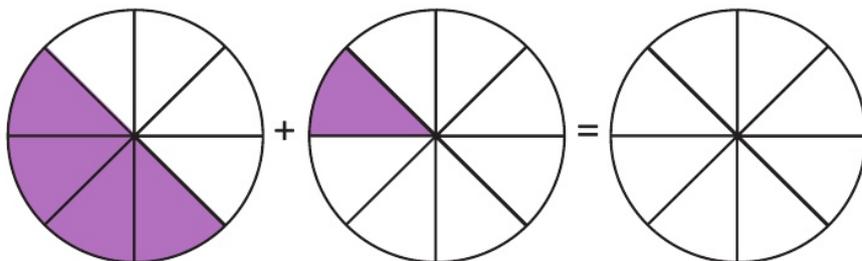
4 tenths + 3 tenths = 7 tenths

$$\frac{4}{10} + \frac{3}{10} = \frac{7}{10}$$

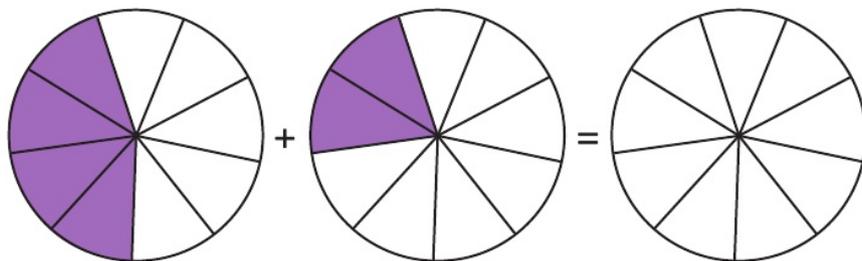
# Think together

1 Add these fractions.

a)  $\frac{4}{8} + \frac{1}{8} = \frac{\square}{\square}$



b)  $\frac{4}{9} + \frac{2}{9} = \frac{\square}{\square}$



2 a) Use the fraction strip to work out  $\frac{2}{5} + \frac{1}{5}$ .



b) What calculation is shown by this fraction strip?



CHALLENGE

3 a) Add these fractions.

$$\text{i) } \frac{3}{5} + \frac{1}{5} = \frac{\square}{\square}$$

$$\text{iii) } \frac{1}{6} + \frac{3}{6} = \frac{\square}{\square}$$

$$\text{ii) } \frac{5}{12} + \frac{1}{12} = \frac{\square}{\square}$$

$$\text{iv) } \frac{3}{5} + \frac{2}{5} = \frac{\square}{\square}$$



I will use fraction strips to help me work out the answers.

I don't think I need to use fraction strips. I can see a quicker way of adding the fractions.

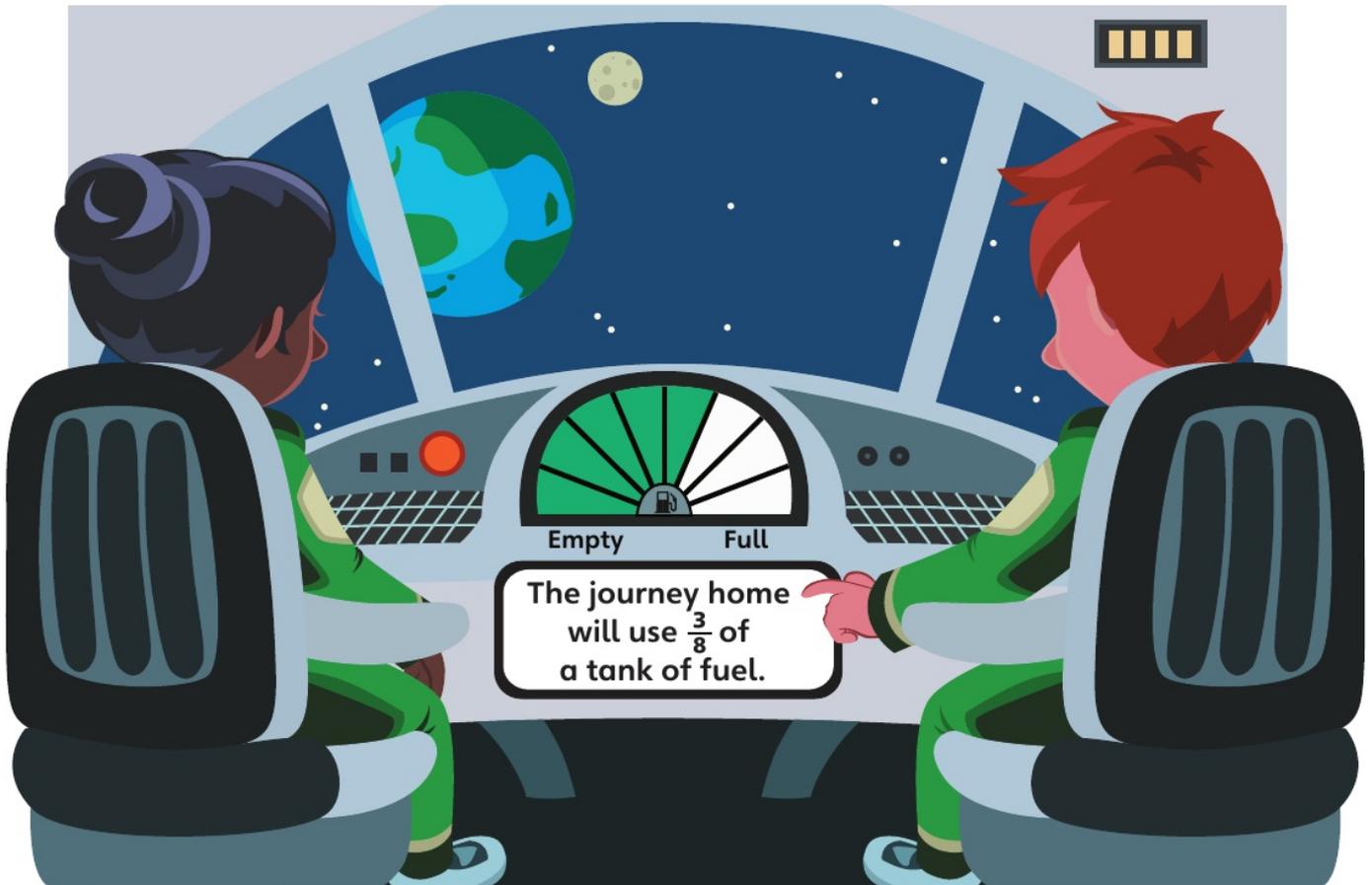
$$\text{b) } \frac{\square}{\square} + \frac{\square}{\square} = \frac{8}{\square}$$

How many different answers can you find?



# Subtract fractions

## Discover

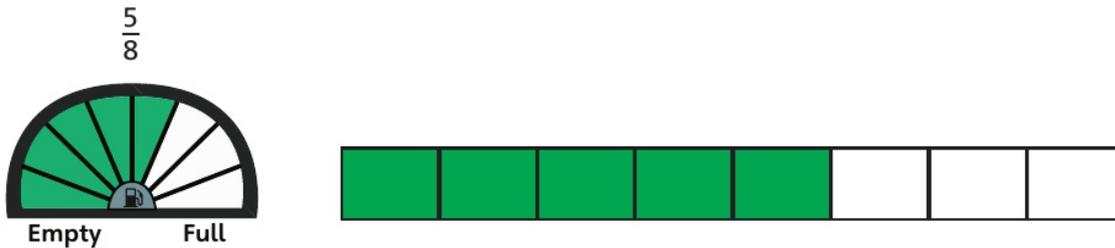


- I** a) What fraction of the tank is full of fuel?  
Represent this on a fraction strip.
- b) How much fuel will be left after the journey home?

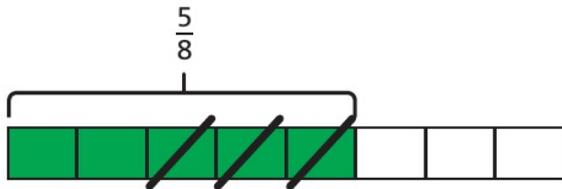
# Share

a) The dial is divided into 8 equal sections.

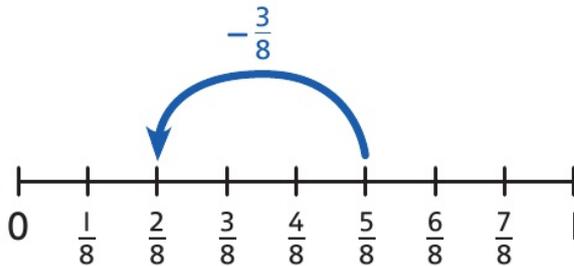
The tank is  $\frac{5}{8}$  full.



b) The journey home will use  $\frac{3}{8}$  of a tank of fuel.



I drew a fraction strip and shaded in  $\frac{5}{8}$ .  
Then I crossed out  $\frac{3}{8}$ .



I started at  $\frac{5}{8}$  on a number line and I jumped back  $\frac{3}{8}$ .



5 eighths – 3 eighths = 2 eighths

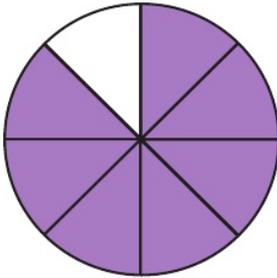
$$\frac{5}{8} - \frac{3}{8} = \frac{2}{8}$$

There will be  $\frac{2}{8}$  of a tank of fuel left after the journey home.

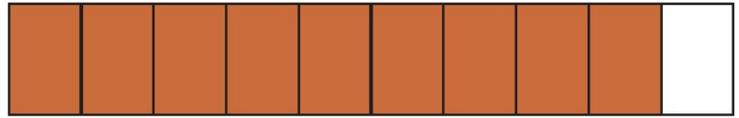
# Think together

1 Complete these subtractions.

$$\text{a) } \frac{7}{8} - \frac{5}{8} = \frac{\square}{\square}$$



$$\text{b) } \frac{9}{10} - \frac{2}{10} = \frac{\square}{10}$$



2 Work out

$$\text{a) } \frac{4}{5} - \frac{1}{5}$$

$$\text{b) } \frac{5}{7} - \frac{1}{7}$$

$$\text{c) } \frac{10}{11} - \frac{6}{11}$$

$$\text{d) } \frac{7}{8} - \frac{7}{8}$$

I will cross out the right number of parts.



CHALLENGE

- 3 a) Complete the calculation.

$$\frac{\square}{7} - \frac{\square}{7} = \frac{2}{7}$$



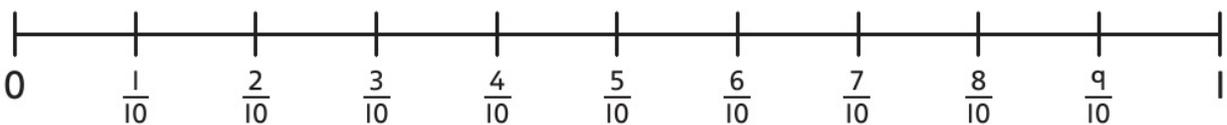
I think I can find more than one answer.



- b) The difference between two fractions is  $\frac{3}{10}$ .

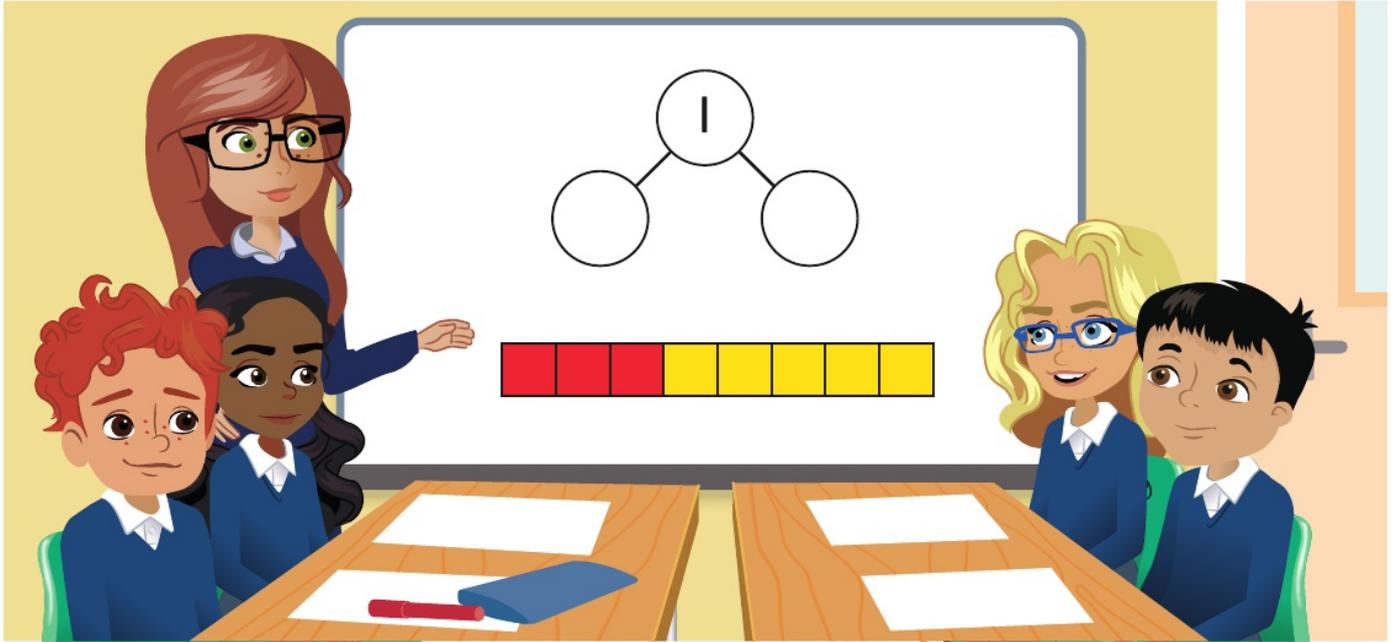
What could the fractions be?  
Use the number line to help you.

I wonder what 'the difference' means.



# Partition the whole

## Discover



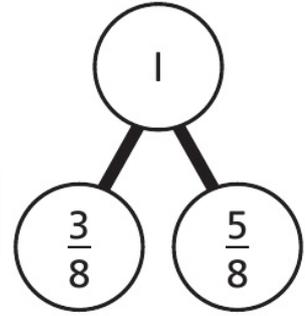
- 1** a) Complete the part-whole model for the fraction strip.
- b) Draw another fraction strip with 8 equal parts.  
Shade it in differently.  
Draw a part-whole model for your shading.

# Share

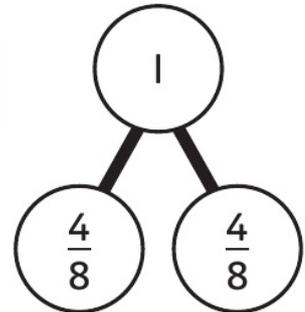
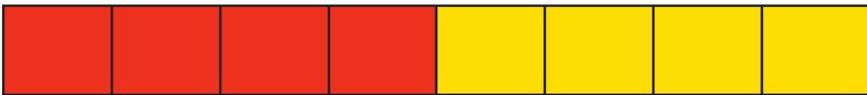
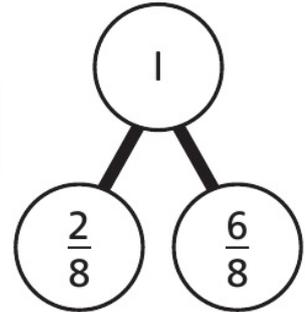
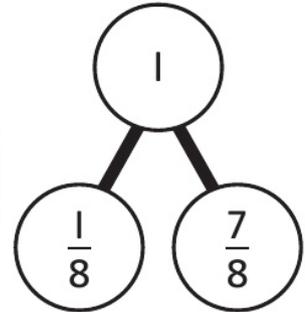
a) 3 parts are red and 5 parts are yellow.



$\frac{3}{8}$  of the strip is red and  $\frac{5}{8}$  of the strip is yellow.



b)

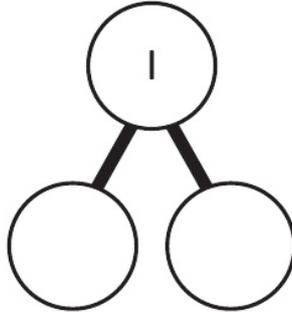
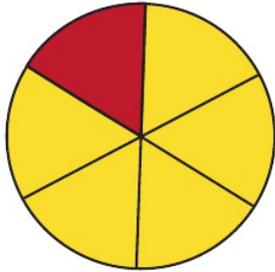


I found all the ways to shade a fraction strip with 8 equal parts.



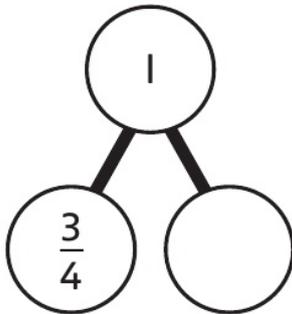
# Think together

1 Complete the part-whole model for the fraction circle.

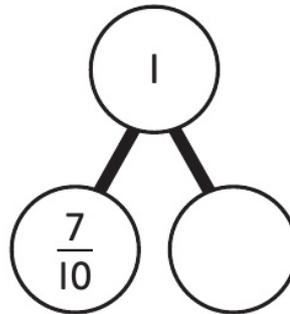


2 Complete the part-whole models.

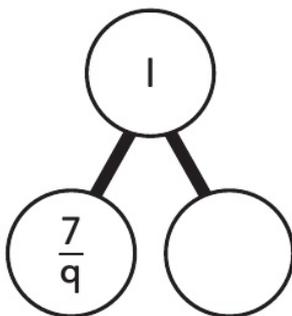
a)



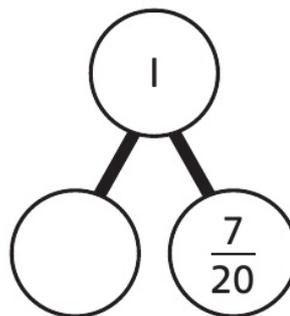
c)



b)



d)



I notice something about the numerators when you add them together.

