Mathletics

Series D Teacher

Fractions

Series D – Fractions

Contents

Series Author:

Nicola Herringer

Series D – Fractions

Page 1

a 1 whole

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

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

d $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$

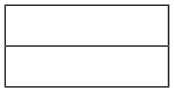
e Students should cut strips and place them in paper bag.

Page 2

Observe students.

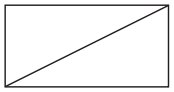
Pages 3–4

1a



b

c



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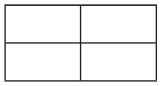

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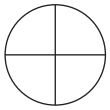

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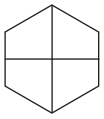
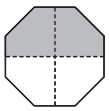


3a



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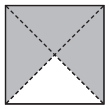
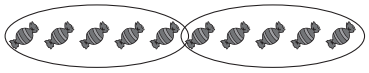


c

d

4a



5, 10

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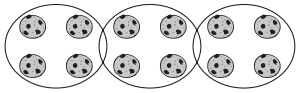


4, 12

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

b 1 out of 2; $\frac{1}{2}$

c 2 out of 4; $\frac{2}{4}$

d 5 out of 8; $\frac{5}{8}$

e 2 out of 4; $\frac{2}{4}$

f 7 out of 8; $\frac{7}{8}$

6a

b 2

c $\frac{2}{8}$

Pages 5–7

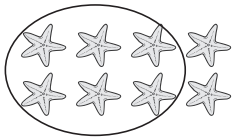
1a 2 out of 8; $\frac{2}{8}$

b 3 out of 4; $\frac{3}{4}$

c 6 out of 8; $\frac{6}{8}$

d 5 out of 7; $\frac{5}{7}$

2a



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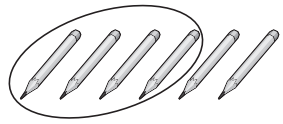

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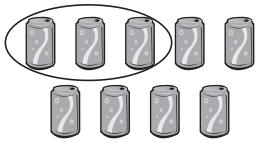

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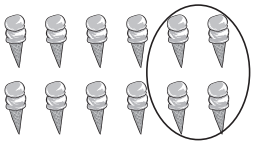


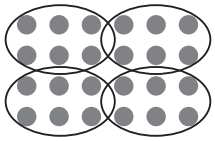
3b $\boxed{8} \div \boxed{4} = \boxed{2}$

$\frac{\boxed{1}}{\boxed{4}}$ of $\boxed{8} = \boxed{2}$

c $\boxed{8} \div \boxed{8} = \boxed{1}$

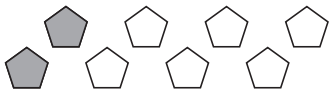
$\frac{\boxed{1}}{\boxed{8}}$ of $\boxed{8} = \boxed{1}$

4



6

5a



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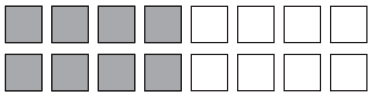


6a 6

b 10

c 6

7a 6

b 12

c 6

Pages 8–10

1a $\frac{3}{8}$

b $\frac{2}{4}$

c $\frac{5}{8}$

d $\frac{4}{8}$

e They are both the same as $\frac{1}{2}$.

2a $\frac{1}{4}$ or $\left(\frac{3}{8}\right)$

b $\frac{2}{8}$ or $\left(\frac{1}{2}\right)$

c $\left(\frac{3}{4}\right)$ or $\frac{4}{8}$

d $\frac{1}{2}$ or $\left(\frac{5}{8}\right)$

Series D – Fractions

Pages 8–10

2e $\frac{5}{8}$ or $\frac{3}{4}$

f $\frac{2}{4}$ or $\frac{3}{8}$

3a $\frac{1}{8}, \frac{4}{8}, \frac{3}{4}, \frac{7}{8}$

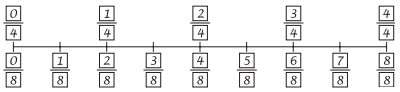
b $\frac{1}{4}, \frac{1}{2}, \frac{5}{8}, \frac{7}{8}$

4a $\frac{1}{4}, \frac{3}{4}$

b $\frac{1}{8}, \frac{3}{8}, \frac{5}{8}, \frac{7}{8}$

c They are the same.

5



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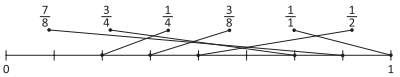


Pages 11–12

What to do

Observe students.

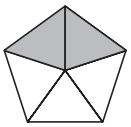
Pages 13–14

1a $\frac{4}{10}$

b $\frac{4}{5}$

c $\frac{1}{5}$

2a



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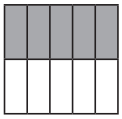
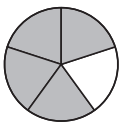


c



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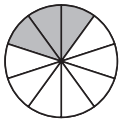
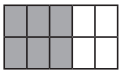
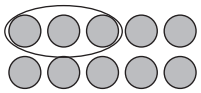


2e

f



3a



b

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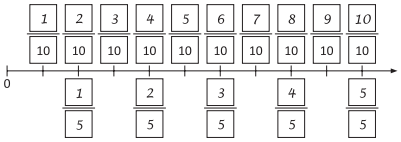

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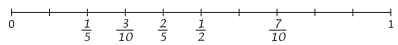
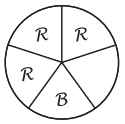


6a



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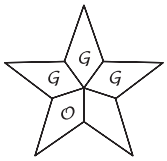

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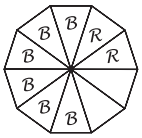
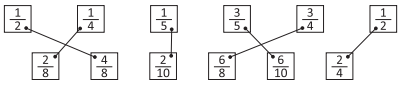


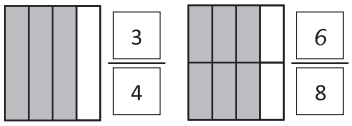
Pages 15–16

1 quarters; eighths; fifths; tenths

2



3a



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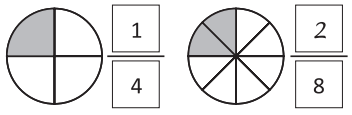

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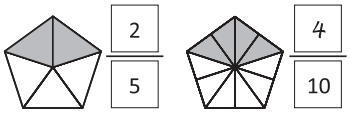

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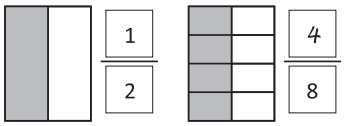
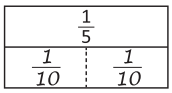


4 $\frac{3}{10}, \frac{2}{5}, \frac{7}{10}, \frac{4}{5}, \frac{9}{10}$

5a



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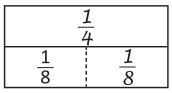

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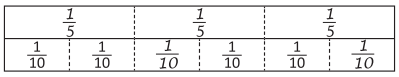

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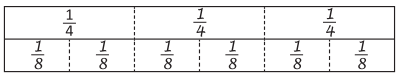

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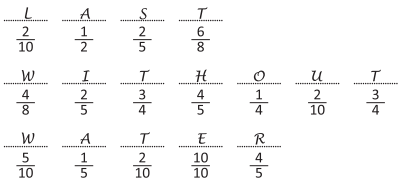


Page 17

1a $\frac{2}{3}$

b $\frac{2}{5}$

c $\frac{5}{8}$

d $\frac{9}{10}$

e $\frac{4}{5}$

f $\frac{6}{6}$

2a $\frac{2}{5}$

b $\frac{3}{8}$

c $\frac{1}{6}$

d $\frac{5}{10}$

e $\frac{2}{5}$

f 0

Series D – Fractions

Page 18

1 $\frac{3}{4}$

2 $\frac{3}{8}; \frac{5}{8}$

3 $\frac{6}{10}$

4 $\frac{1}{6}$

5 $\frac{2}{6}$

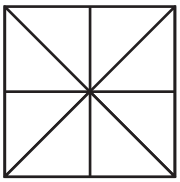
6 5

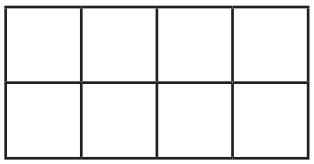
7 10

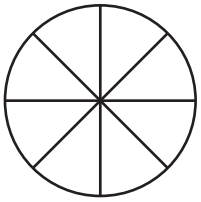
Fractions

Name _____

1 Colour half of each shape:

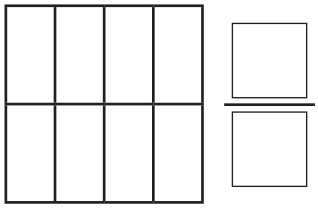
a 

b 

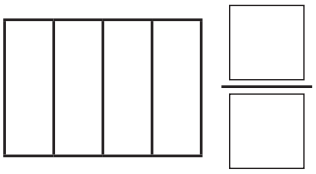
c 

2 Show the following fractions:

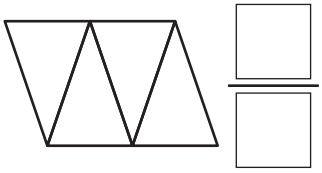
a | 3 | **out of** | 8 |



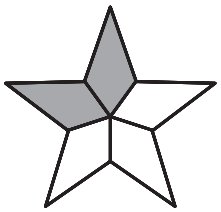
b | 1 | **out of** | 4 |

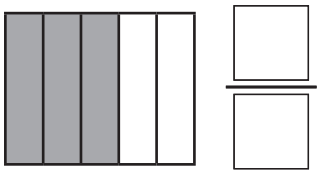


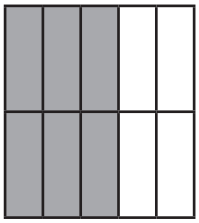
c | 2 | **out of** | 4 |



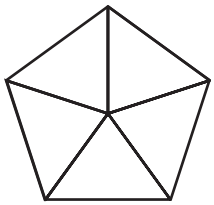
3 Label these fractions:

a 

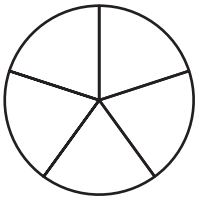
b 

c 

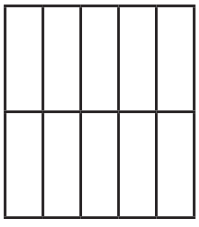
4 Shade these fractions:

a 

$\frac{3}{5}$

b 

$\frac{2}{5}$

c 

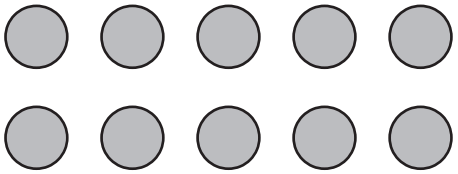
$\frac{7}{10}$

Skills	Not yet	Kind of	Got it
• Represents common fractions on different models			
• Interprets the numerator and denominator of a fraction			

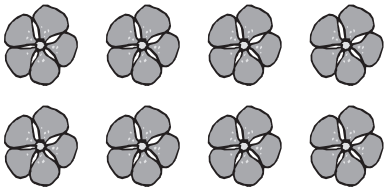
Name _____

5 **Put a ring around the following:**

a $\frac{1}{2}$ of the circles

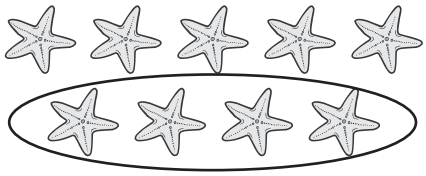


b $\frac{1}{4}$ of the flowers

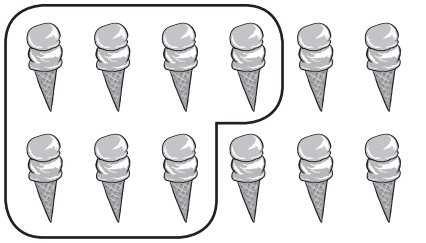


6 **What fraction of each group has a ring around it?**

a

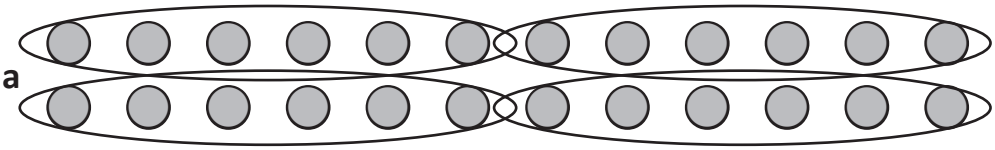


b



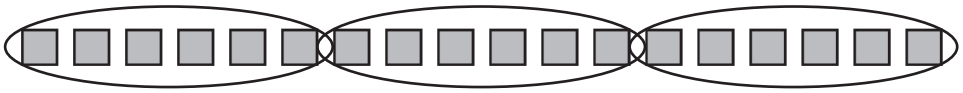
7 **Use the diagrams to find the fractions of different numbers:**

a



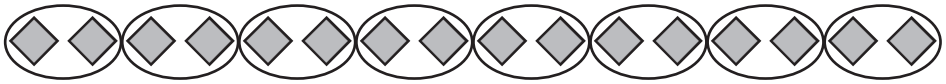
$\frac{1}{4}$ of 24 = ☐

b



$\frac{1}{3}$ of 18 = ☐

c



$\frac{1}{8}$ of 16 = ☐

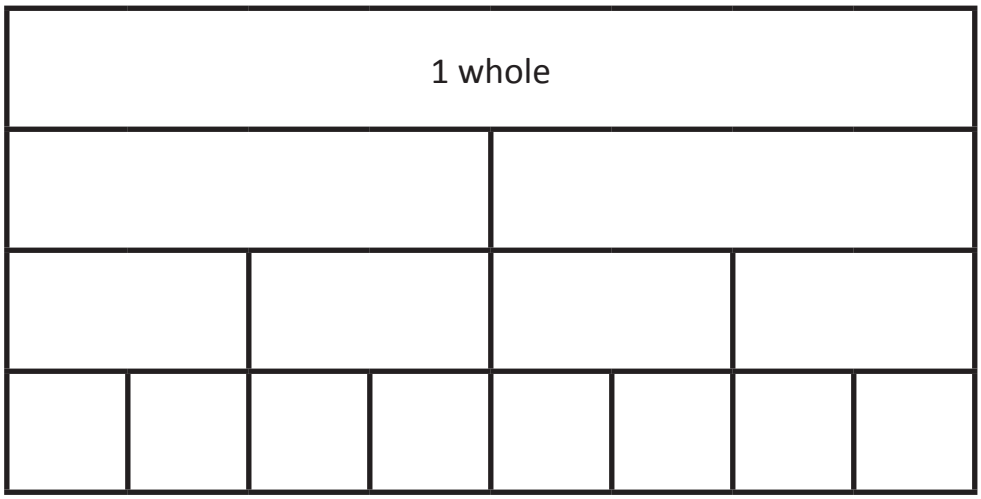
8 **Find these amounts in these problems:.**

a $\frac{1}{3}$ of all the kids in my class wear a watch. How many wear a watch if there are 24 kids in my class? ☐

b Ben made 30 cookies and gave $\frac{1}{2}$ away to his friends. How many did he give away? ☐

Skills	Not yet	Kind of	Got it
• Finds fractions of a collection of objects			
• Finds a fraction of a whole number			

9 **Label this fraction wall:**



10 **Put these fractions in order from smallest to largest:**

a $\frac{5}{8}$ $\frac{3}{4}$ $\frac{3}{8}$ $\frac{1}{2}$

$\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

b $\frac{4}{8}$ $\frac{8}{8}$ $\frac{6}{8}$ $\frac{1}{4}$

$\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$ $\frac{\square}{\square}$

11 **Match the equivalent fractions in the top row with the fractions underneath by drawing a line to connect them:**

$\frac{6}{8}$ $\frac{1}{4}$ $\frac{1}{2}$

$\frac{2}{4}$ $\frac{3}{4}$ $\frac{2}{8}$

Skills	Not yet	Kind of	Got it
• Orders halves, quarters and eighths			
• Finds equivalence between halves, quarters and eighths			

Types of fractions

Name _____

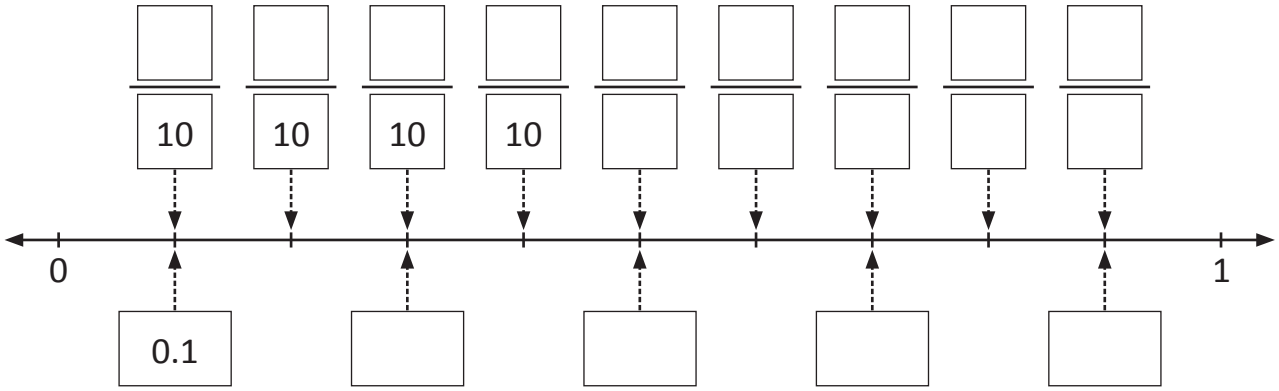
1 **Shade the fraction strips so that each one matches the fraction or decimal:**

a $\frac{7}{10}$

b 0.4

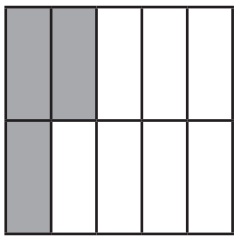
c 0.8

2 **Complete this number line showing equivalent tenths and decimals:**



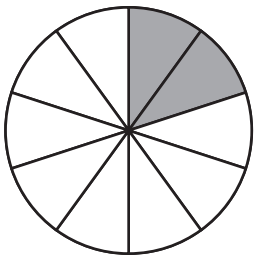
3 **Label these models as fractions and as decimals:**

a



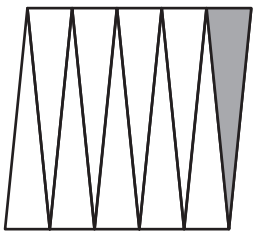
Fraction _____ **Decimal** _____

b



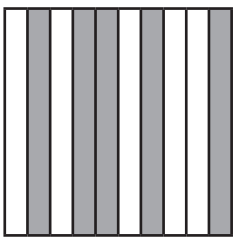
Fraction _____ **Decimal** _____

c



Fraction _____ **Decimal** _____

d



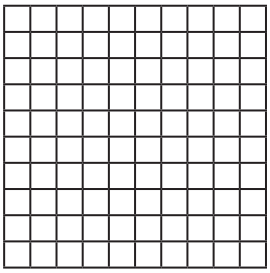
Fraction _____ **Decimal** _____

Types of fractions

Name _____

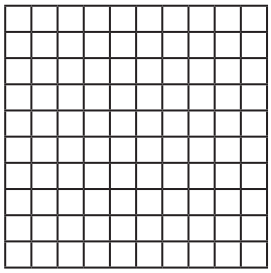
4 **Shade the number of hundredths on each grid:**

a



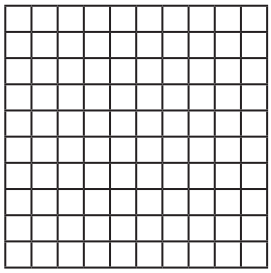
$\frac{15}{100}$

b



$\frac{42}{100}$

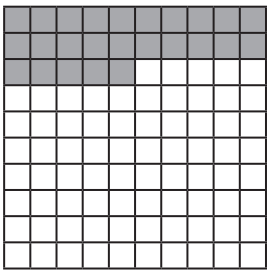
c



$\frac{56}{100}$

5 **Write the number of hundredths shown on each grid as a fraction and a decimal:**

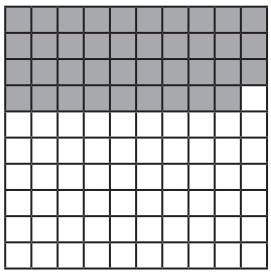
a



Fraction **Decimal**

$\frac{\square}{\square}$ ☐

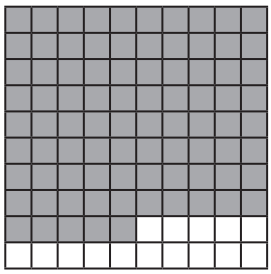
b



Fraction **Decimal**

$\frac{\square}{\square}$ ☐

c



Fraction **Decimal**

$\frac{\square}{\square}$ ☐

Skills	Not yet	Kind of	Got it
• Uses decimal notation for tenths and hundredths			
• Finds equivalence between tenths and decimals			
• Finds equivalence between hundredths and decimals			

Adding and subtracting fractions

Name _____

1 **Add these fractions with the same denominators:**

a $\frac{2}{6} + \frac{3}{6} =$ ☐

b $\frac{7}{10} + \frac{2}{10} =$ ☐

c $\frac{5}{8} + \frac{2}{8} =$ ☐

2 **Subtract these fractions with the same denominators:**

a $\frac{3}{5} - \frac{2}{5} =$ ☐

b $\frac{3}{4} - \frac{2}{4} =$ ☐

c $\frac{2}{3} - \frac{1}{3} =$ ☐

3 **Solve these fraction word problems:**

a Three friends split a bag of sweets fairly.
What fraction of the bag does each of them take? ☐

b It's a hot day. Frank drinks $\frac{1}{8}$ of a jug of juice; Mary drinks $\frac{2}{8}$ of it.

What fraction of the jug of juice is left? ☐

c A Eurostar train carriage contains 40 English and French passengers.
Three quarters of the passengers are English.

How many passengers are French? ☐

Skills	Not yet	Kind of	Got it
• Adds fractions with the same denominator			
• Subtracts fractions with the same denominator			
• Solve fraction word problems			

Series D – Fractions – Student Progress Record

Name_____ Class_____ Date _____

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

Series D – Fractions – Student Progress Record

Name_____ Class_____ Date _____

What went well: _____

_____

_____

_____

What I need to improve: _____

_____

_____

_____

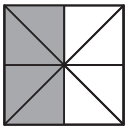
Series D – Fractions

ASSESSMENT ANSWERS

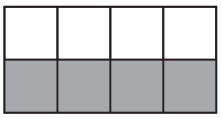
Pages 4–6

1 Shading may vary.
Sample answers:

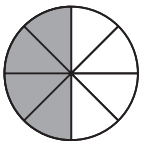
a



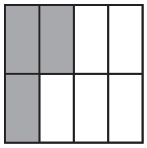
b



c



2a

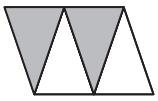


$\frac{3}{8}$

b

$\frac{1}{4}$

c



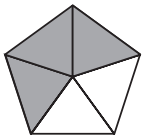
$\frac{2}{4}$

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

b $\frac{3}{5}$

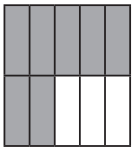
c $\frac{6}{10}$

4a



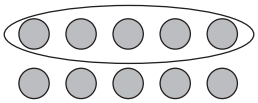
b

c

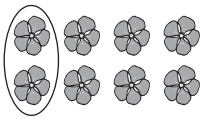


5 Answers may vary.
Sample answers:

a



b



6a $\frac{4}{9}$

b $\frac{7}{12}$

7a 6

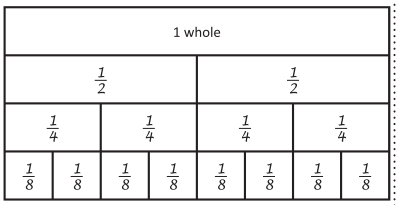
b 6

c 2

8a 8

b 15

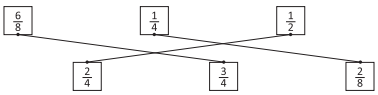
9



10a $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$

b $\frac{1}{4}$ $\frac{4}{8}$ $\frac{6}{8}$ $\frac{8}{8}$

11



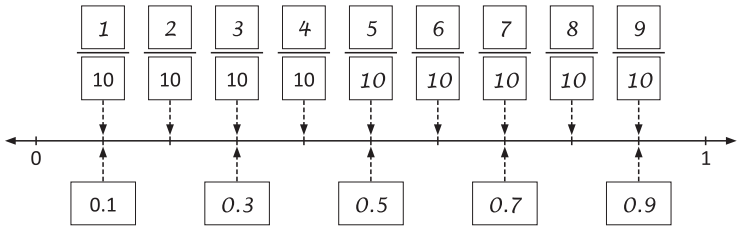
Pages 7–8

1a

b

c

2



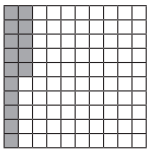
3a $\frac{3}{10}$; 0.3

b $\frac{2}{10}$; 0.2

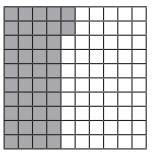
c $\frac{1}{10}$; 0.1

d $\frac{5}{10}$; 0.5

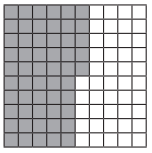
4a



b



c



5a $\frac{25}{100}$; 0.25

b $\frac{39}{100}$; 0.39

c $\frac{85}{100}$; 0.85

Page 9

1a $\frac{5}{6}$

b $\frac{9}{10}$

c $\frac{7}{8}$

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

b $\frac{1}{4}$

c $\frac{1}{3}$

3a $\frac{1}{3}$

b $\frac{5}{8}$

c 10

Series D – Fractions

Topic	Reference	Strand	Substrand	Objective
Fractions	3F1b	Number	Fractions	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
Fractions	3F1c	Number	Fractions	Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
Fractions	3F3	Number	Fractions	Compare and order unit fractions, and fractions with the same denominators.
Types of Fractions	3F1a	Number	Fractions	Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10.
Types of Fractions	3F2	Number	Fractions	Recognise and show, using diagrams, equivalent fractions with small denominators.
Adding and Subtracting Fractions	3F4	Number	Fractions	Add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$).