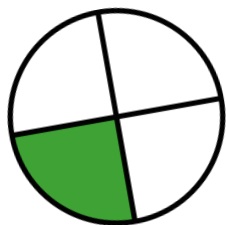


Sense of Number Visual Fractions Policy

St John Fisher RC Primary School
October 2017



$\frac{1}{4}$

Graphic Design by Dave Godfrey
Compiled by the Sense of Number Maths Team

For sole use within St John Fisher RC Primary School.

'A picture is worth 1000 words!'
www.senseofnumber.co.uk



St John Fisher RC Primary School

St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk





Guide to using a $\frac{1}{4}$ Visual Fractions Policy

The Sense of Number Visual Fractions Policy provides a visual representation of the progression found within Domain 4: Fractions in the new National Curriculum.

A school branded VFP is created by Dave Godfrey for individual schools when the school logo and school name are added to the footer of each slide.

Typical uses:

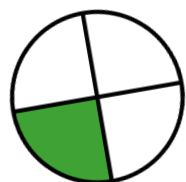
Classroom: The slides are printed out (e.g. A4) and the appropriate slides are displayed within each classroom for continual reference or on a working wall.

Teacher Reference: The slides are printed out (e.g. 9 slides per A4 page) and inserted in the teacher's planning folder.

Parents: The slides are used to communicate to parents the school's approach to teaching fractions.

Website: Selected slides from the VFP are inserted onto a school's maths webpages. (Please note: the VFP should not be made available for download.)





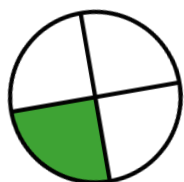
Sections in the $\frac{1}{4}$ Visual Fractions Policy

1-4 Introduction Slides

5-15 General Fractions Slides: Vocab, Defining, Types, 1 Whole, Walls etc.

Pages	Code	Years	Theme
16-23	FA	Y2-Y6	Counting in Fractions
24-27	FB	Y2-Y5	Fractions as a Number
28-36	FC	Y1-Y3	Recognising and naming Unit & Non-Unit Fractions
37-40	FD	Y3-Y5	Ordering Fractions
41-47	FE	FS-Y5	Finding and naming a Fraction of a Quantity
48-61	FF	Y1-Y6	Equivalent Fractions
62-65	FG	Y3-Y6	Decimal/Fraction/Percentage Equivalences
66-76	FH	Y4-Y6	Common FDP Equivalences & FDP Walls
77-91	FI	Y2-Y6	Fractions to 1
92-95	FJ	Y2-Y5	Fractions Greater than 1
96-116	FK	Y1-Y6	Calculating with Fractions (+, -, x, ÷)
117-123	FL	Y3-Y6	Division as a Fraction
124-125	FM	Y5-Y6	Jump! and Remainders





Year Group

Specific Slide Locations

$\frac{1}{4}$

Section	FS	Y1	Y2	Y3	Y4	Y5	Y6
FA: Counting			16,17	18,19	20,21	22,23	
FB: Number			24	25	26	27	
FC: Recognising		28,29	30,31	32-35	36		
FD: Ordering				37,38		39,40	
FE: Quantity	41	42,43	44	45	46	47	
FF: Equivalence			48-50	51-54	55-59	60	61
FG: FDP Equiv.				62	63	64,65	
FH: Common FDP					66	67-70	71-76
FI: Fractions to 1			77,78	79-83	84-88	89,90	91
FJ: > 1			92	93	94	95	
FK: Addition		96	97	98	99	100	101,102
FK: Subtraction				103	104	105	106,107
FK: Multiplication						108,109	110,111
FK: Division						112,113	114-116
FL: Div. as a Fractn.				117	118,119	120,121	122,123
FM: Extras						124	125



Fractions Vocabulary

0.2

share equally

simplify

equivalence

1

5

out of

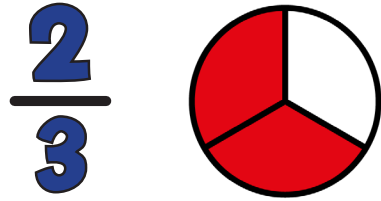
cancel

20%

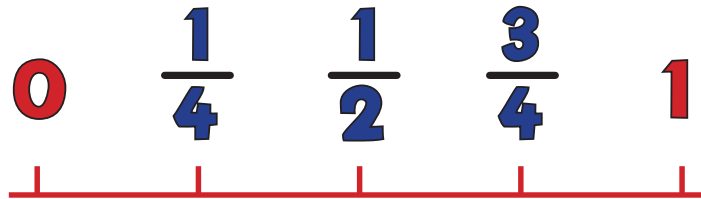
equal parts



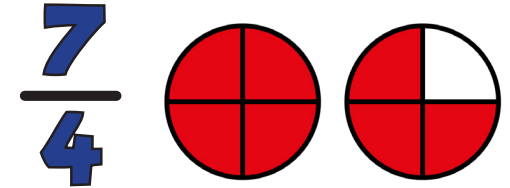
Defining a Fraction



Equal Parts
of a Whole



A Number



More than a
Whole

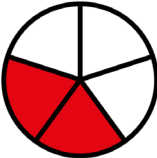
$$\frac{1}{5} = 1 \div 5$$

A Division

$\frac{1}{4}$ of 16



A Fraction of an
Amount

$$\frac{2}{5} = 40\%$$
$$= 0.4$$
 

An
Equivalence

Parts of a Fraction

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

Numerator

Denominator

“Fractions is sharing equally”

Fraction Bar (Vinculum)



St John Fisher RC Primary School

St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk



Types of Fractions

$$\frac{1}{5}$$

**Unit
Fraction**

(Numerator = 1)

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

**Non-unit
Fraction**

(Numerator > 1)

$$\frac{2}{5} \text{ or } \frac{4}{5}$$

**Proper
Fraction**

(Numerator < Denominator)

$$\frac{8}{5} \text{ or } \frac{12}{5}$$

**Improper
Fraction**

(Numerator > Denominator)

$$1\frac{3}{5}$$

**Mixed
Fraction**

(Whole number +
Proper Fraction)

$$\frac{4}{5} \text{ or } \frac{8}{5}$$

**Vulgar
Fraction**

(Proper or
Improper Fraction)



Naming a Fraction

If the **numerator** is 1,
the **denominator** is 10,
then the name of my
fraction is **one tenth**.

$$\frac{1}{10}$$

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

One half

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

One sixth

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

Three quarters

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

Five fifths -
One Whole!

$$\frac{7}{3}$$

Seven thirds

$$\frac{27}{32}$$

Twenty-seven
thirty-seconds

Note: The denominator is said as an ordinal number (except halves and quarters!)



St John Fisher RC Primary School

St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk



Fraction Wall

(1/2)

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

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

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

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

$$\frac{7}{10}$$

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

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

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

$$\frac{5}{9}$$

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

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

$$\frac{9}{2}$$

$$\frac{7}{10}$$

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

$$\frac{1}{9}$$

$$\frac{7}{4}$$

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

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



Fraction Wall

(2/2)

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

$$\frac{9}{8}$$

$$\frac{1}{91}$$

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

$$\frac{30}{10}$$

$$\frac{8}{32}$$

$$\frac{3}{7}$$

$$\frac{8}{12}$$

$$\frac{5}{19}$$

$$\frac{14}{14}$$

$$\frac{31}{5}$$

$$\frac{17}{2}$$

$$\frac{7}{15}$$

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

$$\frac{11}{3}$$

$$\frac{12}{4}$$

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

$$\frac{9}{9}$$

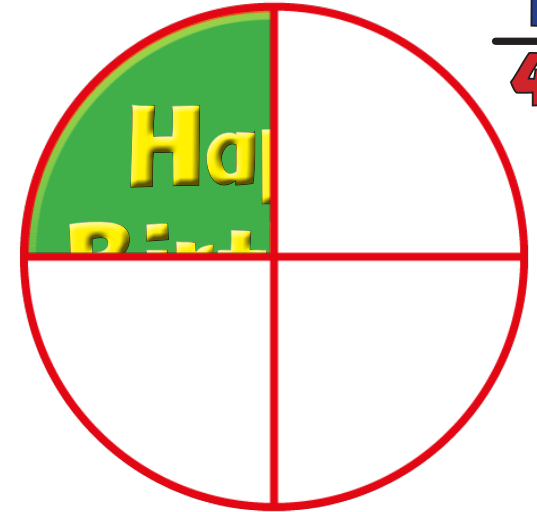


A Fraction of a Whole

$\frac{1}{2}$



$\frac{1}{4}$



$\frac{5}{16}$



$\frac{3}{8}$



1 whole cake!

Fractions: 1 Whole



**1 whole pack
of 6 cans**

1

1

(1 whole)



1 whole box of 12 eggs

1



**1 whole pack
of 4 balls**

1



1

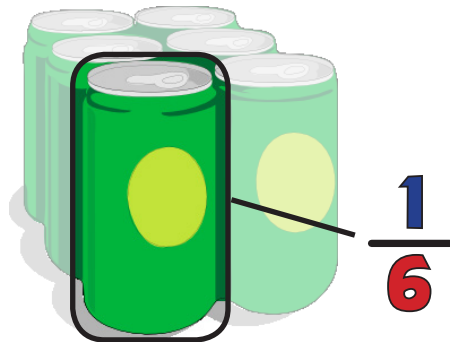
**1 whole pack of
7 pens**

1

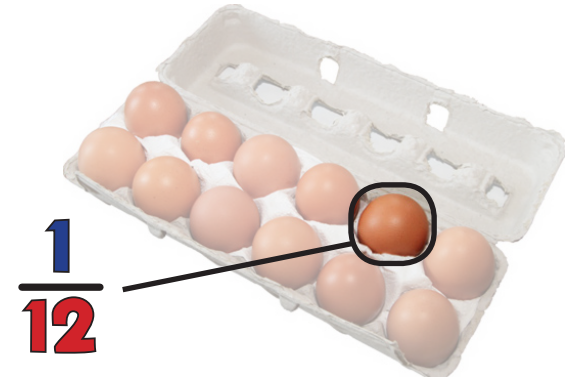
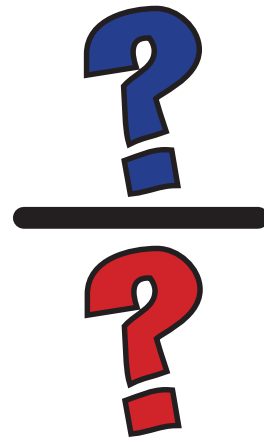


**1 whole bunch
of 5 bananas**

A Fraction of a Whole



1 can from the whole pack of 6 cans



1 egg from the whole box of 12 eggs

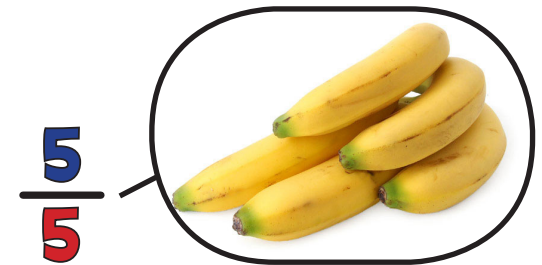
(A fraction of a whole)



2 balls from the whole pack of 4 balls



3 pens from the whole pack of 7 pens



5 bananas from the whole bunch of 5 bananas

Fractions are Everywhere!



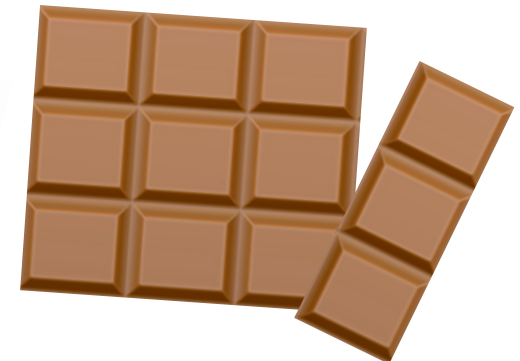
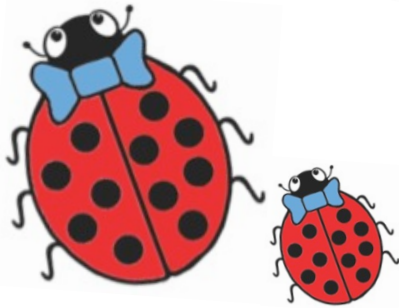
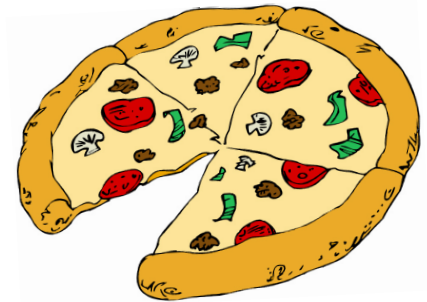
No!  **Yes!**
55% **45%**

**HALF
PRICE!**

**3 OUT OF 2
PEOPLE
HAVE
TROUBLE
WITH
FRACTIONS**

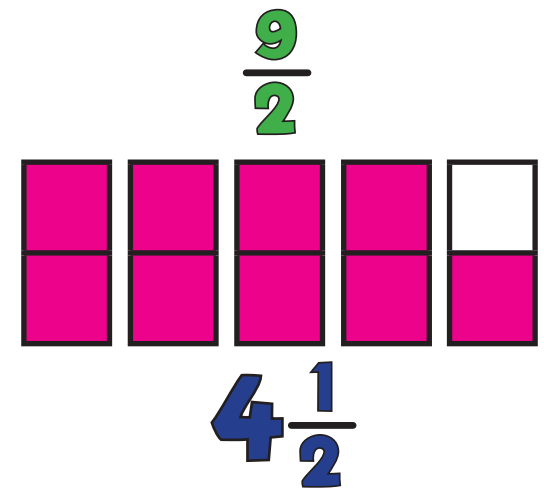
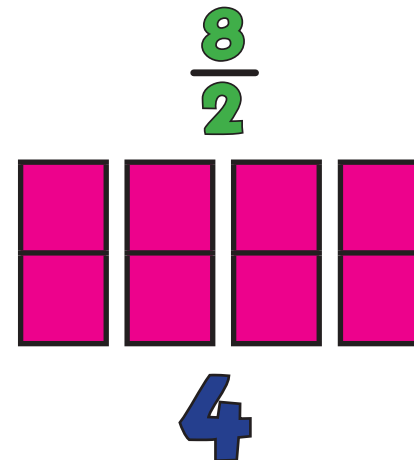
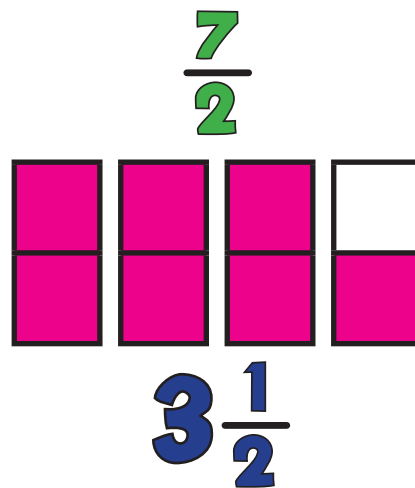
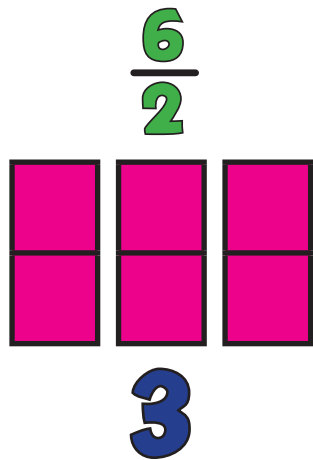
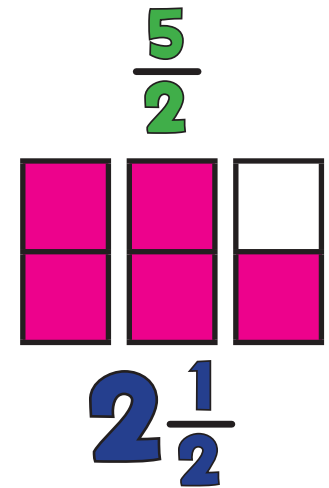
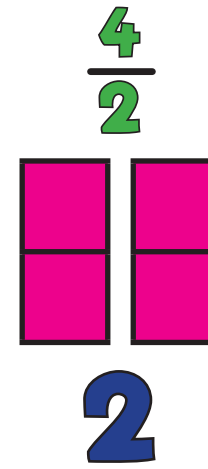
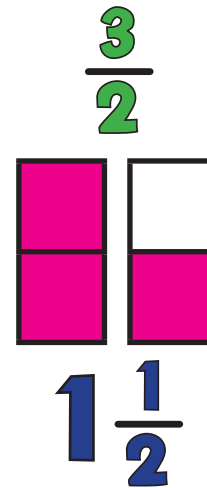
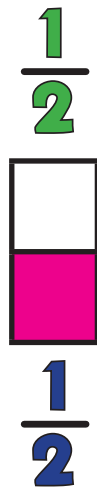


£2.65



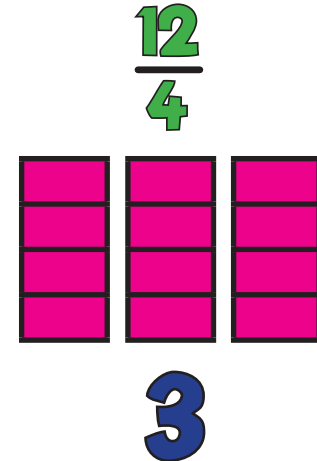
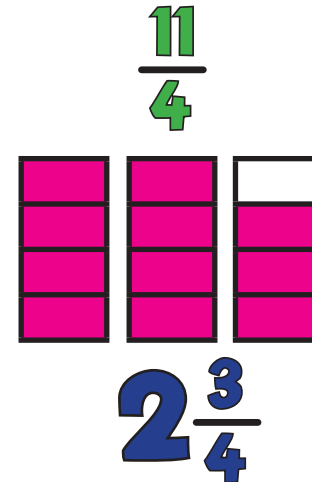
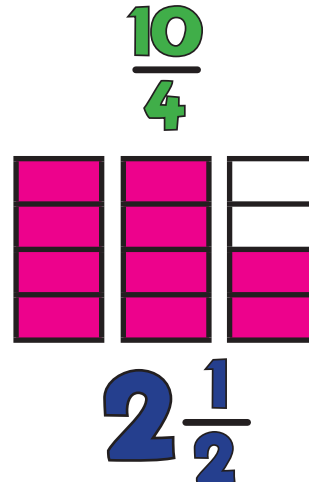
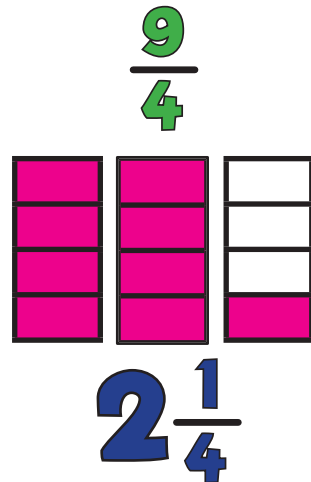
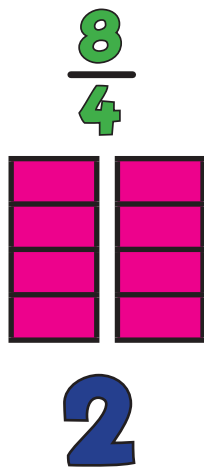
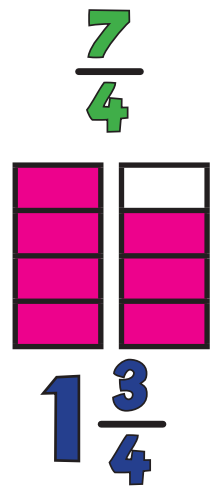
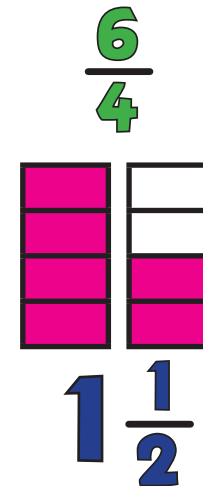
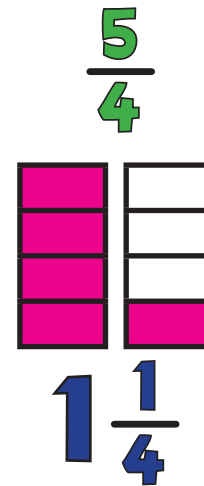
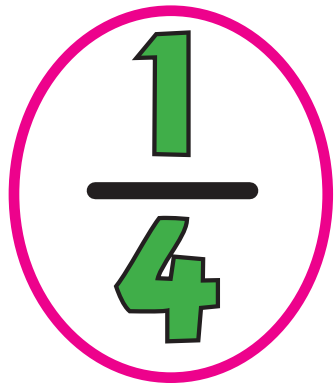
FA: Counting in Fractions

2a



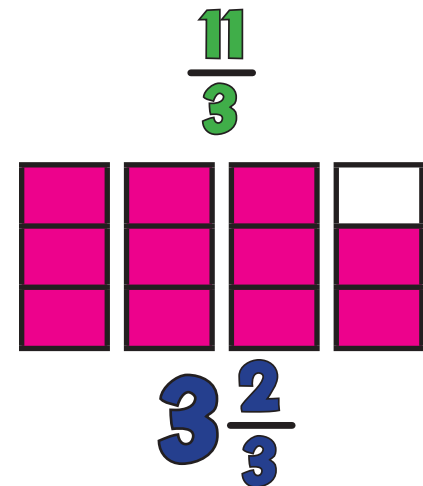
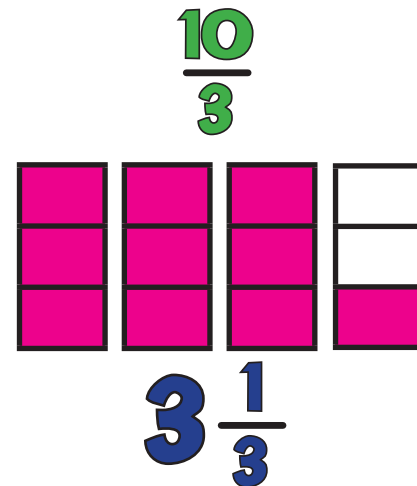
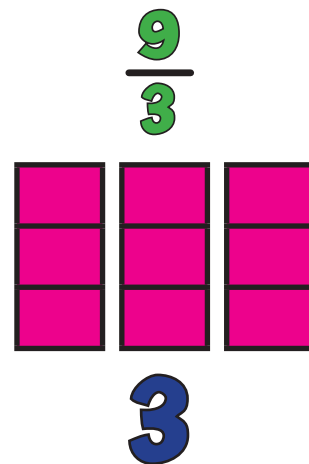
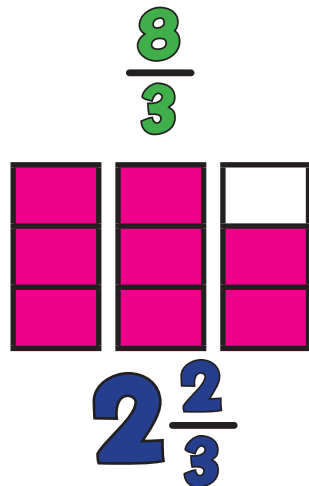
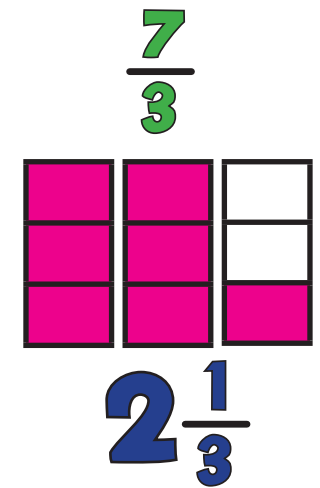
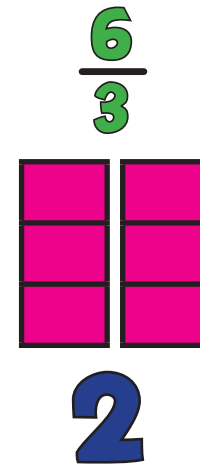
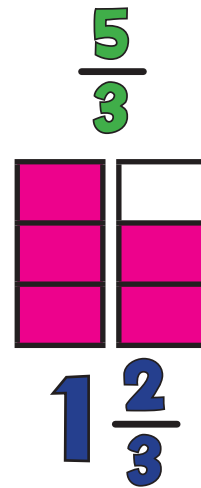
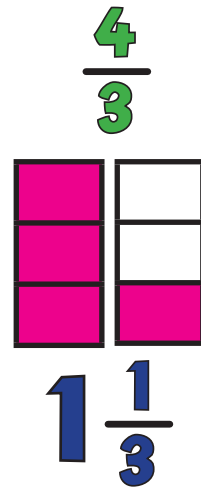
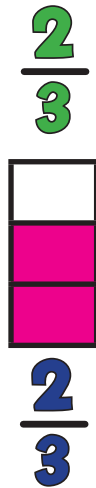
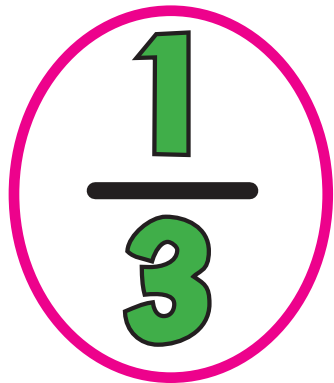
FA: Counting in Fractions

2b



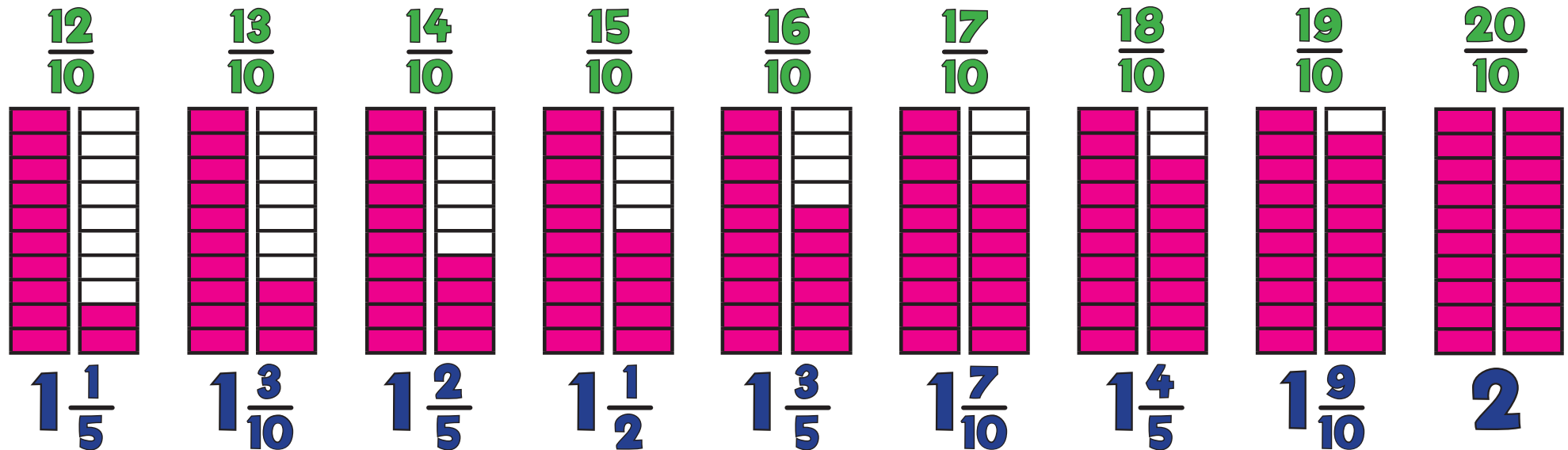
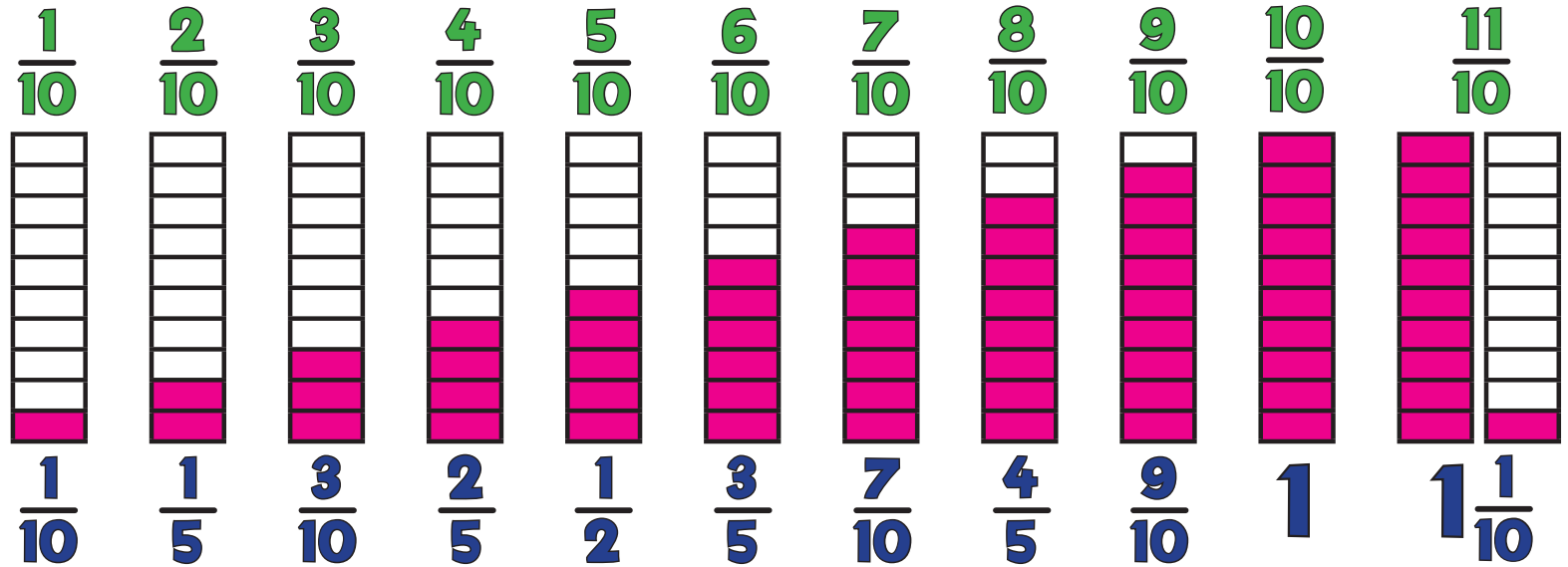
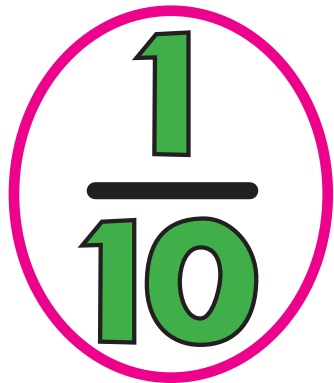
FA: Counting in Fractions

3a



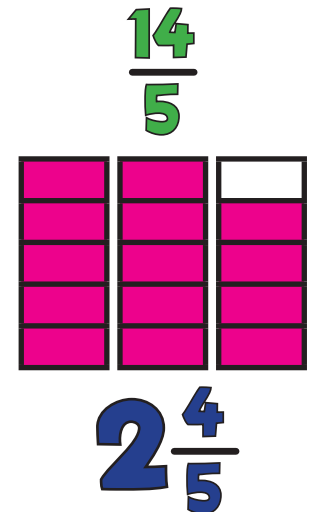
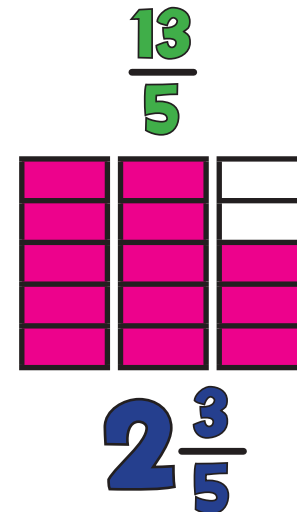
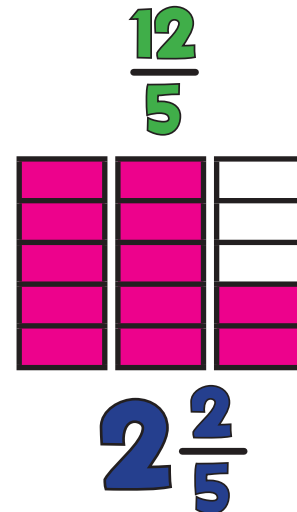
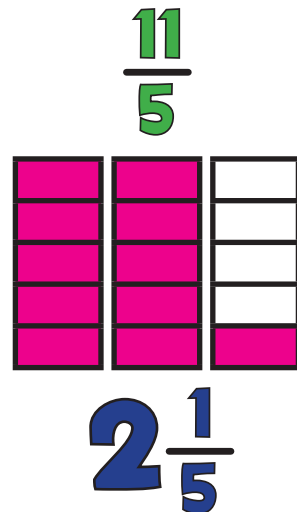
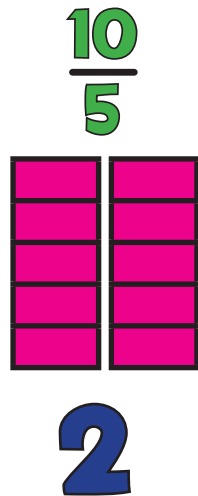
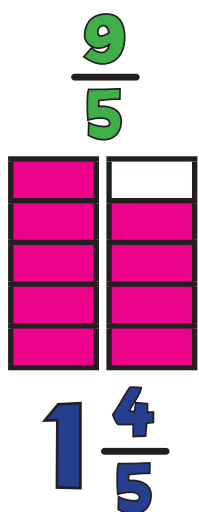
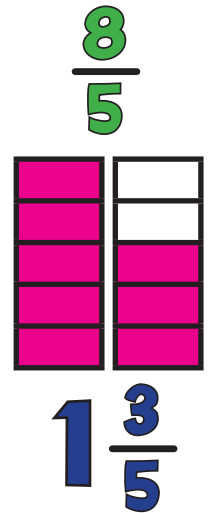
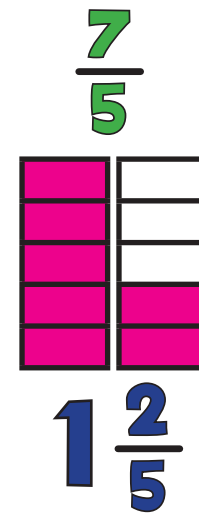
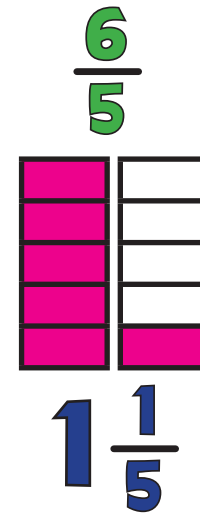
FA: Counting in Fraction

3b



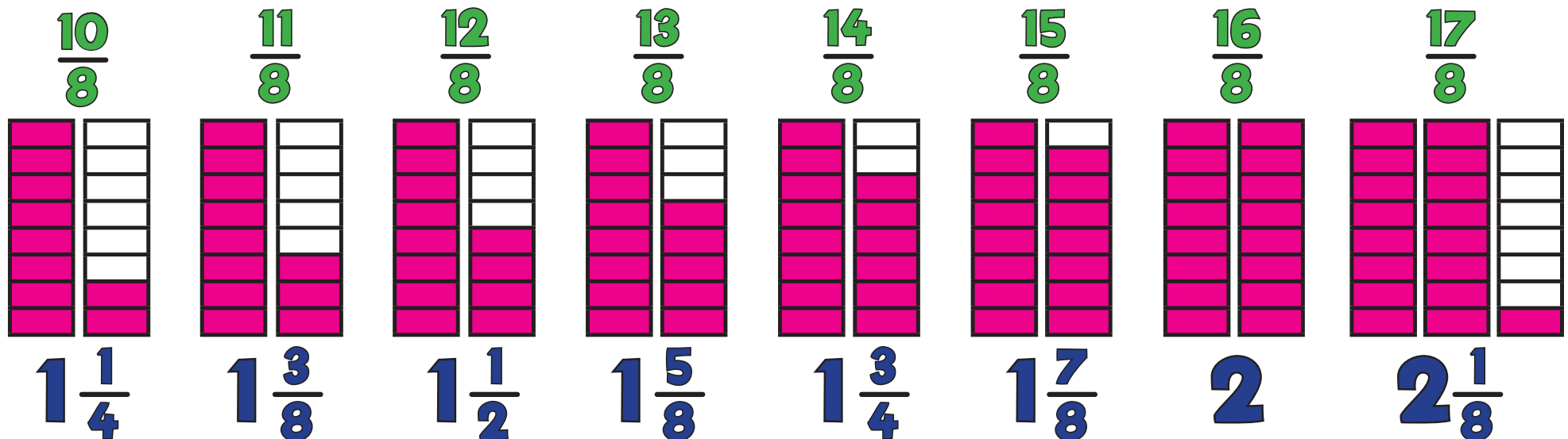
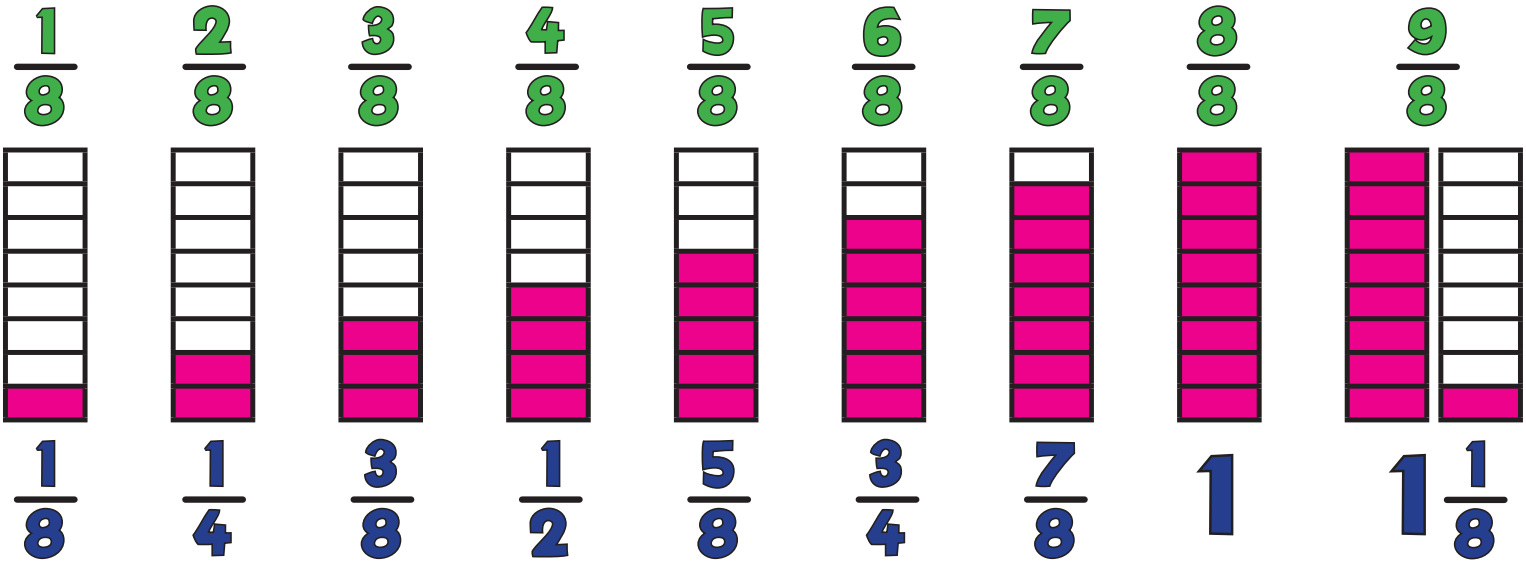
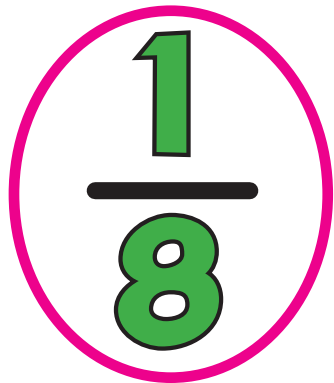
FA: Counting in Fractions

4a



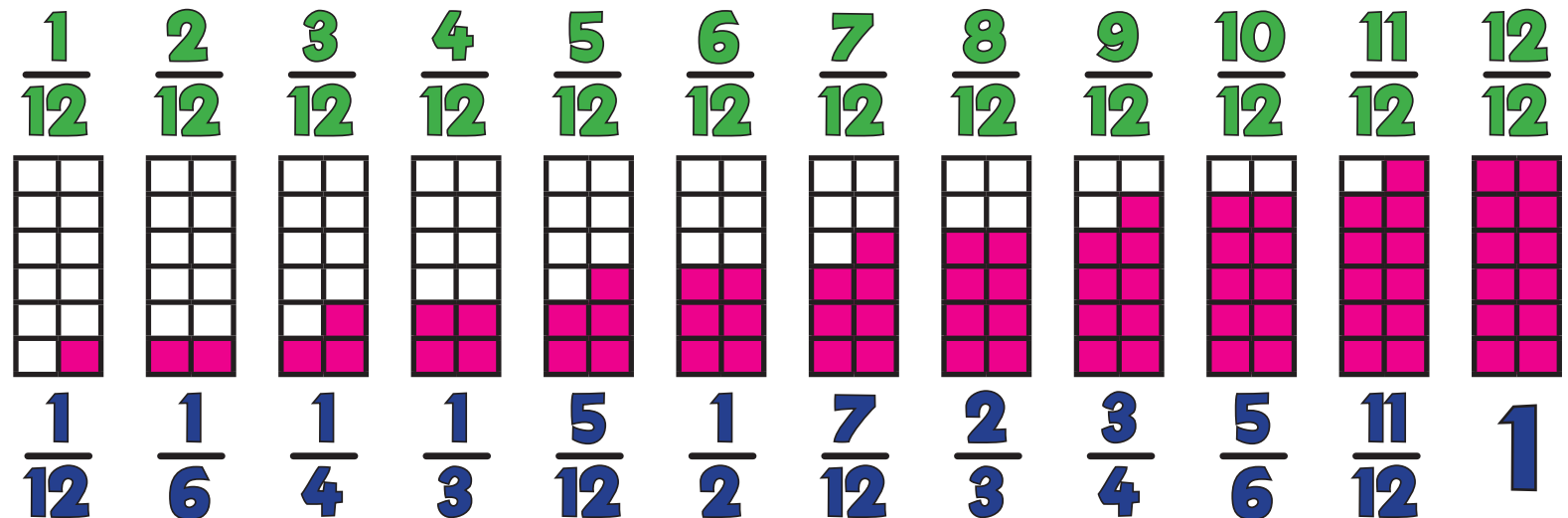
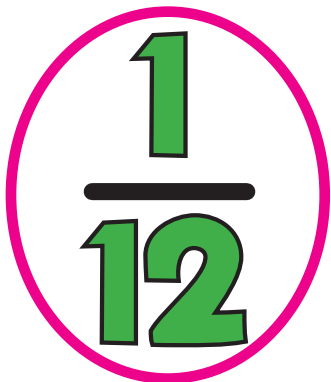
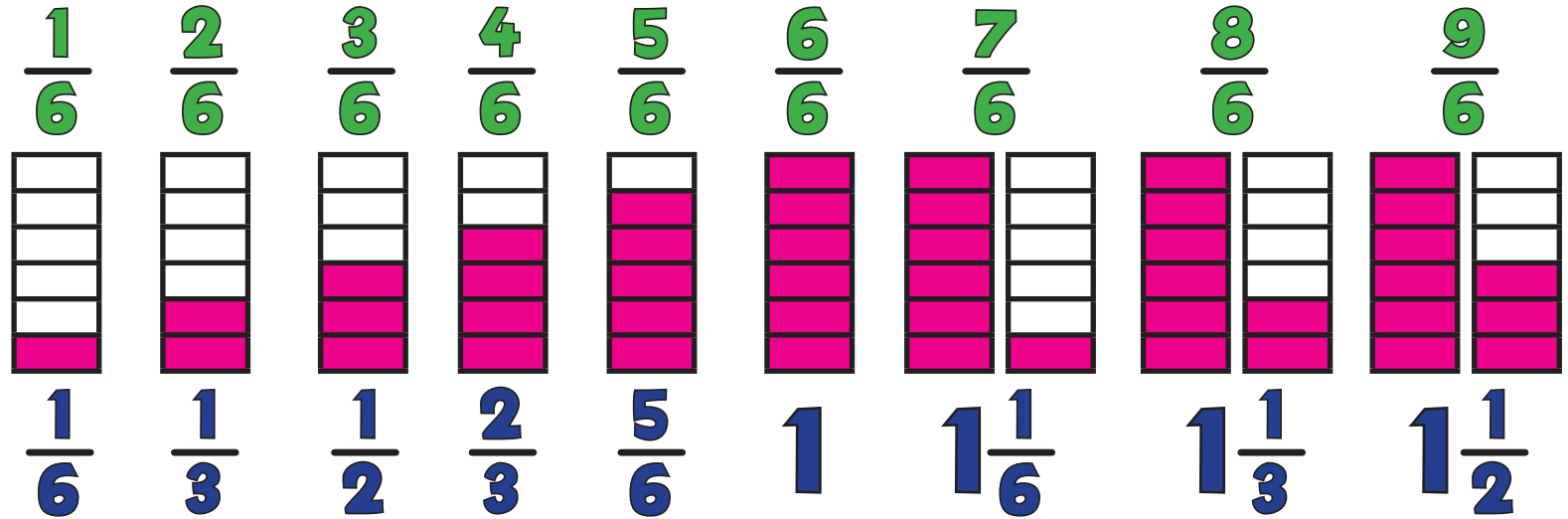
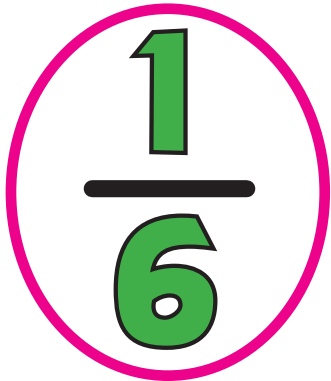
FA: Counting in Fractions

4b



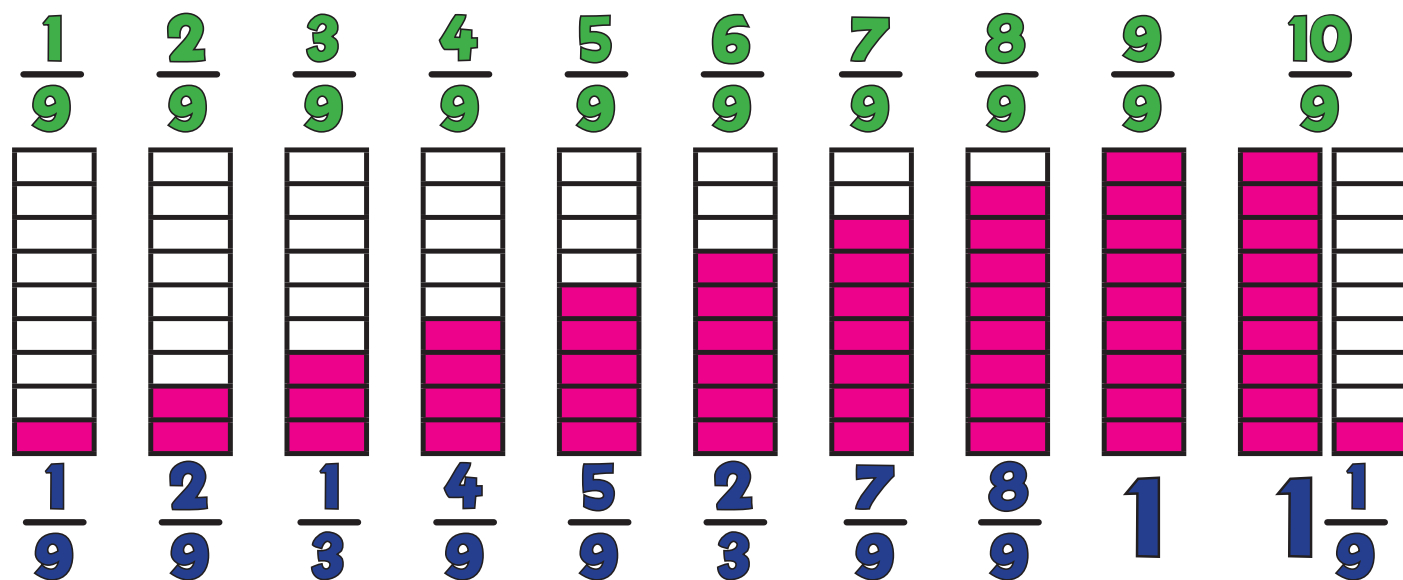
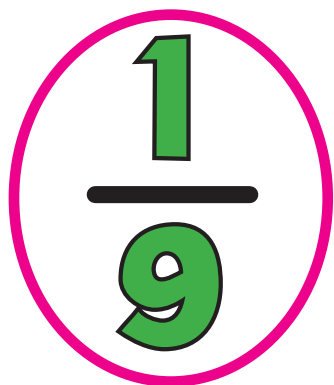
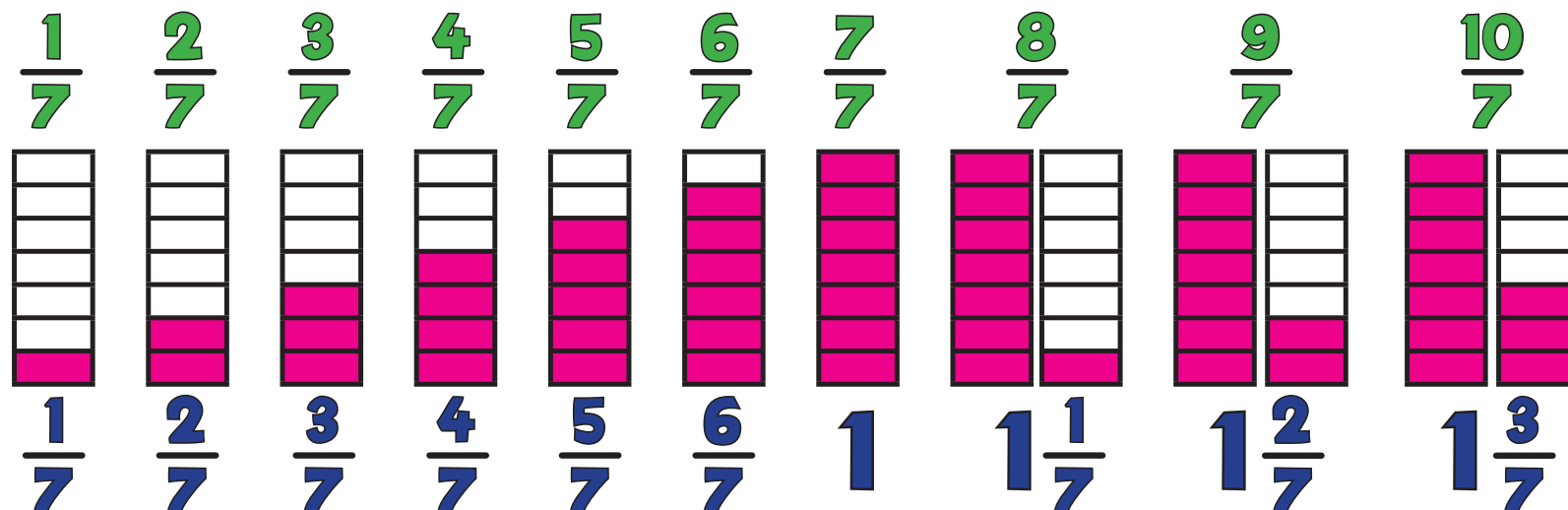
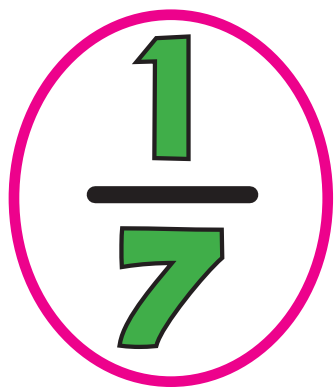
FA: Counting in Fractions

5a



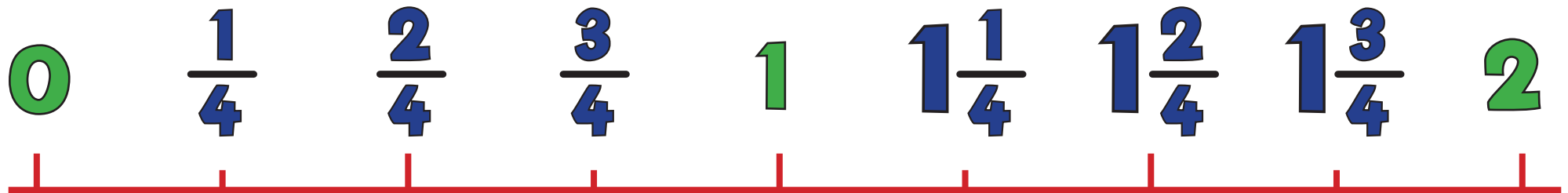
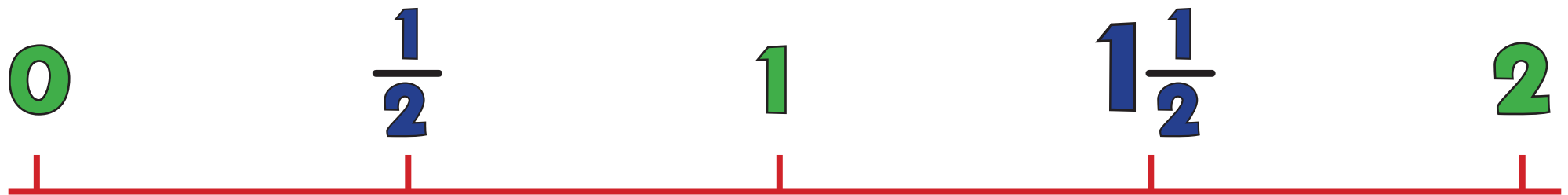
FA: Counting in Fractions

5b



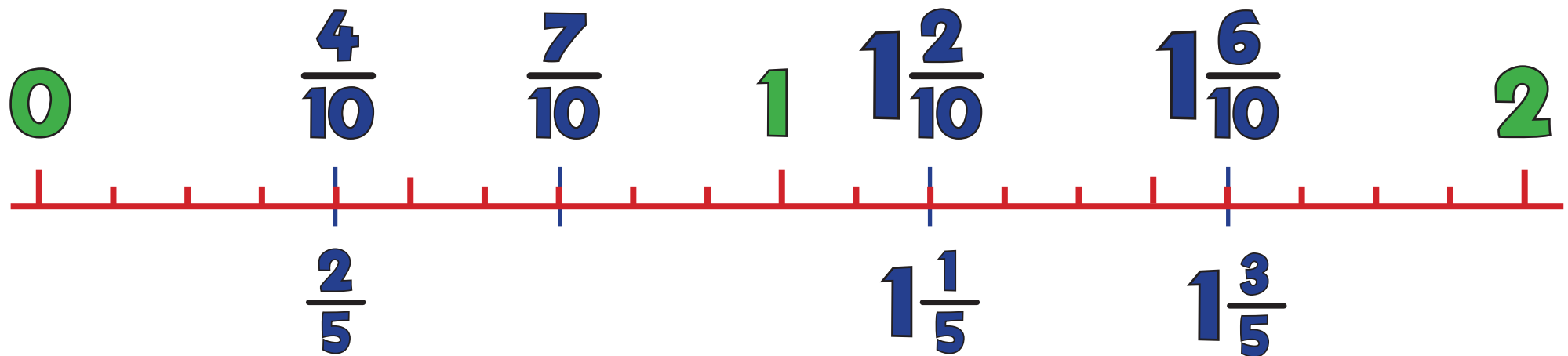
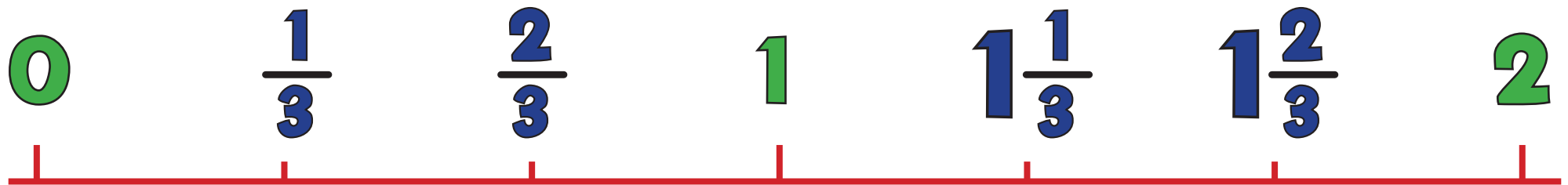
FB: Fractions as a Number

2



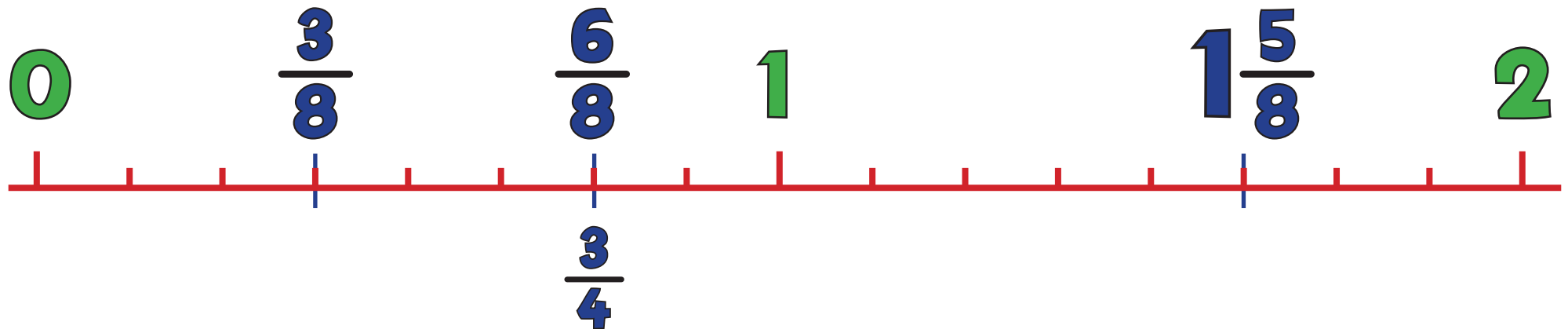
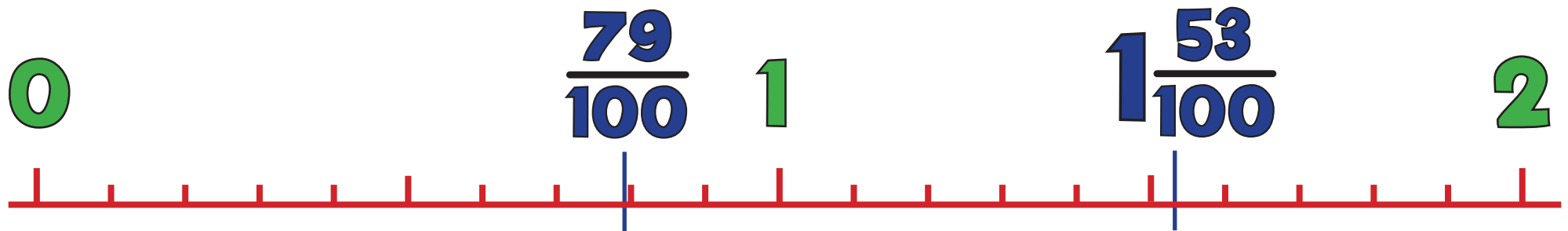
FB: Fractions as a Number

3



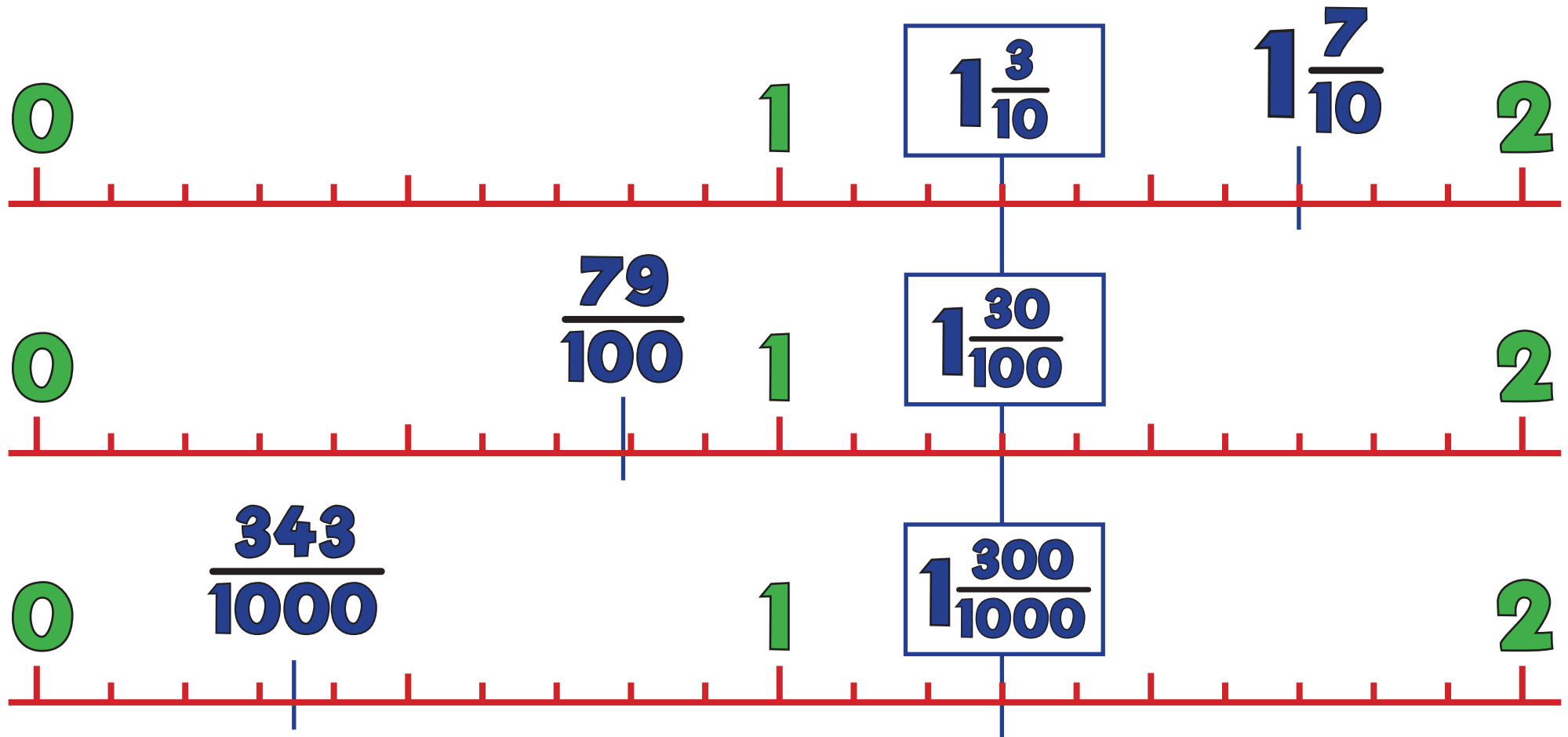
FB: Fractions as a Number

4



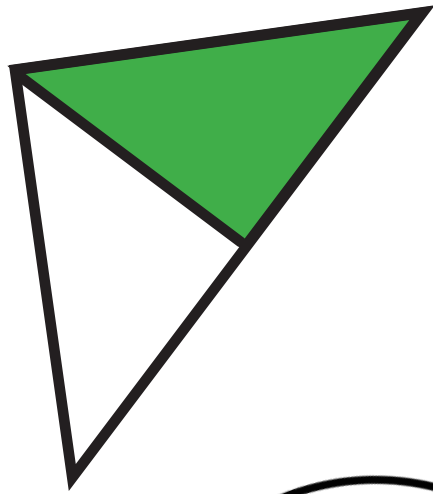
FB: Fractions as a Number

5

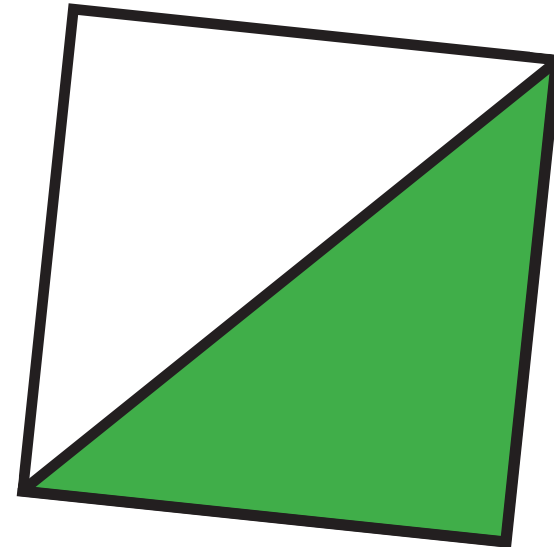
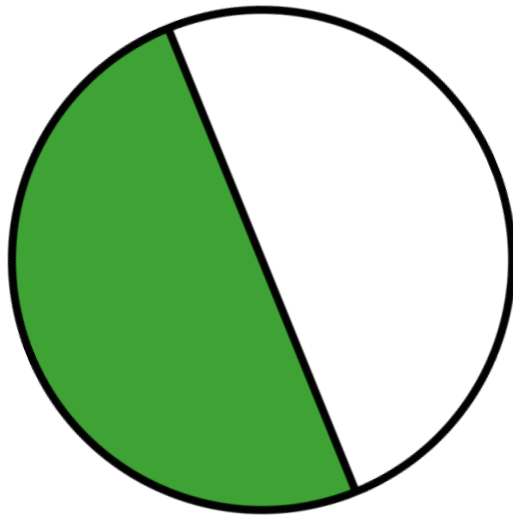
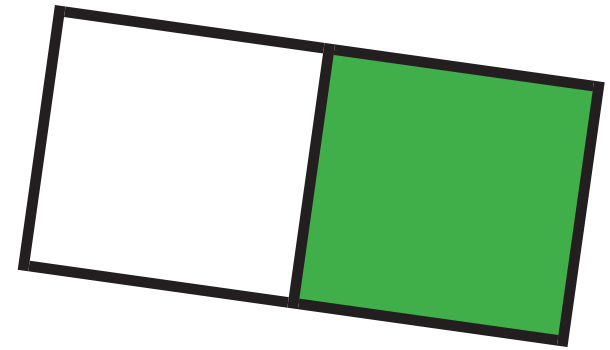


FC: Recognising Fractions

1a

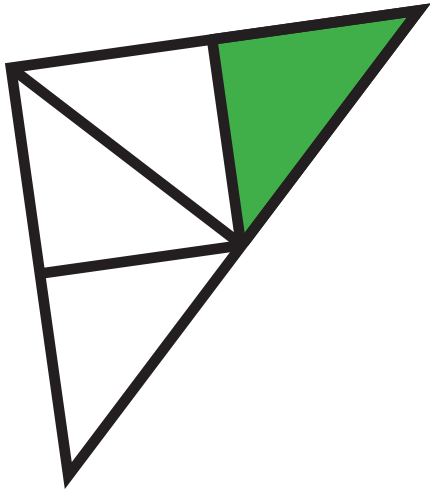


$$\frac{1}{2}$$

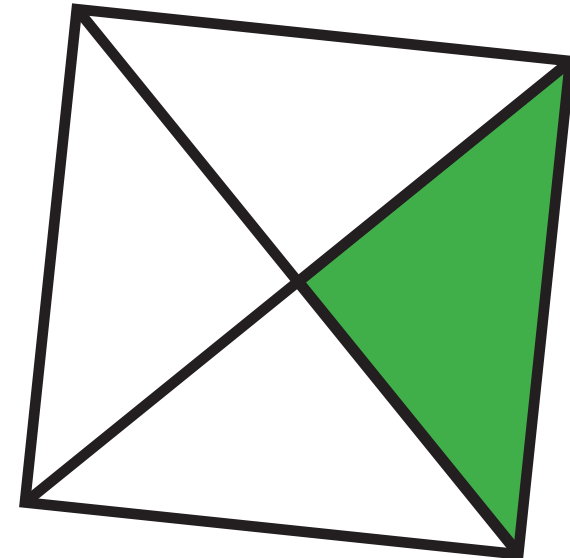
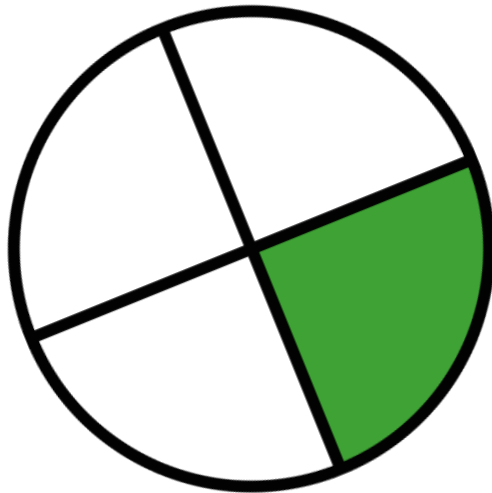
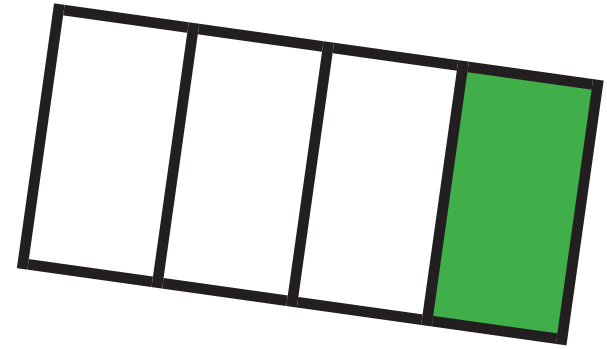


FC: Recognising Fractions

1b

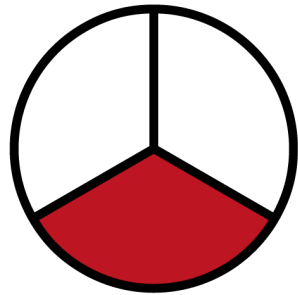


$$\frac{1}{4}$$

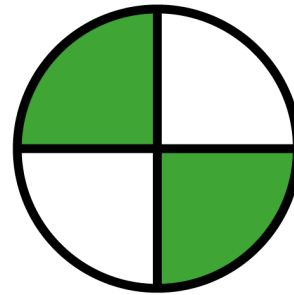
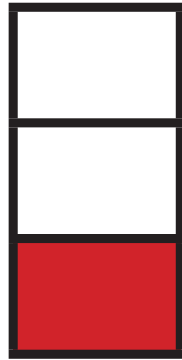


FC: Recognising Fractions

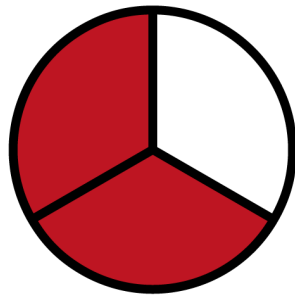
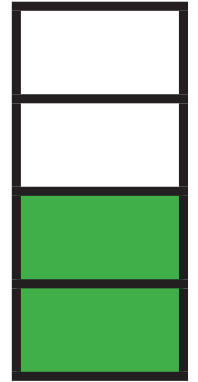
2a



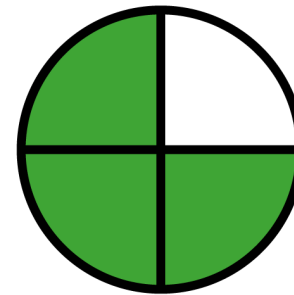
$$\frac{1}{3}$$



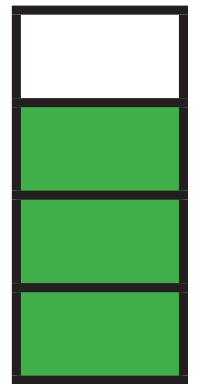
$$\frac{2}{4}$$



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

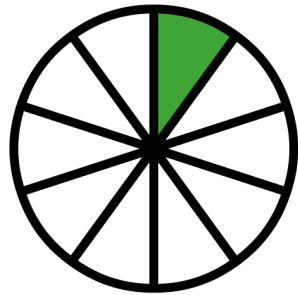


$$\frac{3}{4}$$

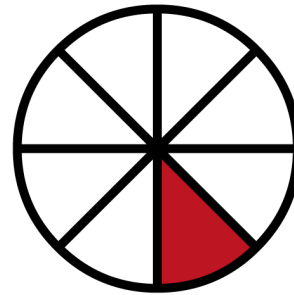
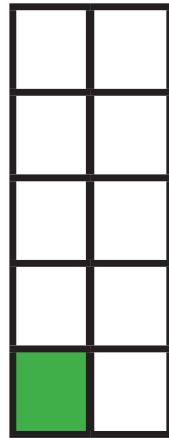


FC: Recognising Fractions

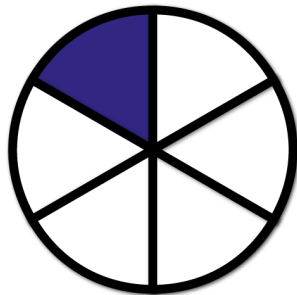
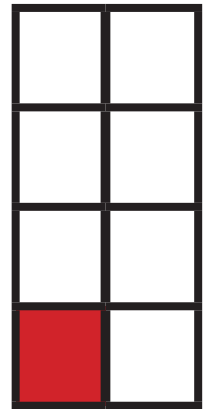
2b



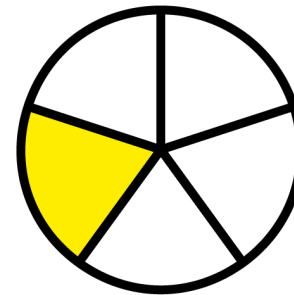
$$\frac{1}{10}$$



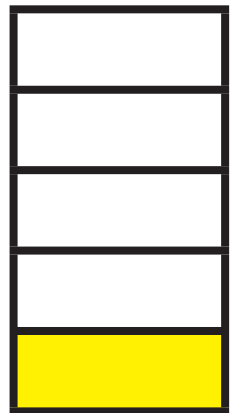
$$\frac{1}{8}$$



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

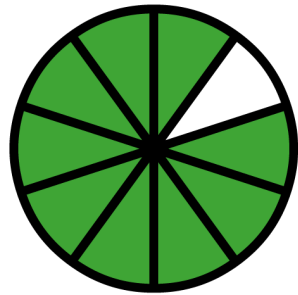


$$\frac{1}{5}$$

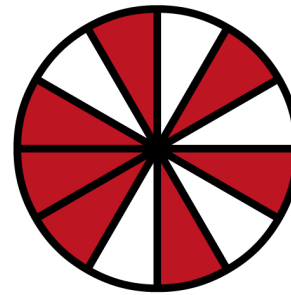
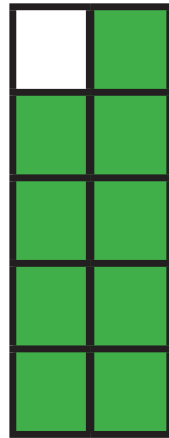


FC: Recognising Fractions

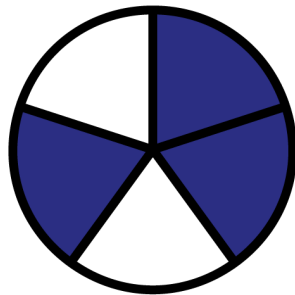
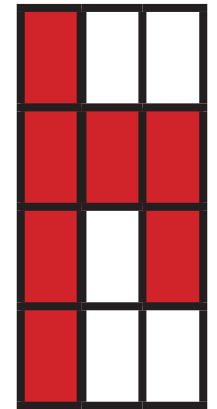
3a



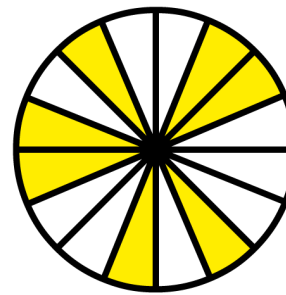
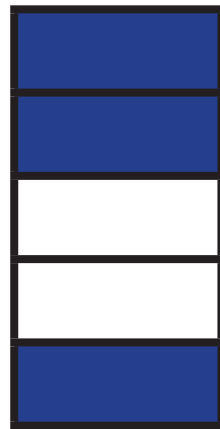
$$\frac{9}{10}$$



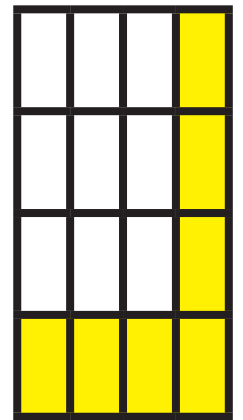
$$\frac{7}{12}$$



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

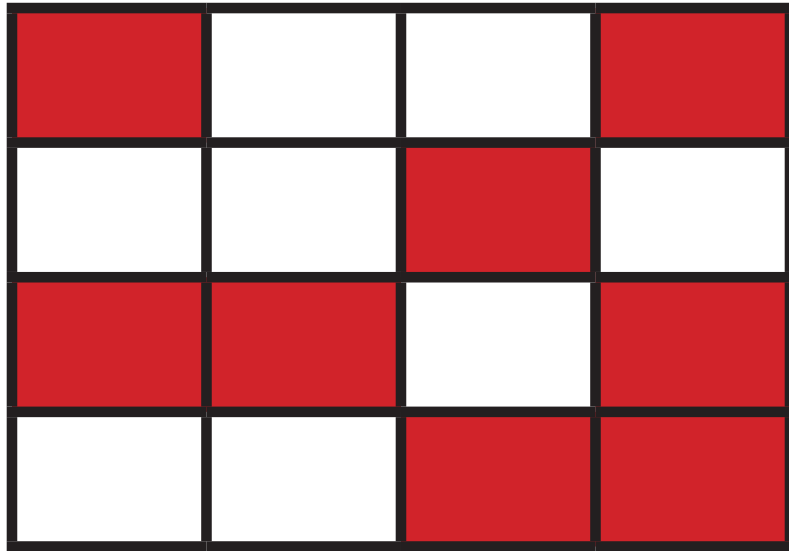


$$\frac{7}{16}$$

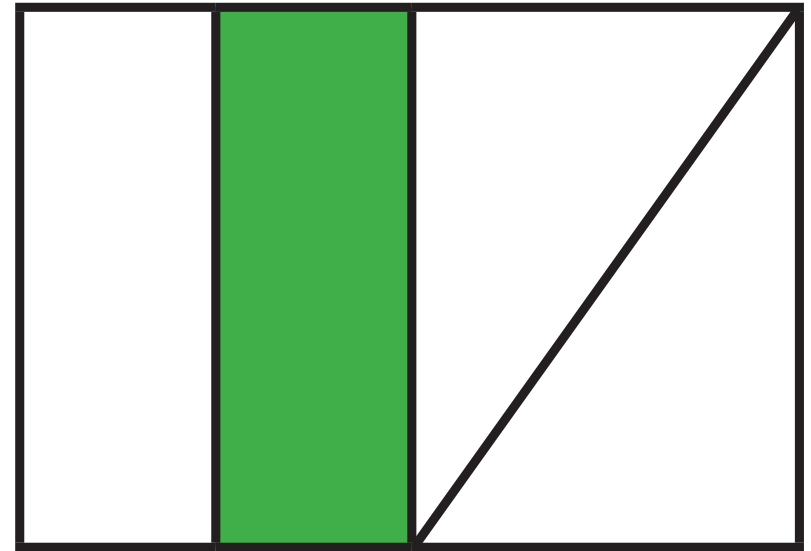


FC: Recognising Fractions

3b



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

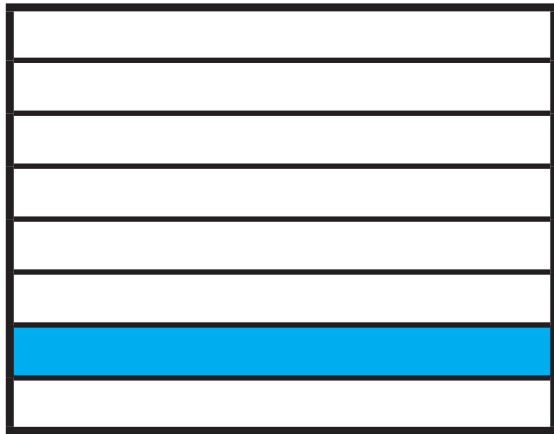


$$\frac{1}{4}$$

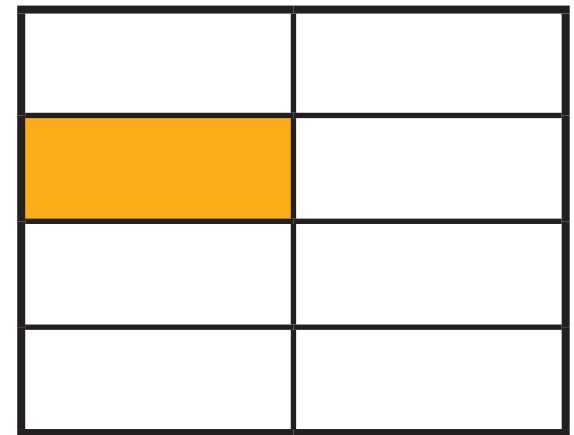
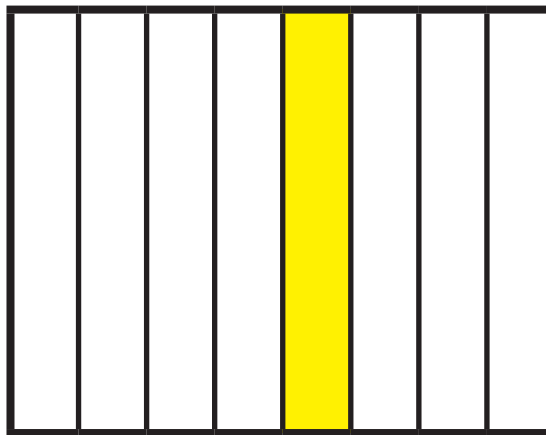
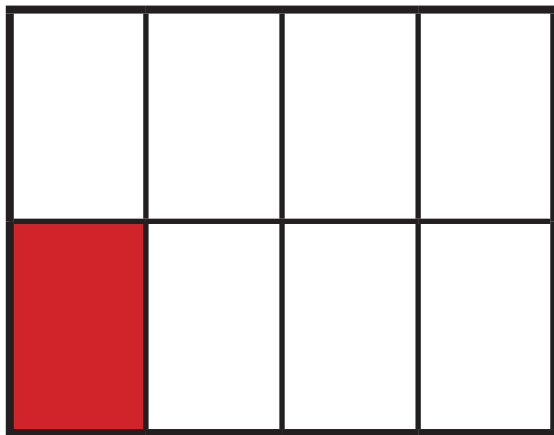
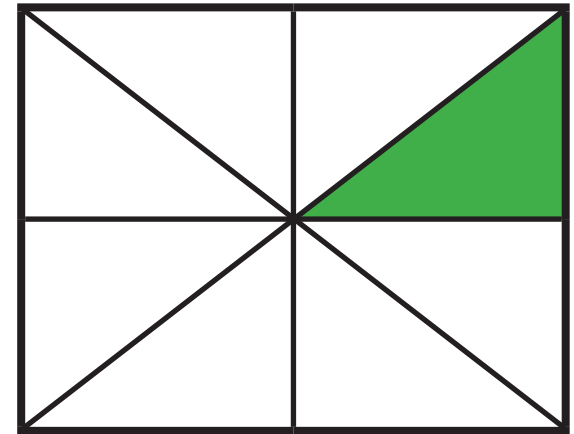
FC: Recognising Fractions

3c

Eight Equal Eighths!

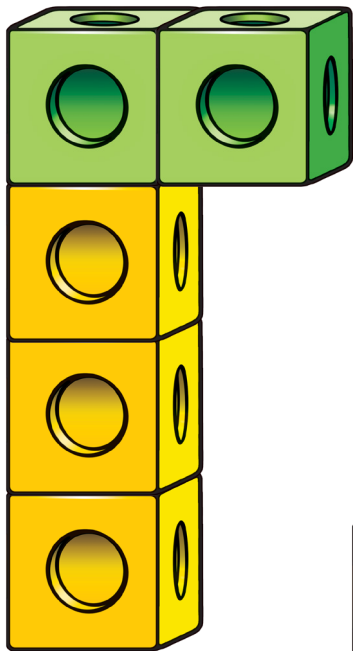


$$\frac{1}{8}$$

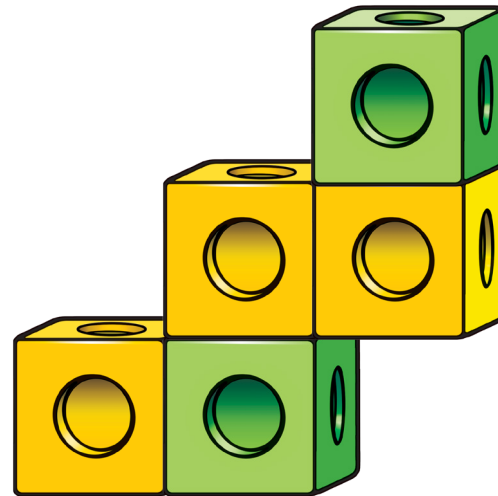
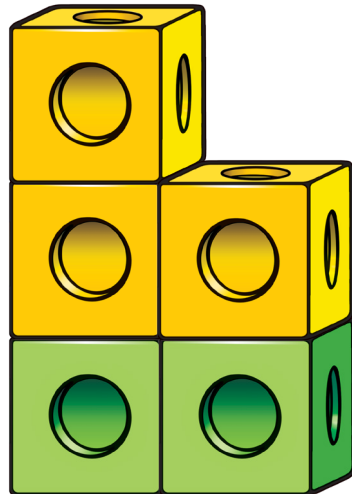
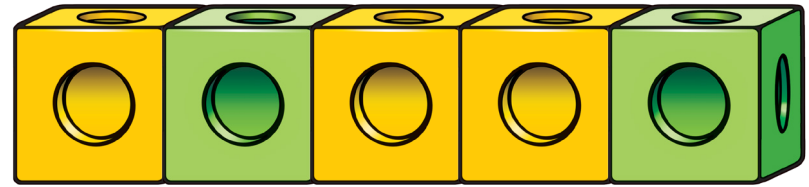


FC: Recognising Fractions

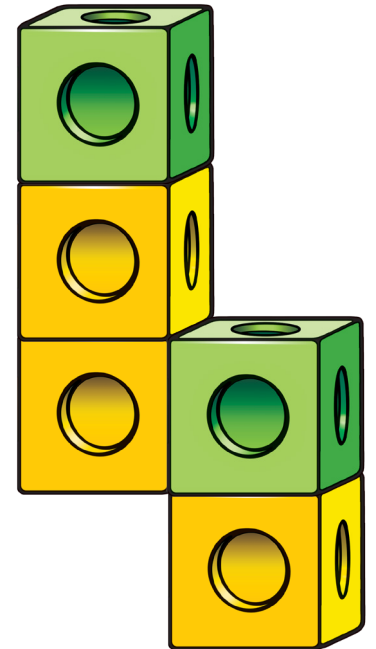
3d



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

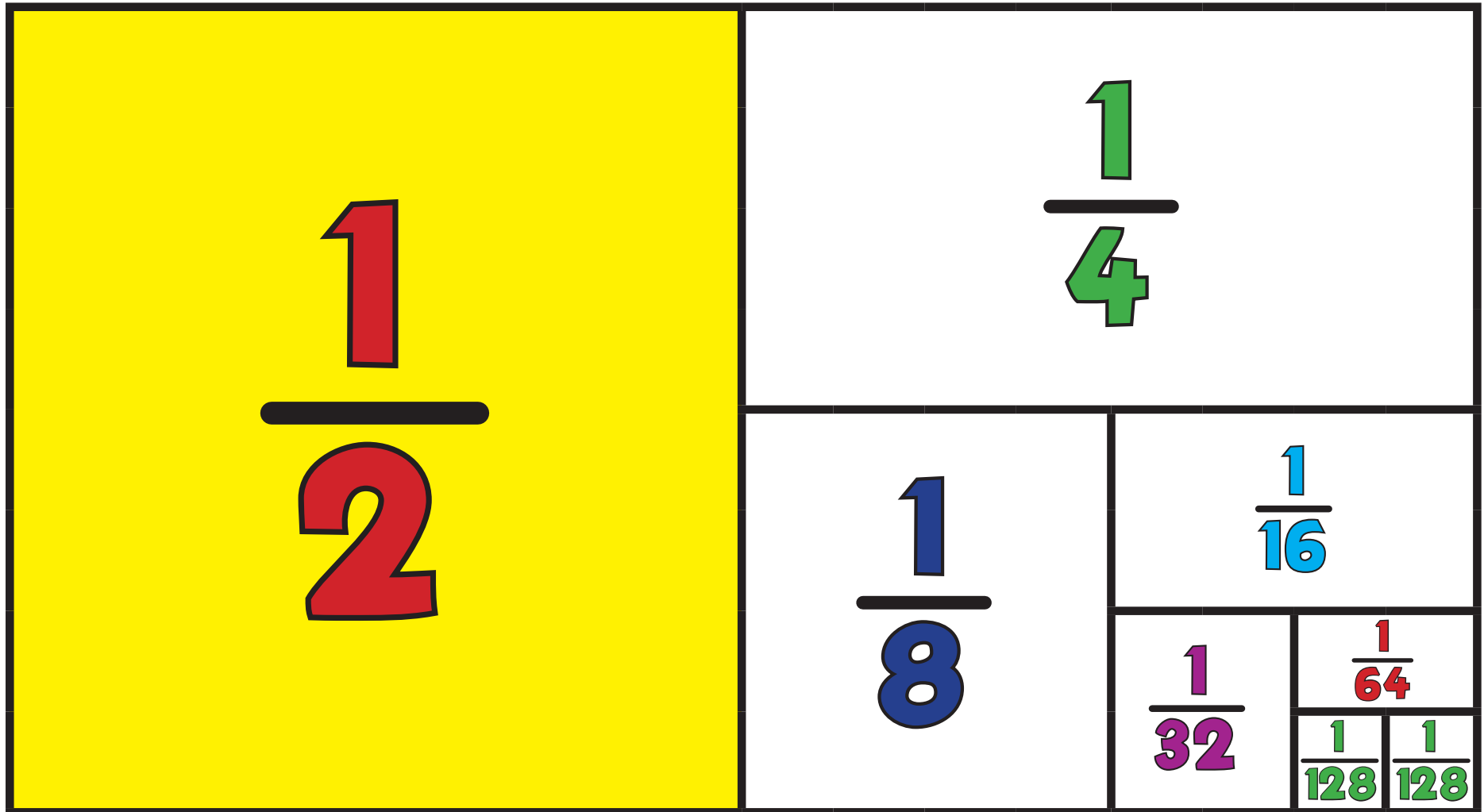


$$\frac{3}{5}$$



FC: Recognising Fractions

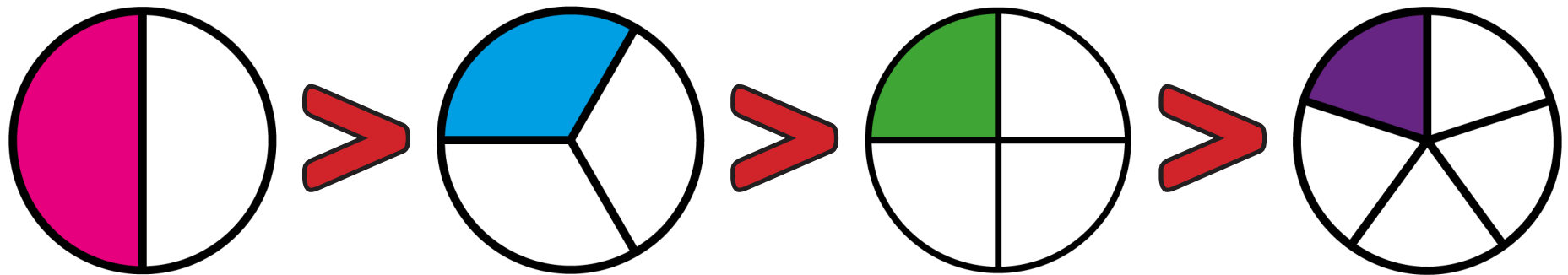
4



FD: Ordering Fractions

3a

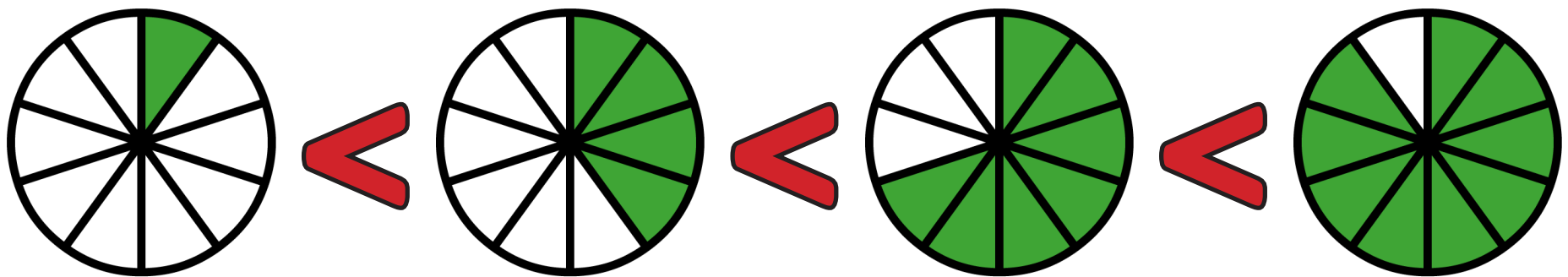
$$\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5}$$



FD: Ordering Fractions

3b

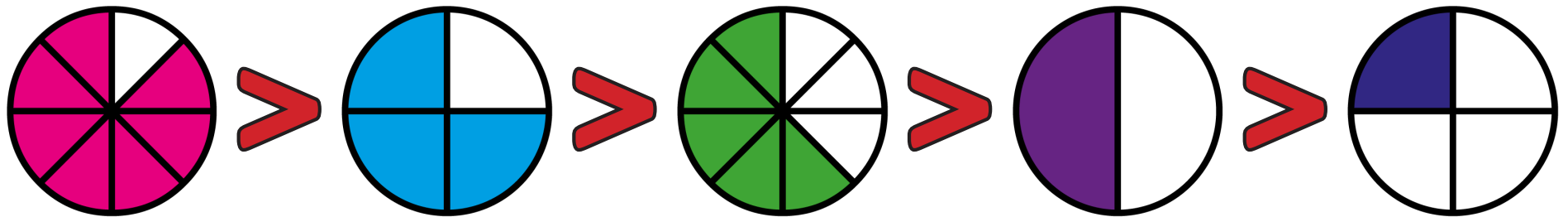
$$\frac{1}{10} < \frac{4}{10} < \frac{7}{10} < \frac{9}{10}$$



FD: Ordering Fractions

5a

$$\frac{7}{8} > \frac{3}{4} > \frac{5}{8} > \frac{1}{2} > \frac{1}{4}$$

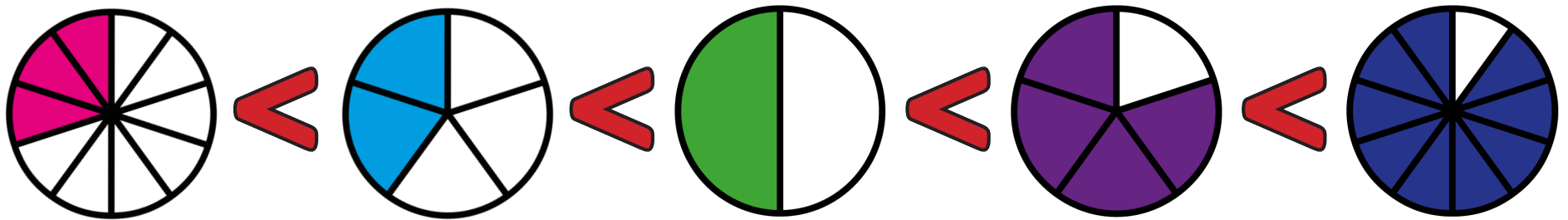


$$0.875 > 0.75 > 0.625 > 0.5 > 0.25$$

FD: Ordering Fractions

5b

$$\frac{3}{10} < \frac{2}{5} < \frac{1}{2} < \frac{4}{5} < \frac{9}{10}$$



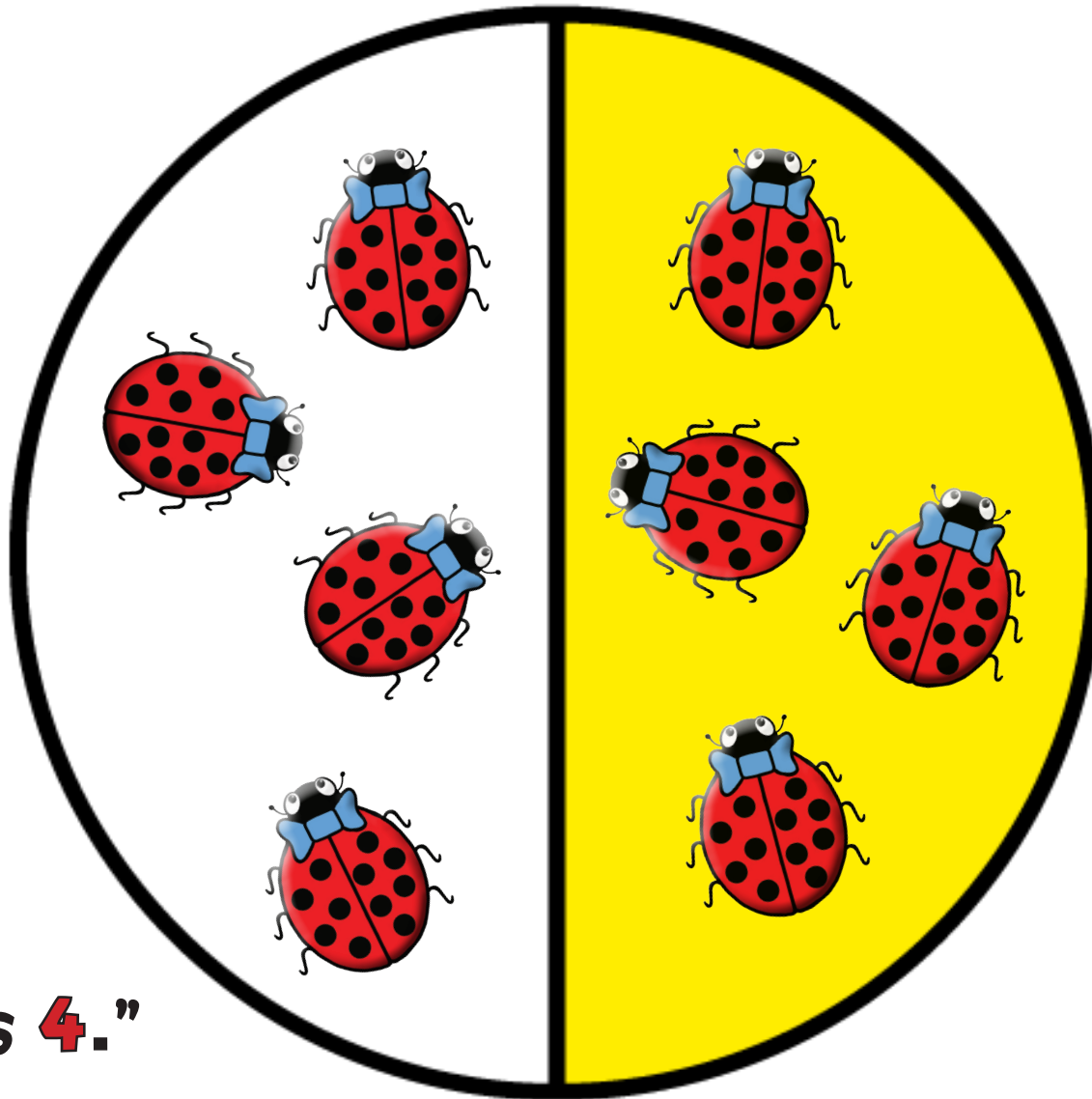
$$0.3 < 0.4 < 0.5 < 0.8 < 0.9$$

FE: Fraction of a Quantity

FS

8

$\frac{1}{2}$



$\frac{1}{2}$

“Half of 8 is 4.”



St John Fisher RC Primary School

St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk

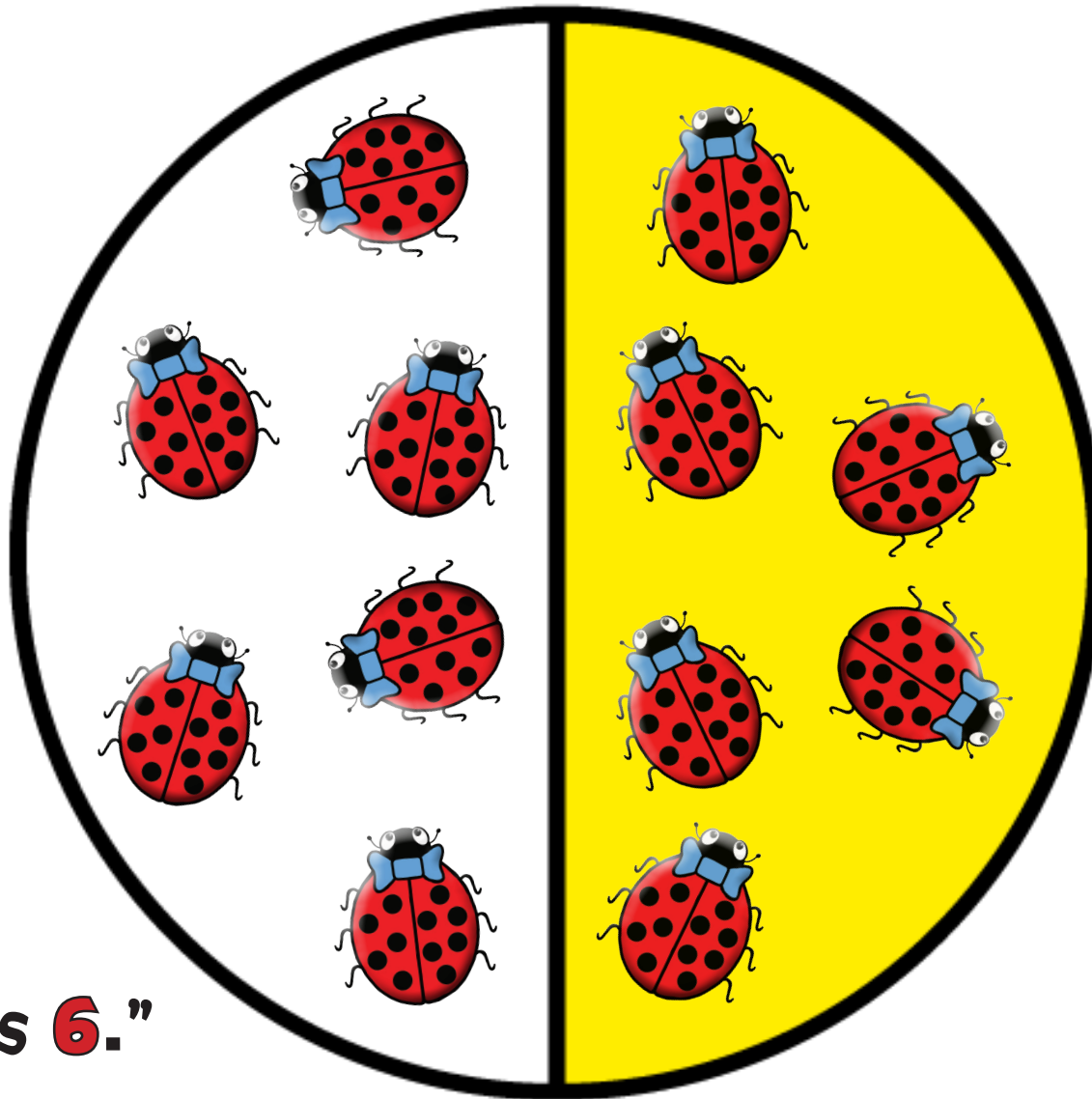


FE: Fraction of a Quantity

1a

12

$\frac{1}{2}$



$\frac{1}{2}$

“Half of 12 is 6.”



St John Fisher RC Primary School

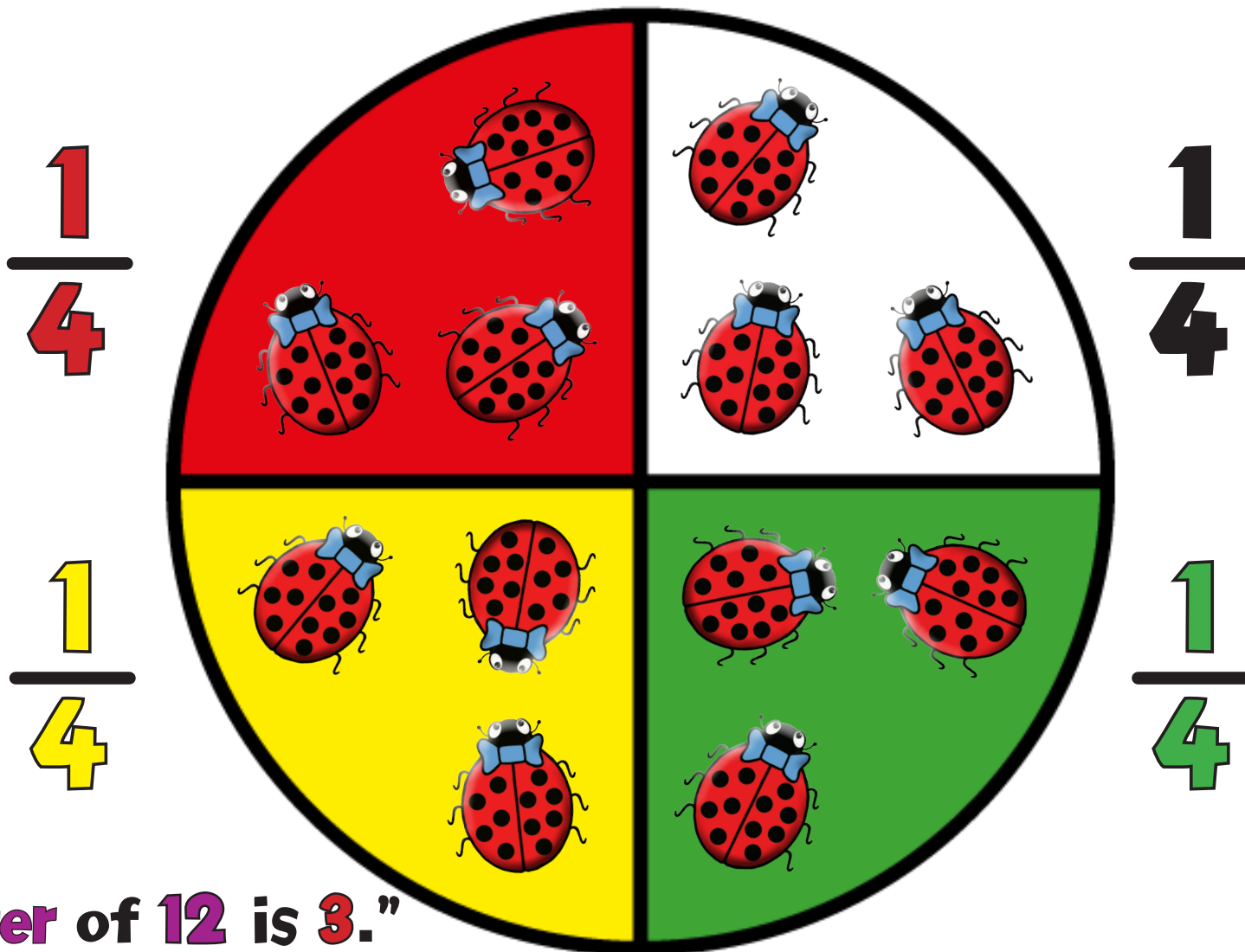
St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk



FE: Fraction of a Quantity

1b

12



"A quarter of 12 is 3."



St John Fisher RC Primary School

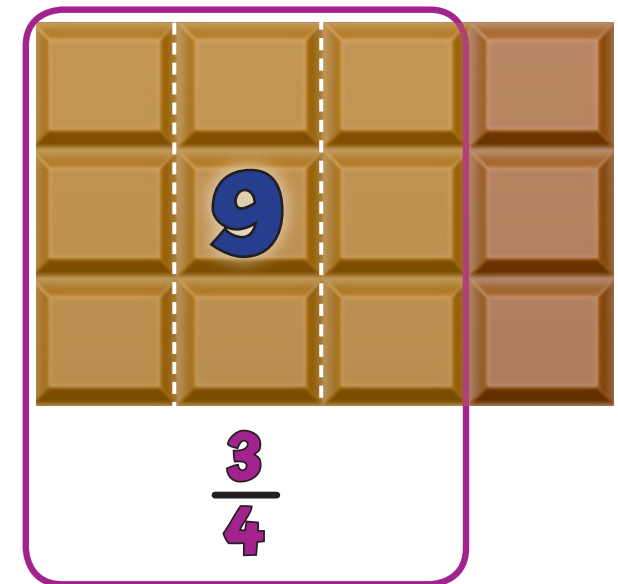
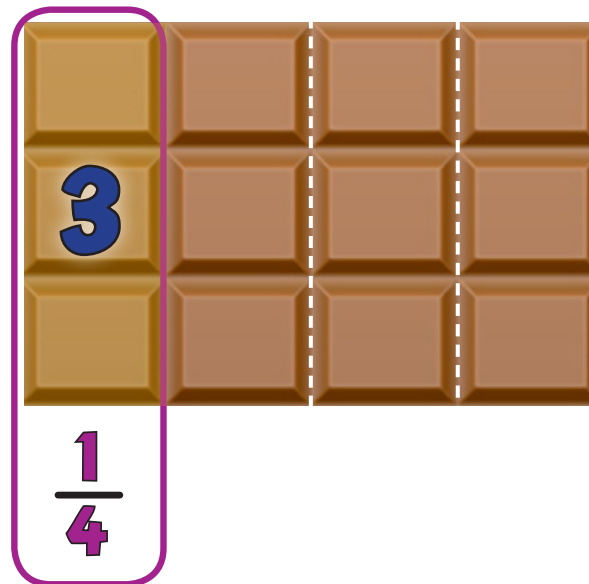
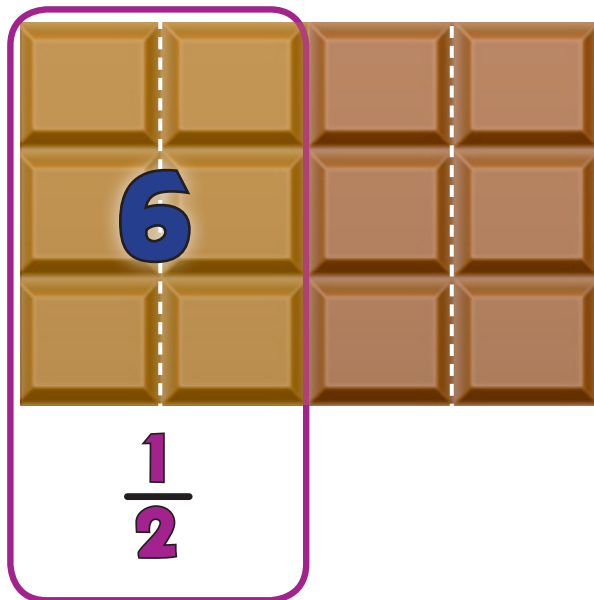
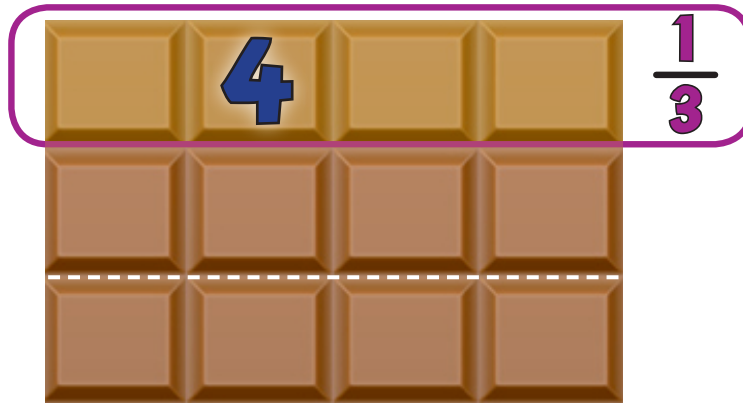
St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk



FE: Fraction of a Quantity

2

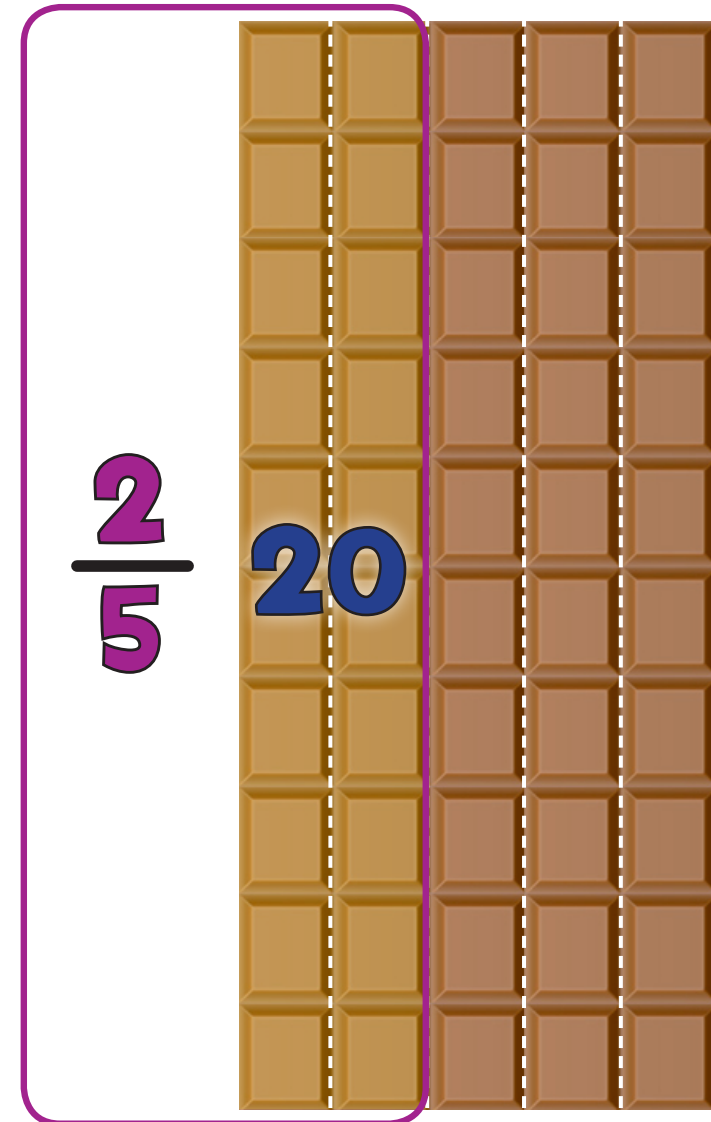
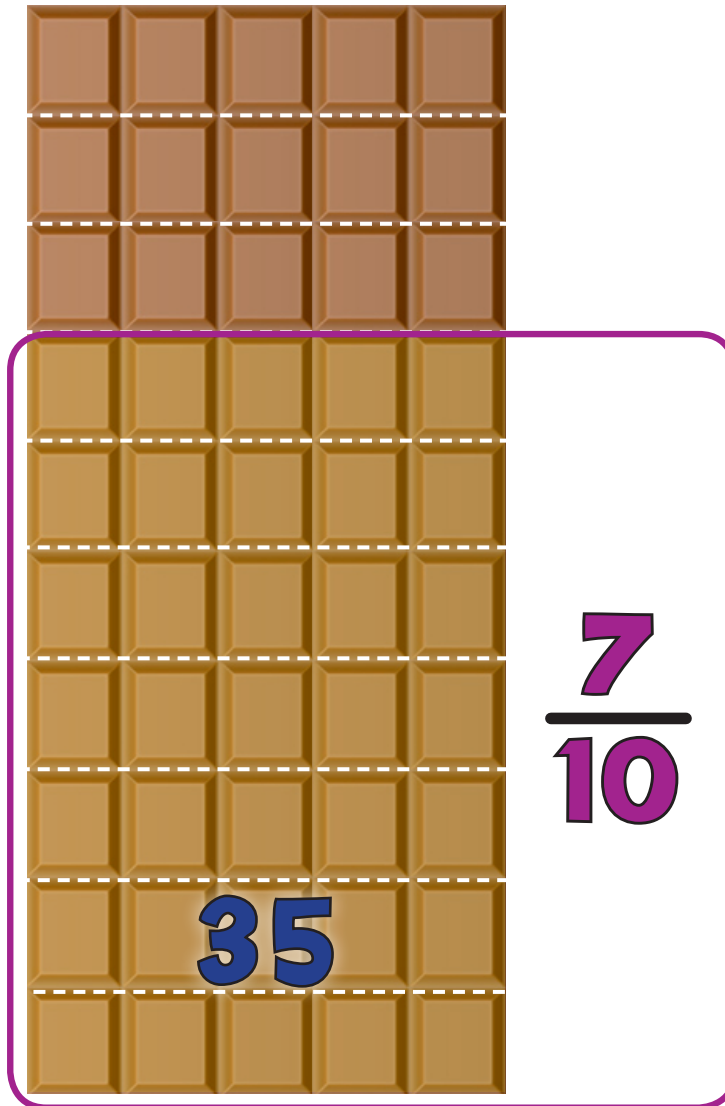
12
Chunks



FE: Fraction of a Quantity

3

50
Chunks



FE: Fraction of a Quantity

4

72
Chunks

$$\frac{4}{9}$$

32

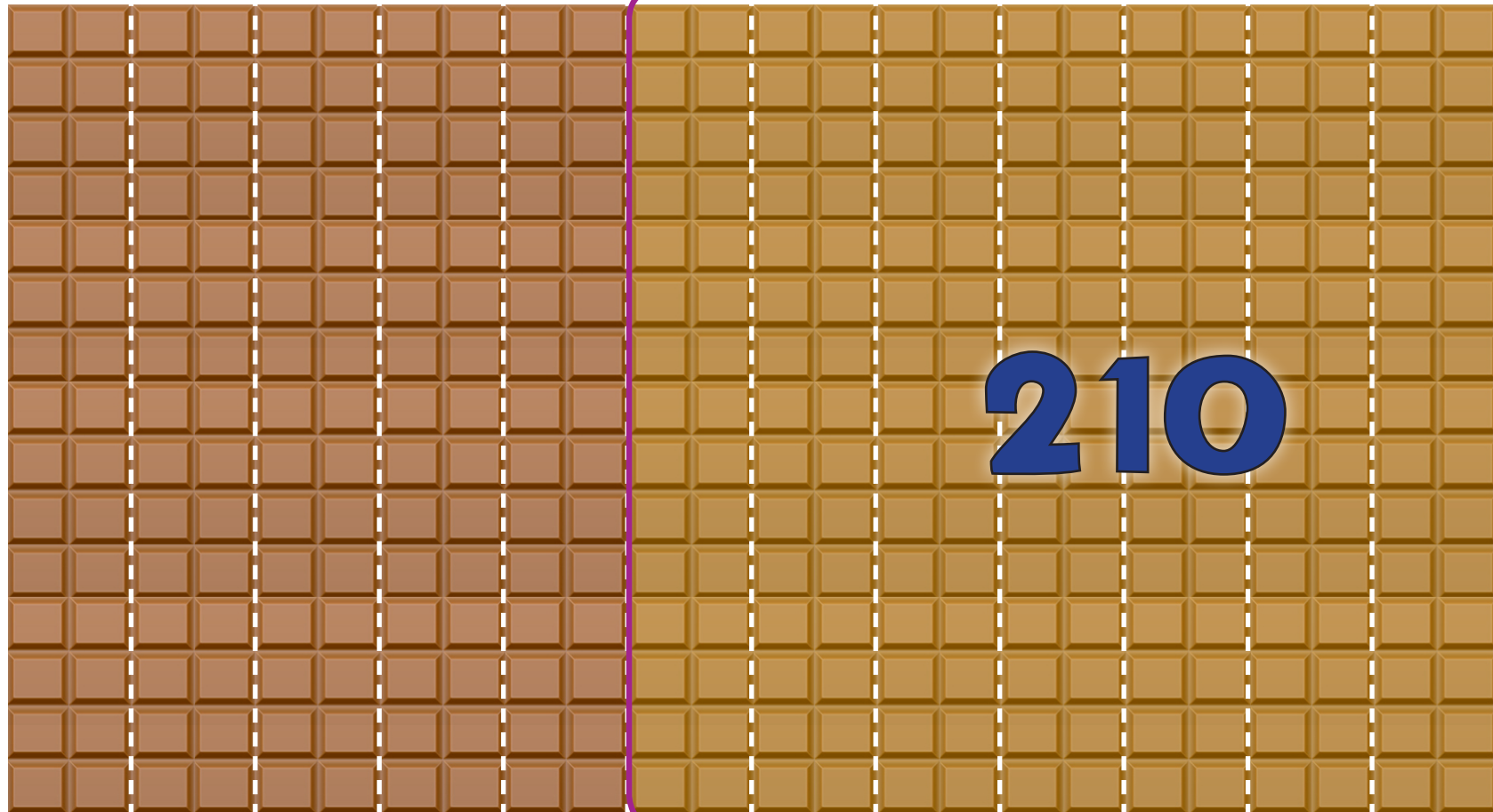
$$\frac{7}{8}$$

63

FE: Fraction of a Quantity

5

360 Chunks



$\frac{7}{12}$



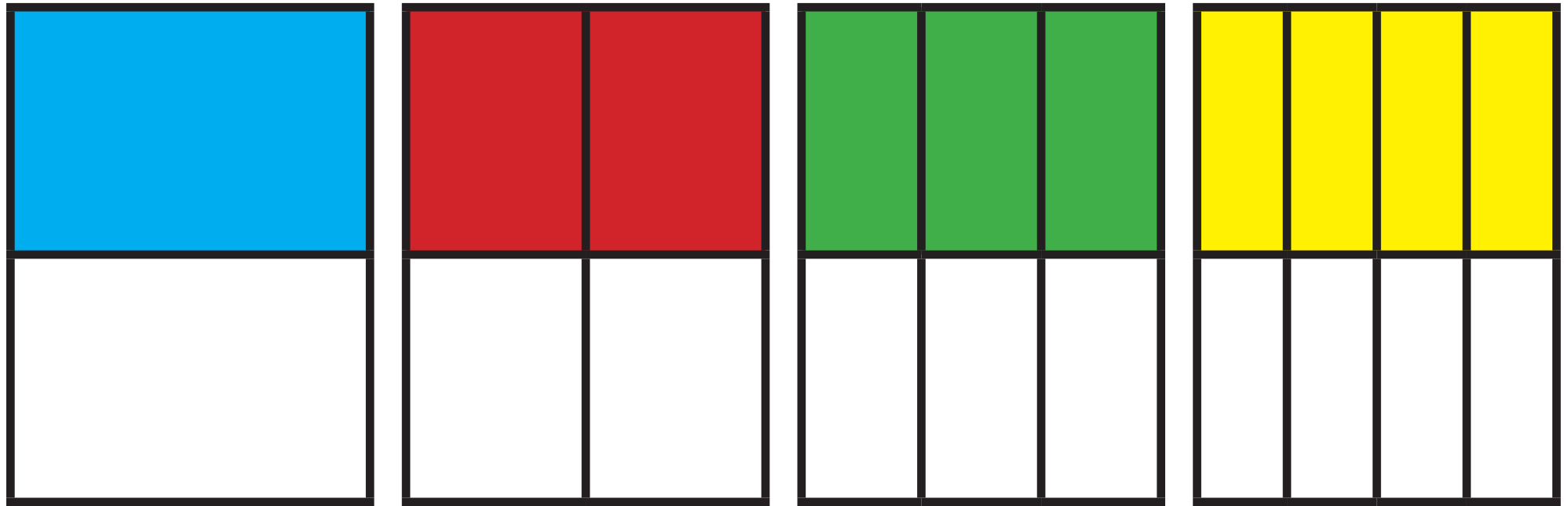
St John Fisher RC Primary School

St John Fisher RC Primary School Visual Fractions Policy © Sense of Number 2016
For sole use by purchasing school. Bespoke Graphic Design by Dave Godfrey - www.senseofnumber.co.uk



FF: Equivalent Fractions

2a

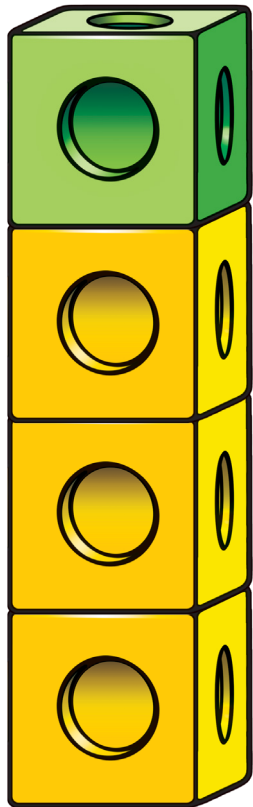


$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$$

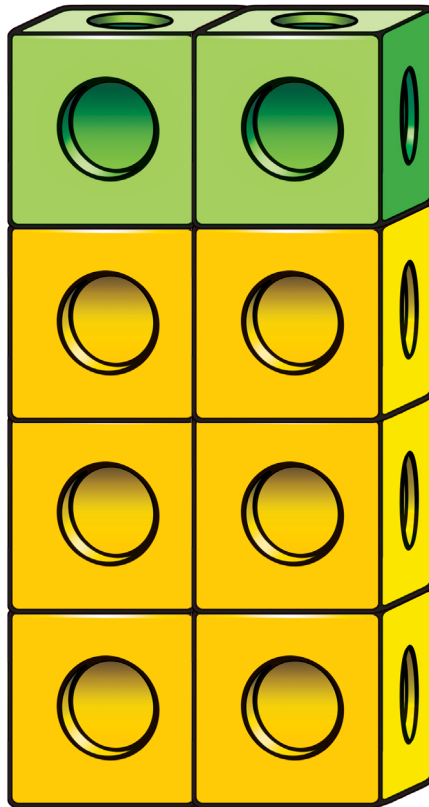
FF: Equivalent Fractions

2b

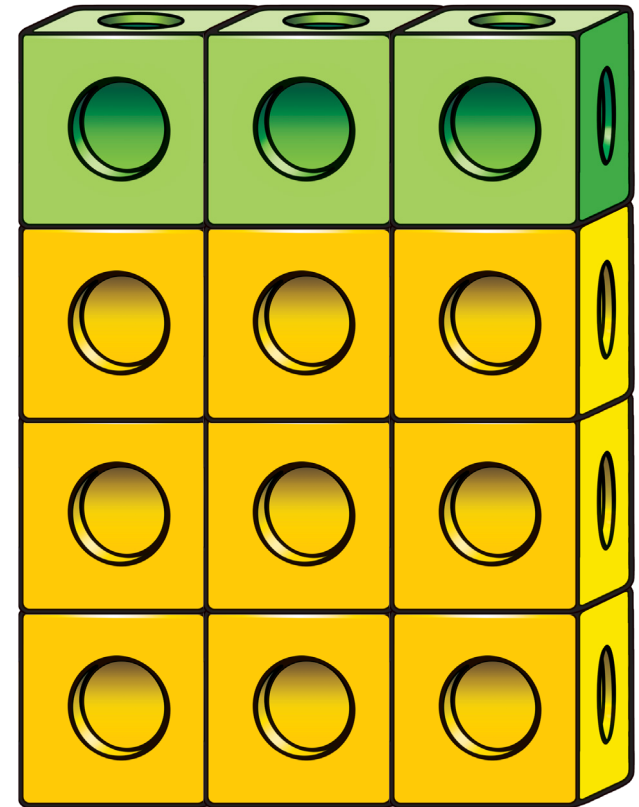
$$\frac{1}{4}$$



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

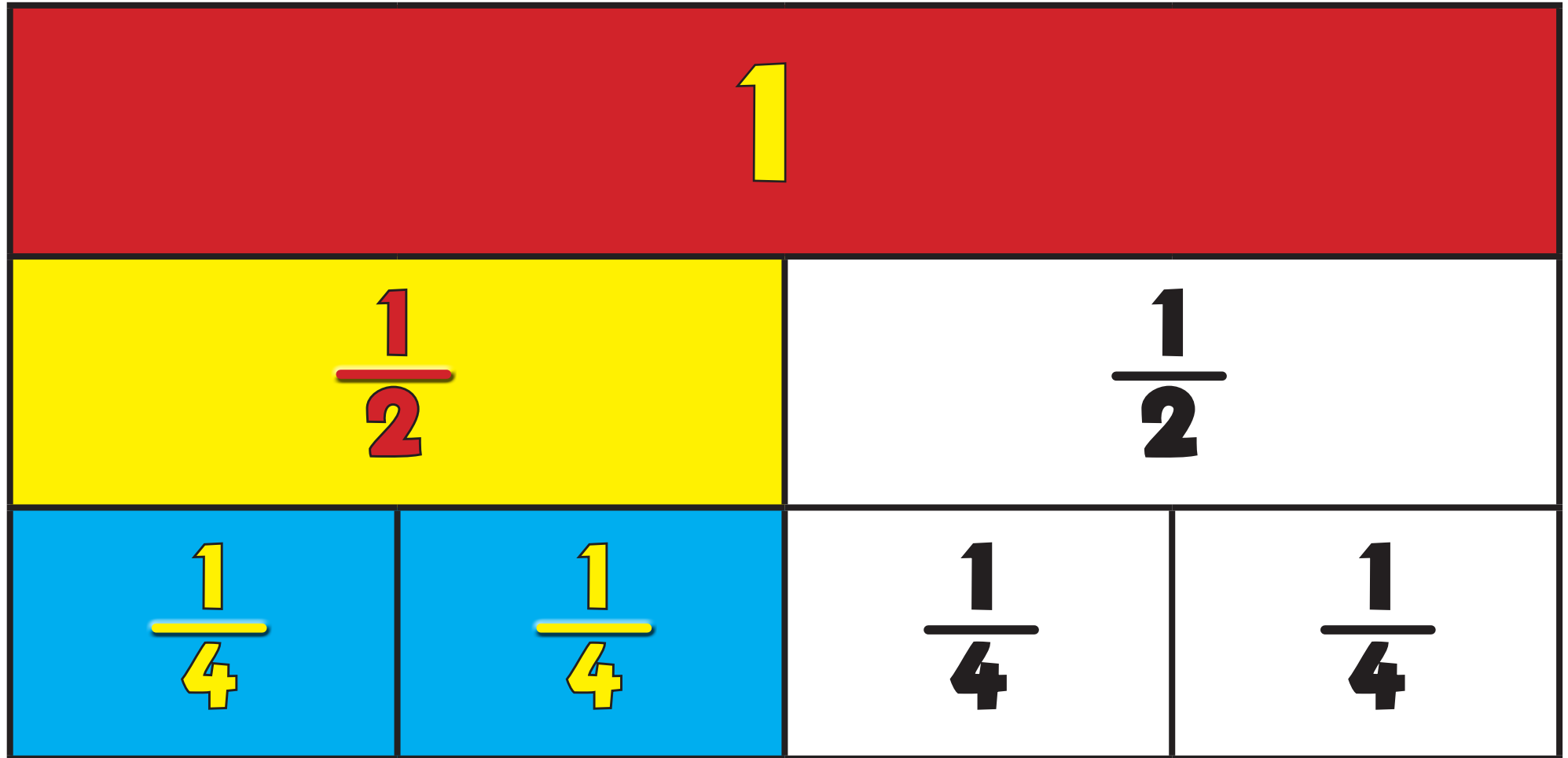


$$\frac{1}{4} \left(\frac{3}{12} \right)$$



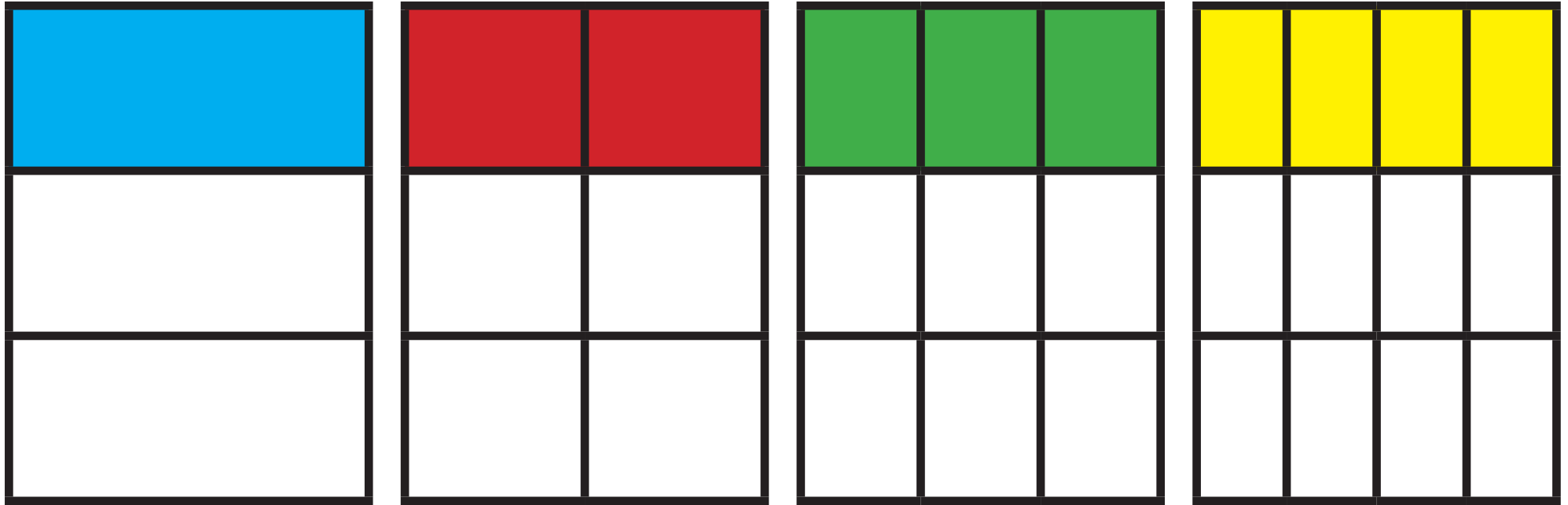
FF: Equivalent Fractions

2c



FF: Equivalent Fractions

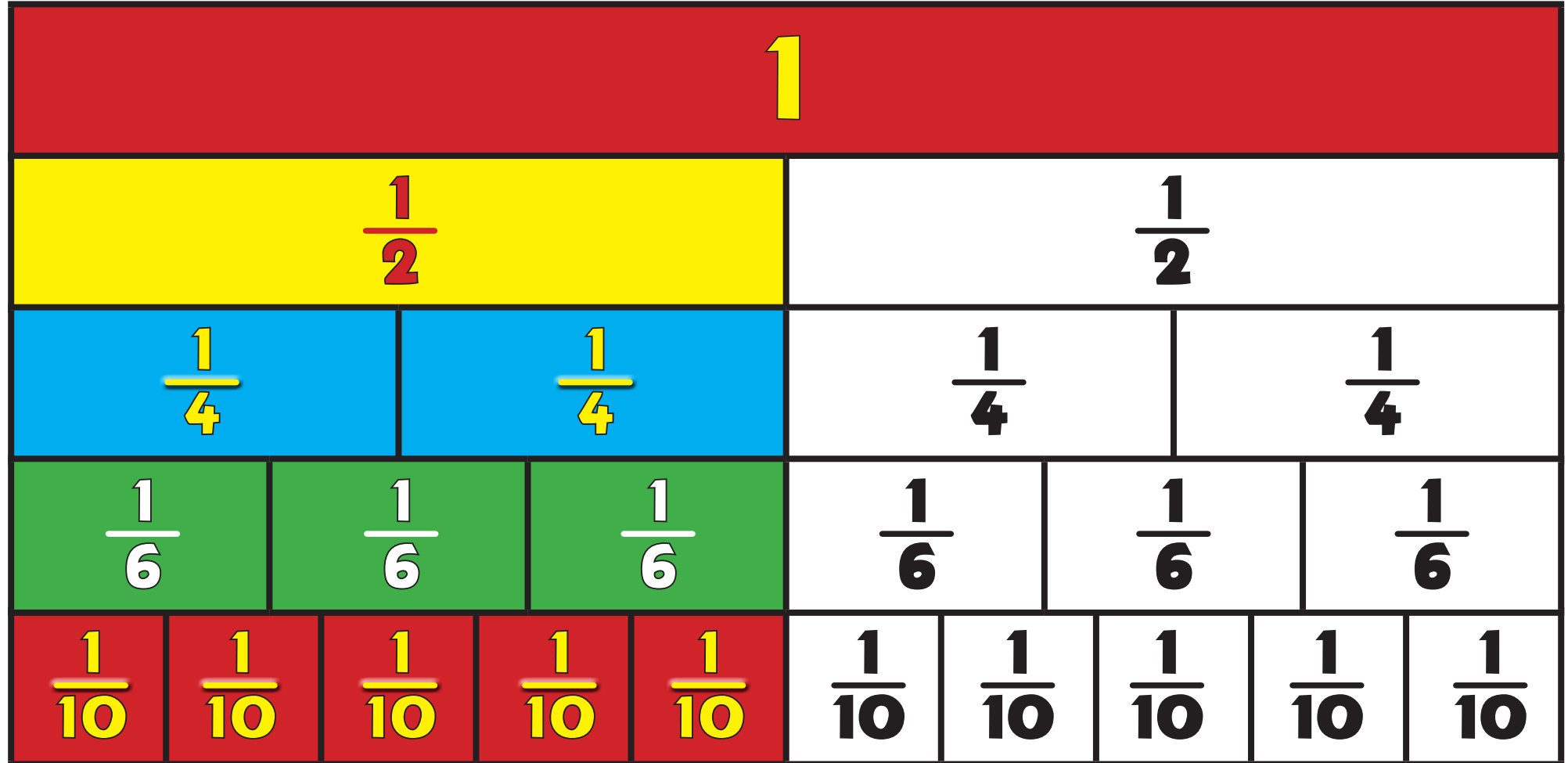
3a



$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$$

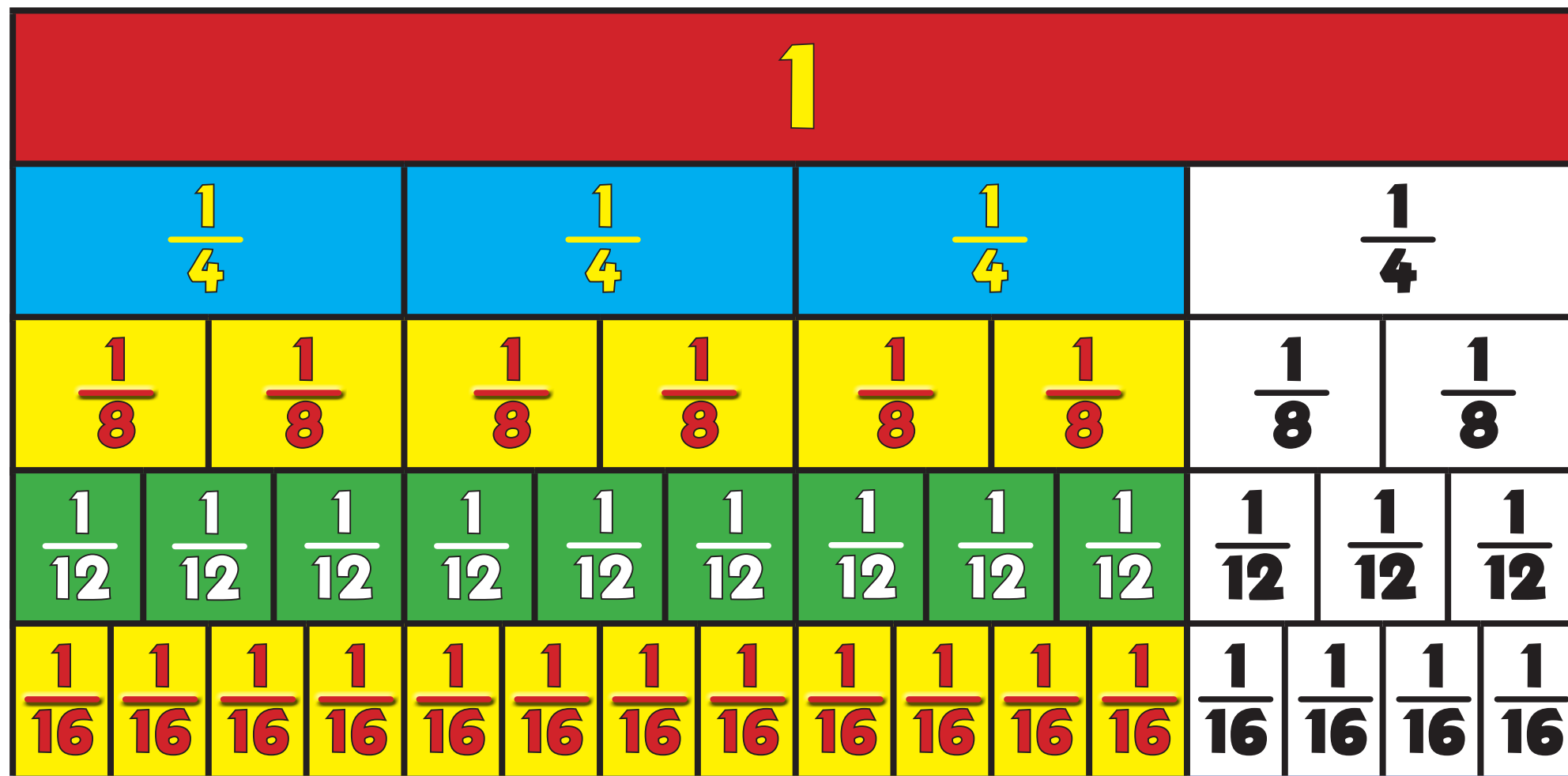
FF: Equivalent Fractions

3b



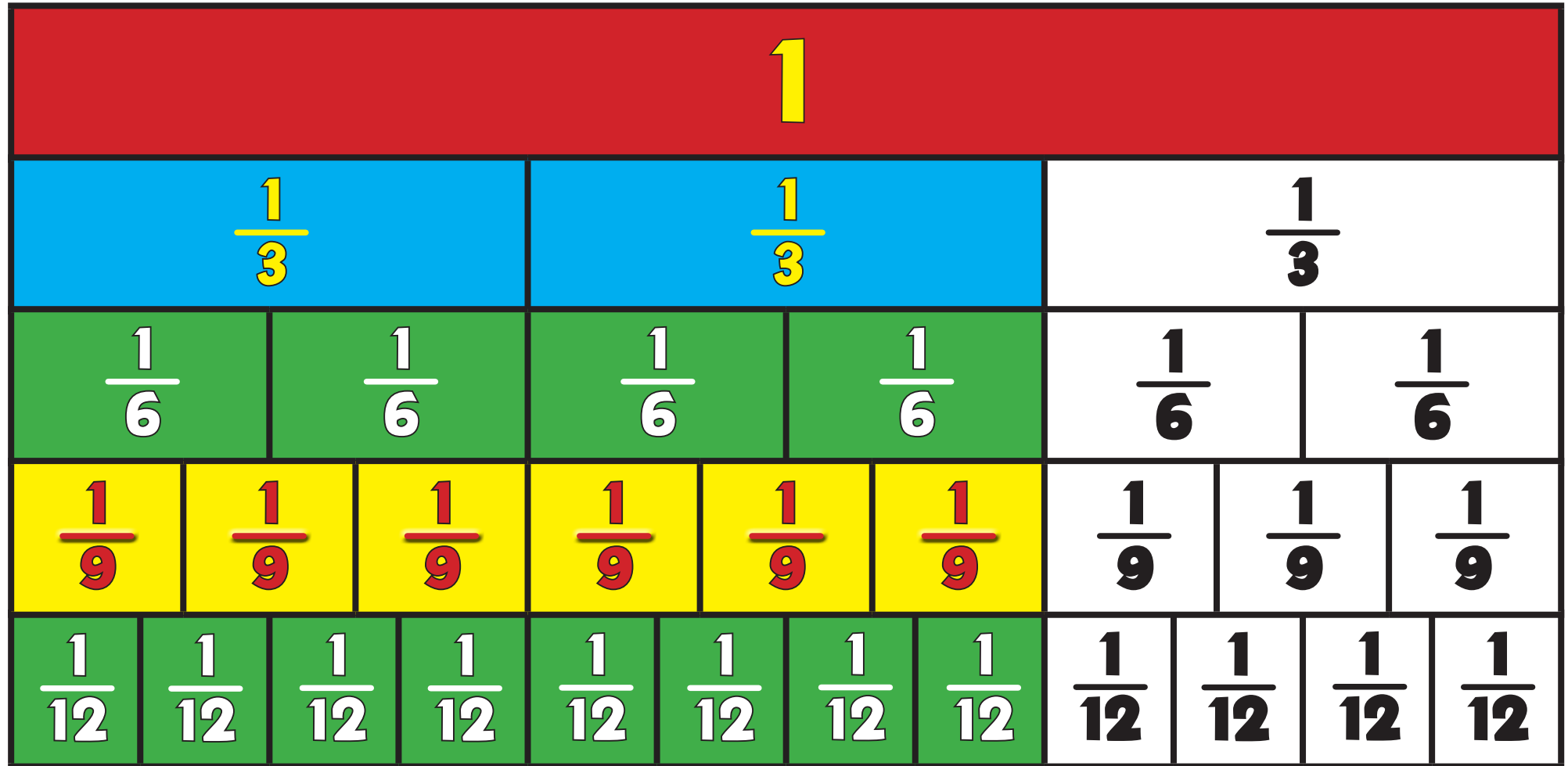
FF: Equivalent Fractions

3c



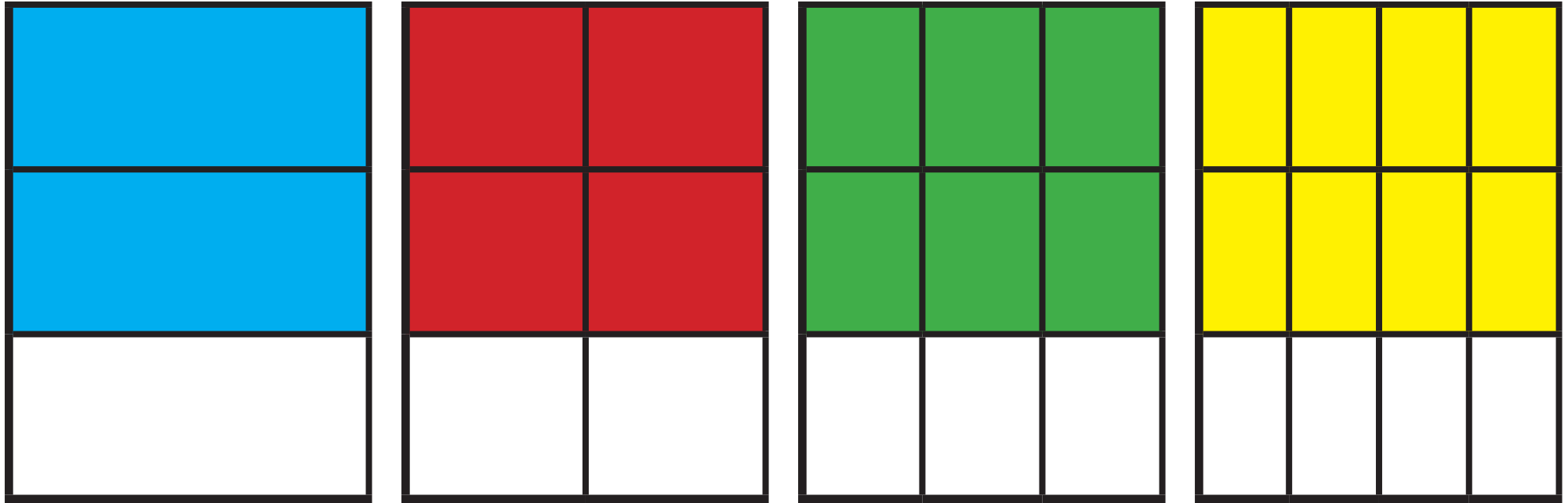
FF: Equivalent Fractions

3d



FF: Equivalent Fractions

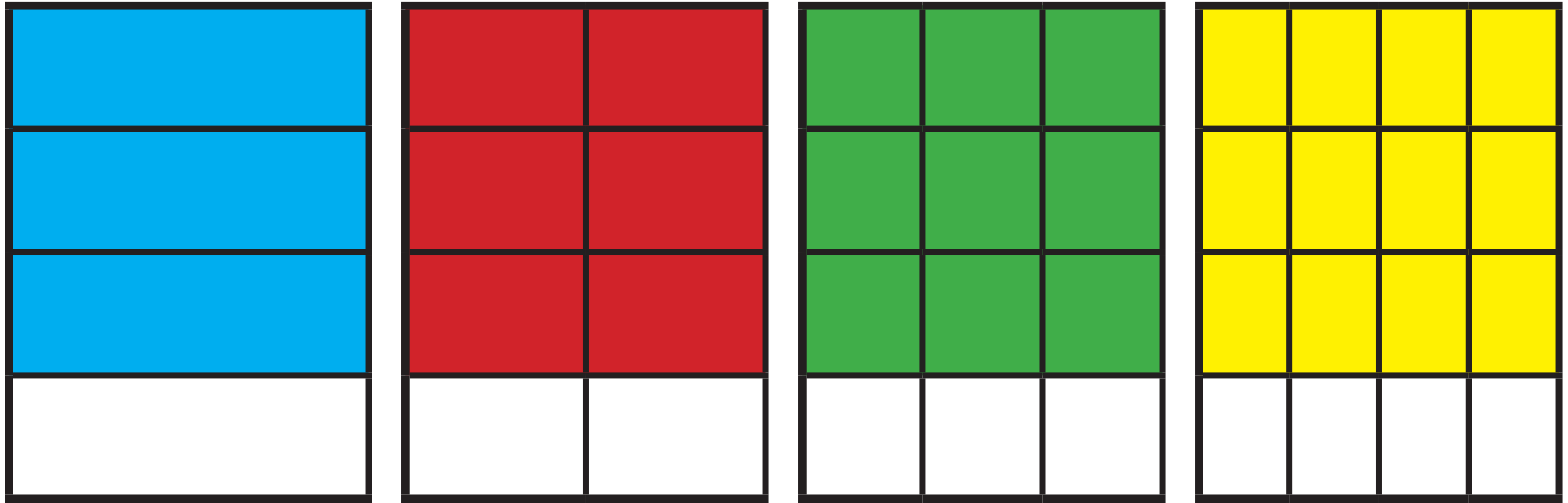
4a



$$\frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12}$$

FF: Equivalent Fractions

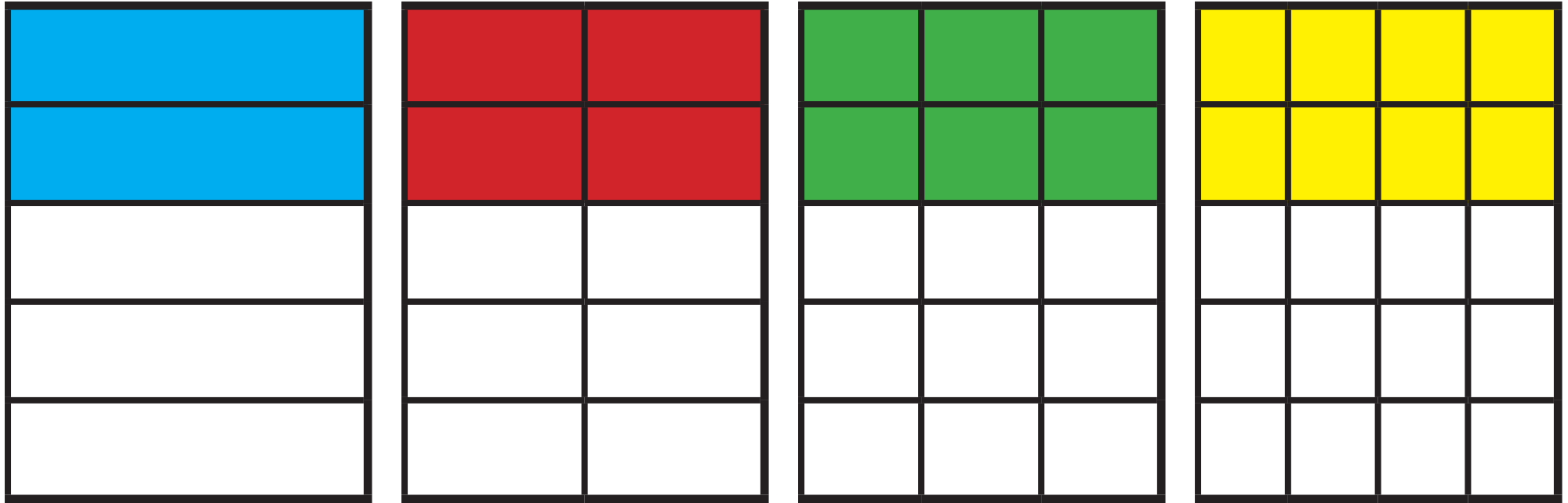
4b



$$\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$$

FF: Equivalent Fractions

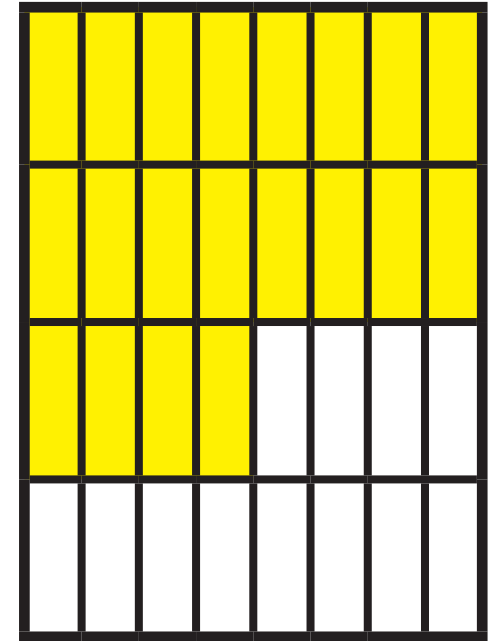
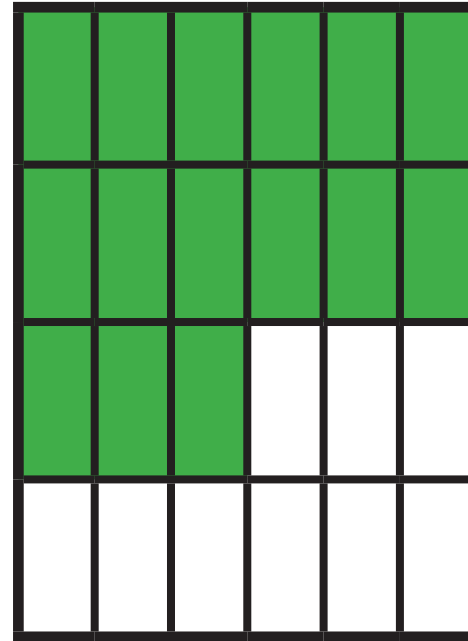
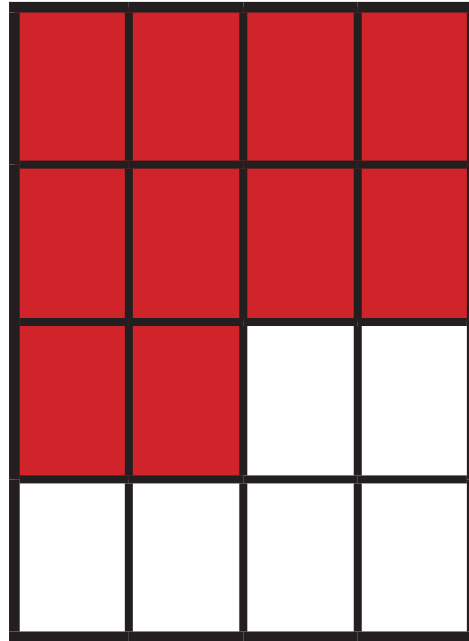
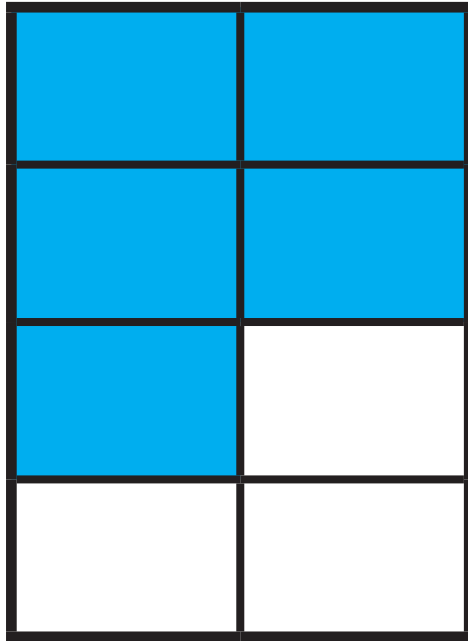
4c



$$\frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{8}{20}$$

FF: Equivalent Fractions

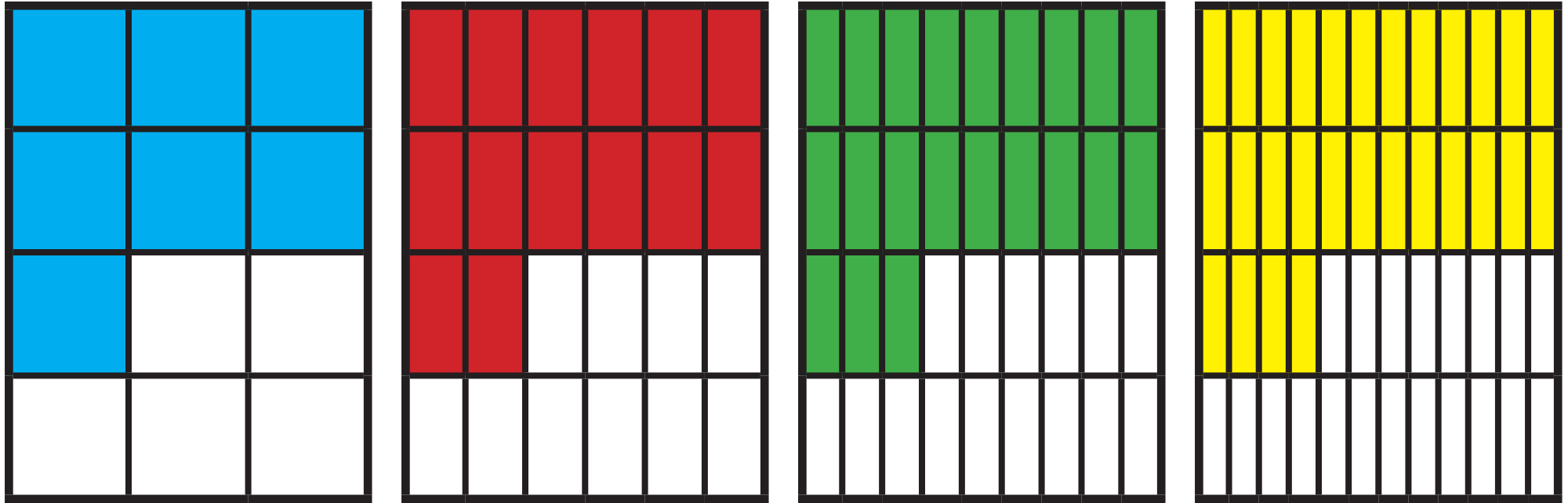
4d



$$\frac{5}{8} = \frac{10}{16} = \frac{15}{24} = \frac{20}{32}$$

FF: Equivalent Fractions

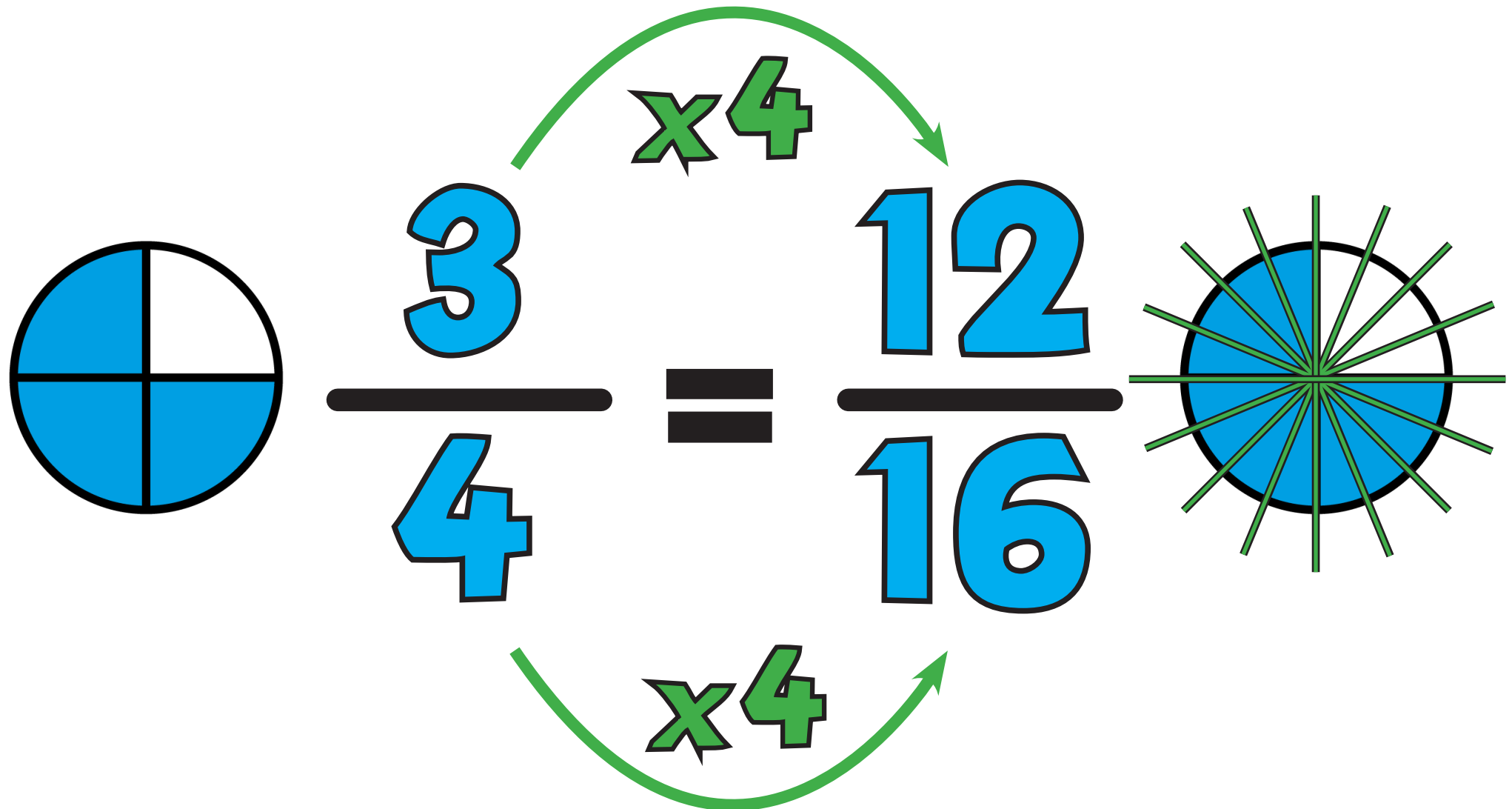
4e



$$\frac{7}{12} = \frac{14}{24} = \frac{21}{36} = \frac{28}{48}$$

FF: Equivalent Fractions

5

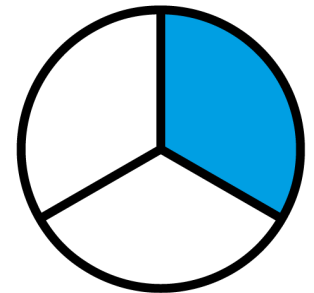


FF: Equivalent Fractions

6

$$\frac{75}{225} = \frac{1}{3}$$

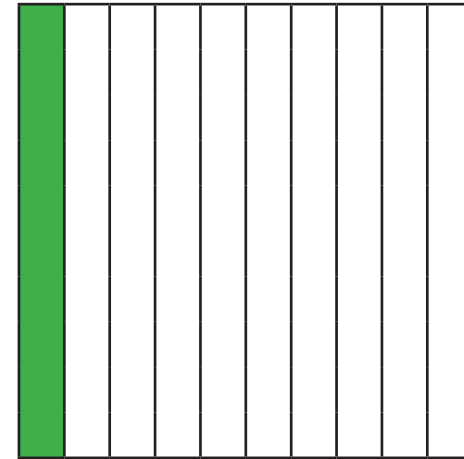
Diagram illustrating the simplification of the fraction $\frac{75}{225}$ to $\frac{1}{3}$ by dividing both the numerator and denominator by 75. Green curved arrows indicate the division process, with $\div 75$ written above and below the fraction bar.



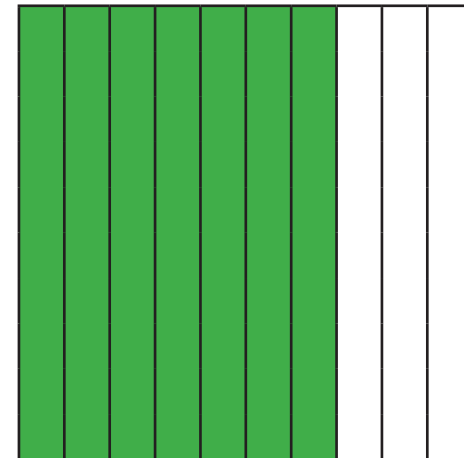
FG: Decimals/Fractions/Percentages

3

$$\frac{1}{10} = 0.1 =$$



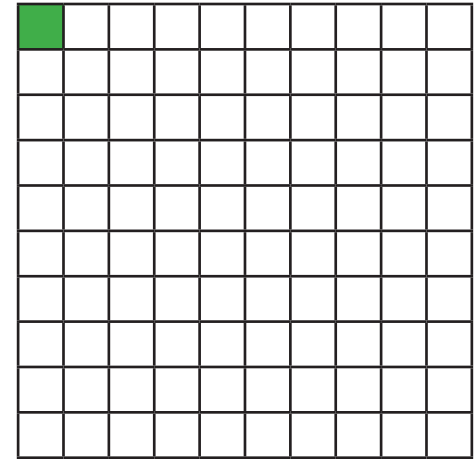
$$\frac{7}{10} = 0.7 =$$



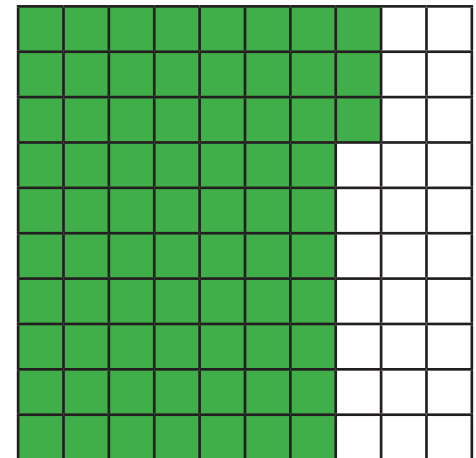
FH: Decimals/Fractions/Percentages

4

$$\frac{1}{100} = 0.01 =$$



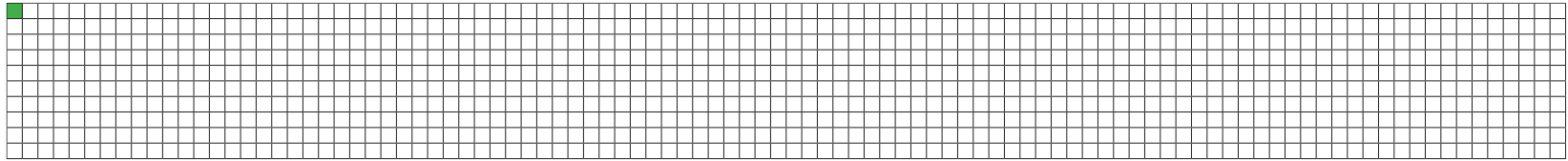
$$\frac{73}{100} = 0.73 =$$



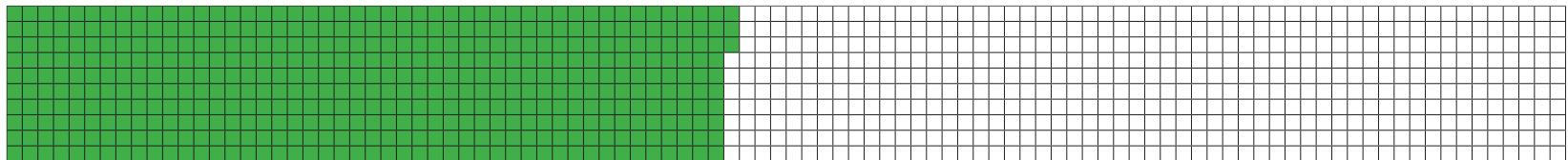
FG: Decimals/Fractions/Percentages

5a

$$\frac{1}{1000} = 0.001$$



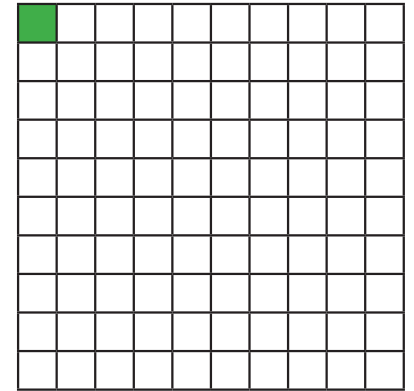
$$\frac{463}{1000} = 0.463$$



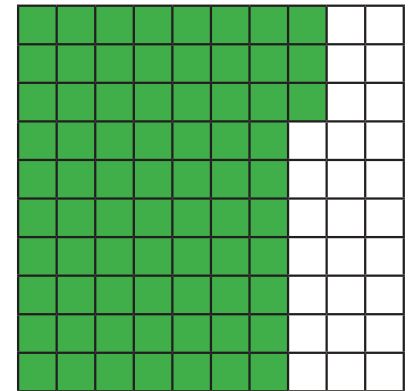
FG: Decimals/Fractions/Percentages

5b

$$\frac{1}{100} = 0.01 = 1\% =$$



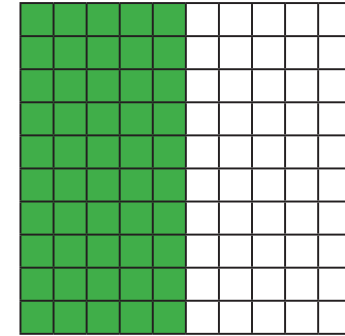
$$\frac{73}{100} = 0.73 = 73\% =$$



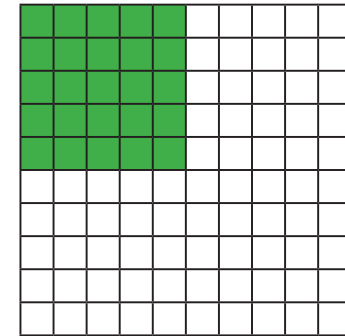
FH: Common FDP Equivalences

4

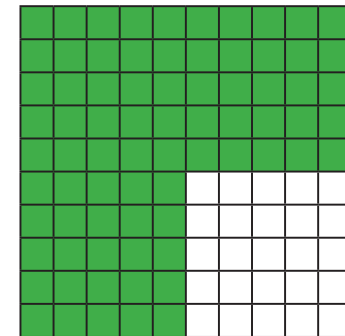
$$\frac{1}{2} = 0.5 =$$



$$\frac{1}{4} = 0.25 =$$



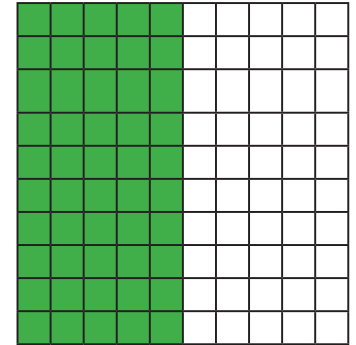
$$\frac{3}{4} = 0.75 =$$



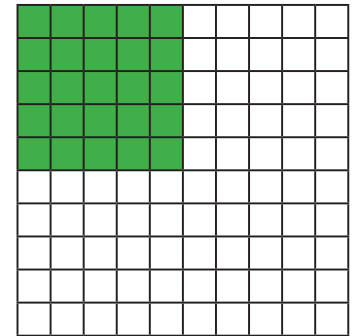
FH: Common FDP Equivalences

5a

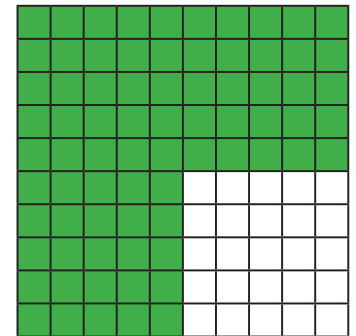
$$\frac{1}{2} = 0.5 = 50\% =$$



$$\frac{1}{4} = 0.25 = 25\% =$$



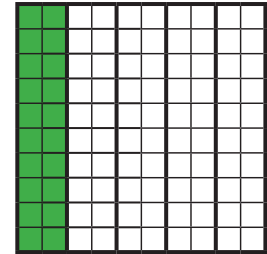
$$\frac{3}{4} = 0.75 = 75\% =$$



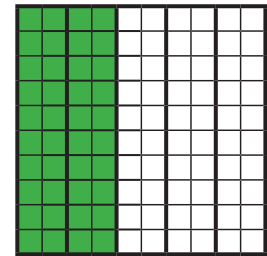
FH: Common FDP Equivalences

5b

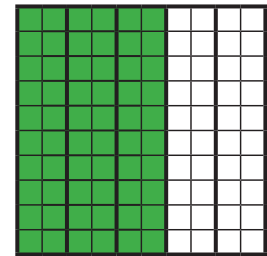
$$\frac{1}{5} = 0.2 = 20\% =$$



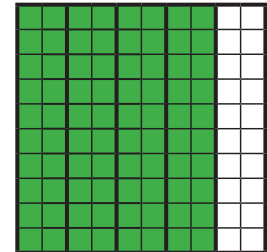
$$\frac{2}{5} = 0.4 = 40\% =$$



$$\frac{3}{5} = 0.6 = 60\% =$$



$$\frac{4}{5} = 0.8 = 80\% =$$



FH: Common FDP Equivalences

5c

$\frac{1}{1}$ 1.0 100%			
$\frac{1}{2}$ 0.5 50%		$\frac{1}{2}$ 0.5 50%	
$\frac{1}{4}$ 0.25 25%	$\frac{1}{4}$ 0.25 25%	$\frac{1}{4}$ 0.25 25%	$\frac{1}{4}$ 0.25 25%



FH: Common FDP Equivalences

5d

1 1.0 100%									
$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%	$\frac{1}{5}$ 0.2 20%
$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%	$\frac{1}{10}$ 0.1 10%

FH: Common FDP Equivalences

6a

$$\frac{1}{8} = 0.125 = 12.5\% = \text{1 of 8 sectors shaded green}$$
$$\frac{3}{8} = 0.375 = 37.5\% = \text{3 of 8 sectors shaded green}$$
$$\frac{5}{8} = 0.625 = 62.5\% = \text{5 of 8 sectors shaded green}$$
$$\frac{7}{8} = 0.875 = 87.5\% = \text{7 of 8 sectors shaded green}$$

FH: Common FDP Equivalences

6b

$$\frac{1}{3} = 0.\underline{3}\dot{3} = 33.\dot{3}\% = \triangle$$

$$\frac{2}{3} = 0.\underline{6}\dot{6} = 66.\dot{6}\% = \triangle$$

FH: Common FDP Equivalences

6c

$$\frac{1}{6} = 0.1\dot{6} = 16.\dot{6}\% = \text{1 of 6 sectors shaded in a circle}$$

$$\frac{3}{6} = 0.5 = 50\% = \text{3 of 6 sectors shaded in a circle}$$

$$\frac{5}{6} = 0.8\dot{3} = 83.\dot{3}\% = \text{5 of 6 sectors shaded in a circle}$$

FH: Common FDP Equivalences

6d

$\frac{1}{7}$	=	$0.\overline{142857}$	=	$14.\overline{285714}\%$	=	
$\frac{2}{7}$	=	$0.\overline{285714}$	=	$28.\overline{571428}\%$	=	
$\frac{3}{7}$	=	$0.\overline{428571}$	=	$42.\overline{857142}\%$	=	
$\frac{4}{7}$	=	$0.\overline{571428}$	=	$57.\overline{142857}\%$	=	
$\frac{5}{7}$	=	$0.\overline{714285}$	=	$71.\overline{428571}\%$	=	
$\frac{6}{7}$	=	$0.\overline{857142}$	=	$85.\overline{714285}\%$	=	

FH: Common FDP Equivalences

6e

$\frac{1}{1}$ 1.0 100%					
$\frac{1}{3}$ $0.\dot{3}\dot{3}$ $33.\dot{3}\%$	$\frac{1}{3}$ $0.\dot{3}\dot{3}$ $33.\dot{3}\%$	$\frac{1}{3}$ $0.\dot{3}\dot{3}$ $33.\dot{3}\%$	$\frac{1}{3}$ $0.\dot{3}\dot{3}$ $33.\dot{3}\%$	$\frac{1}{3}$ $0.\dot{3}\dot{3}$ $33.\dot{3}\%$	$\frac{1}{3}$ $0.\dot{3}\dot{3}$ $33.\dot{3}\%$
$\frac{1}{6}$ $0.\dot{1}\dot{6}$ $16.\dot{6}\%$	$\frac{1}{6}$ $0.\dot{1}\dot{6}$ $16.\dot{6}\%$	$\frac{1}{6}$ $0.\dot{1}\dot{6}$ $16.\dot{6}\%$	$\frac{1}{6}$ $0.\dot{1}\dot{6}$ $16.\dot{6}\%$	$\frac{1}{6}$ $0.\dot{1}\dot{6}$ $16.\dot{6}\%$	$\frac{1}{6}$ $0.\dot{1}\dot{6}$ $16.\dot{6}\%$

FH: Common FDP Equivalences

6f

1 1.0 100%								
$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%	$\frac{1}{7}$ 0.143 14.3%
$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%	$\frac{1}{9}$ 0.11̇ 11.1̇%

F1: Fractions to 1

2a

Halves and Quarters

$\frac{4}{4} = 1$ Whole			
	$\frac{3}{4}$		$\frac{1}{4}$
$\frac{2}{4}$	$\frac{2}{4}$		
$\frac{1}{2}$	$\frac{1}{2}$		

F1: Fractions to 1

2b

Thirds

$$\frac{3}{3} = 1 \text{ Whole}$$

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

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

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

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



F1: Fractions to 1

3a

Fifths

$$\frac{5}{5} = 1 \text{ Whole}$$

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

$$\frac{1}{5}$$

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

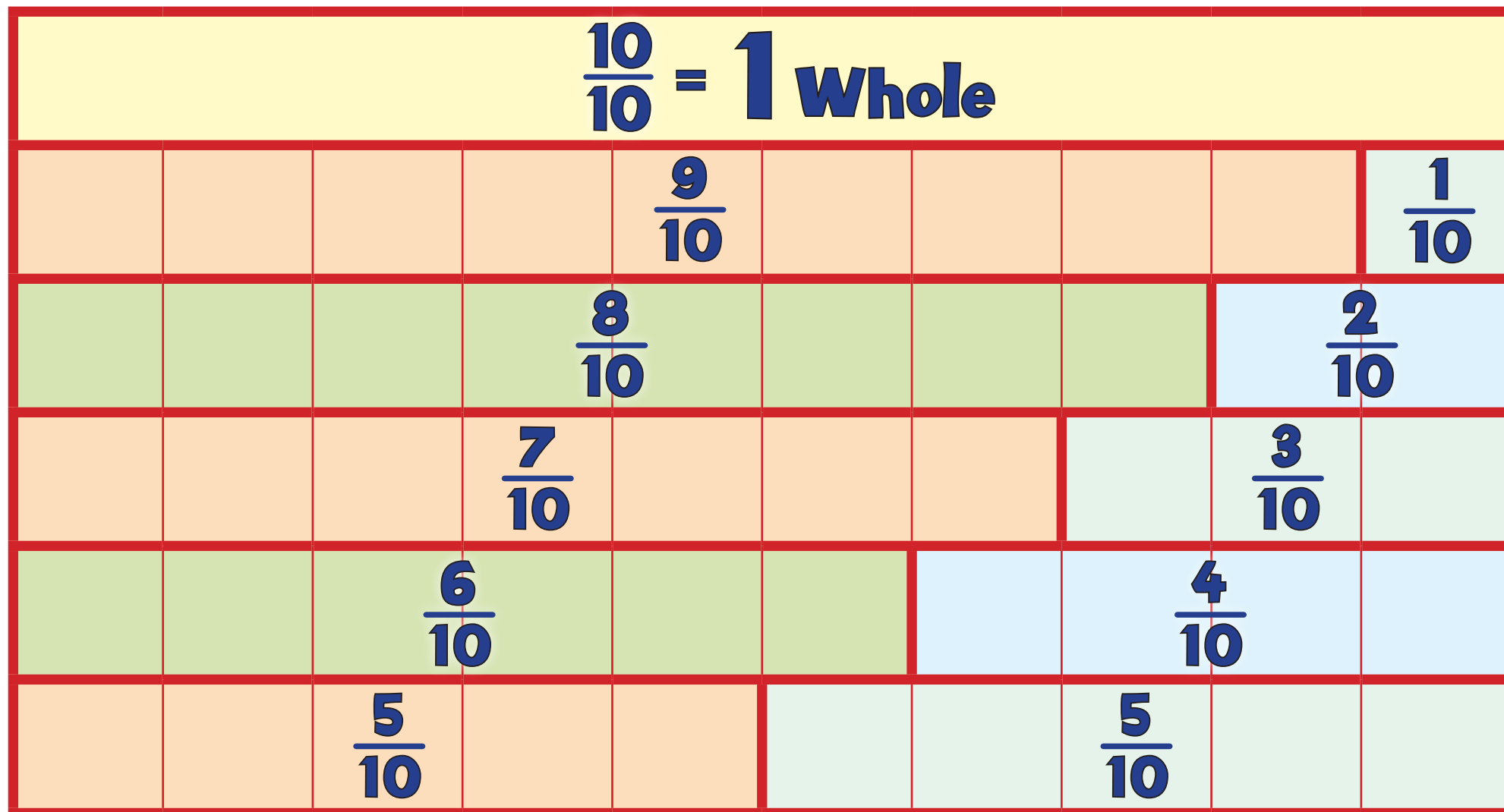
$$\frac{2}{5}$$



F1: Fractions to 1

3b

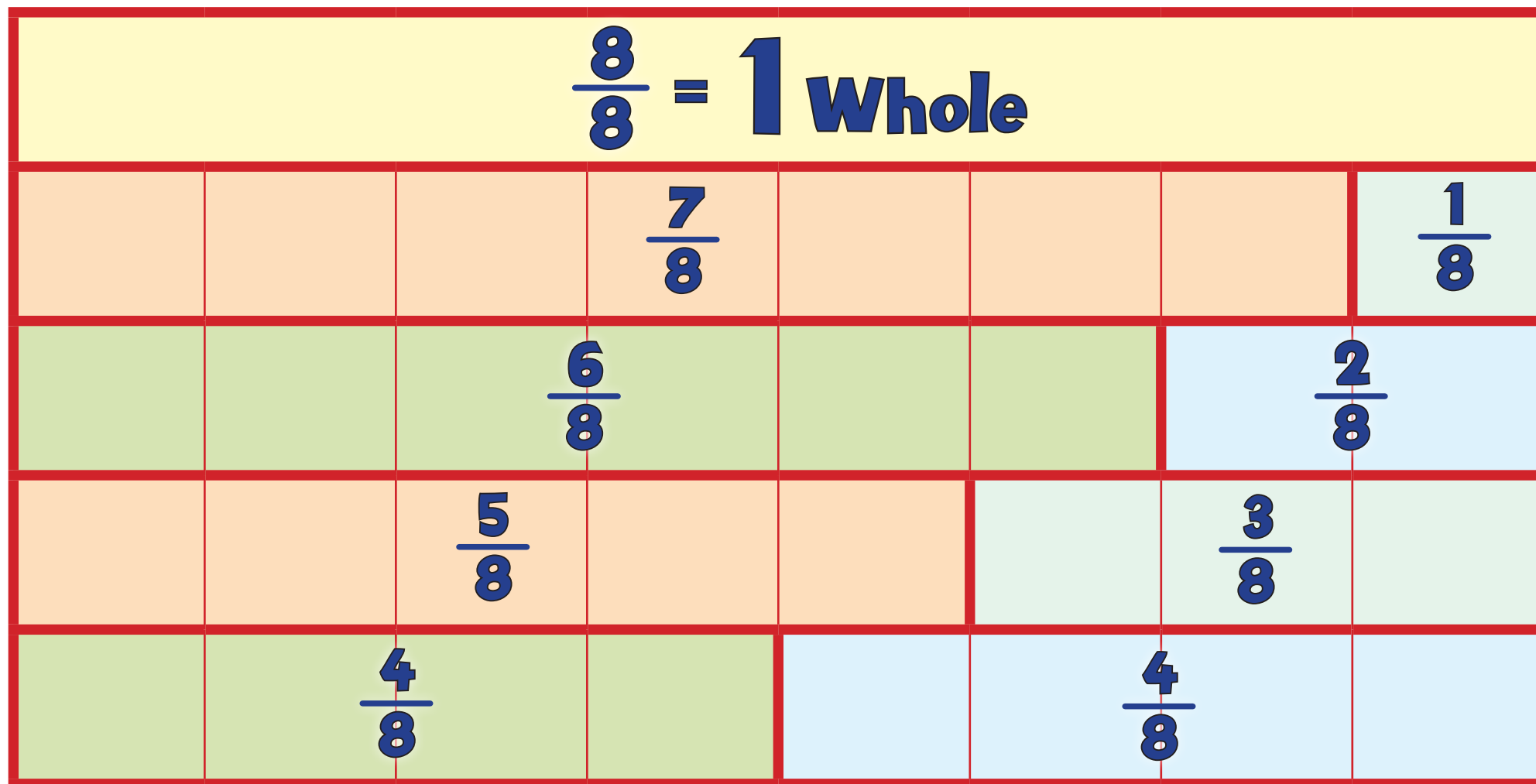
Tenths



Fl: Fractions to 1

3c

Eighths

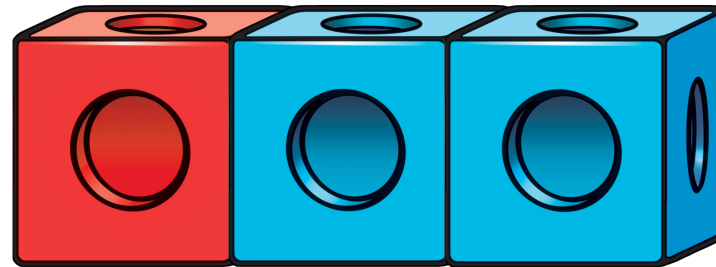


F1: Fractions to 1

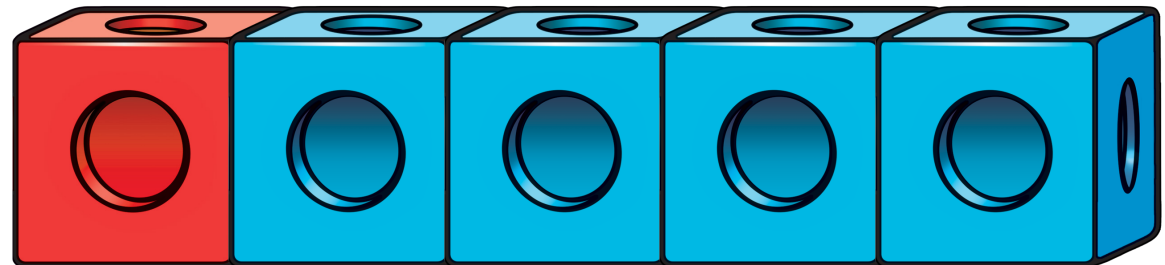
3d

Make a Whole!

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



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

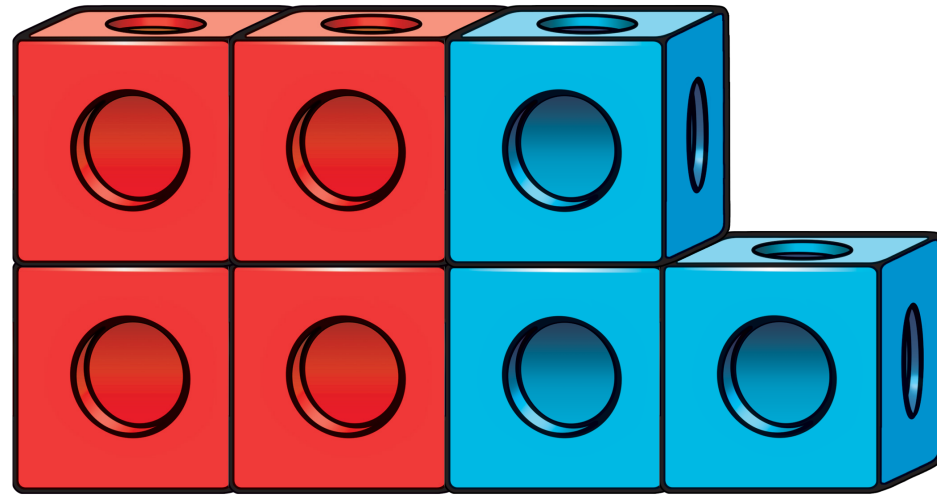


F1: Fractions to 1

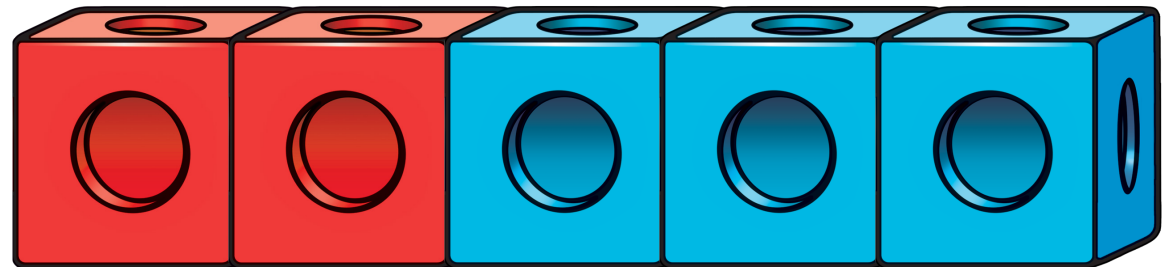
3e

Make a Whole!

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



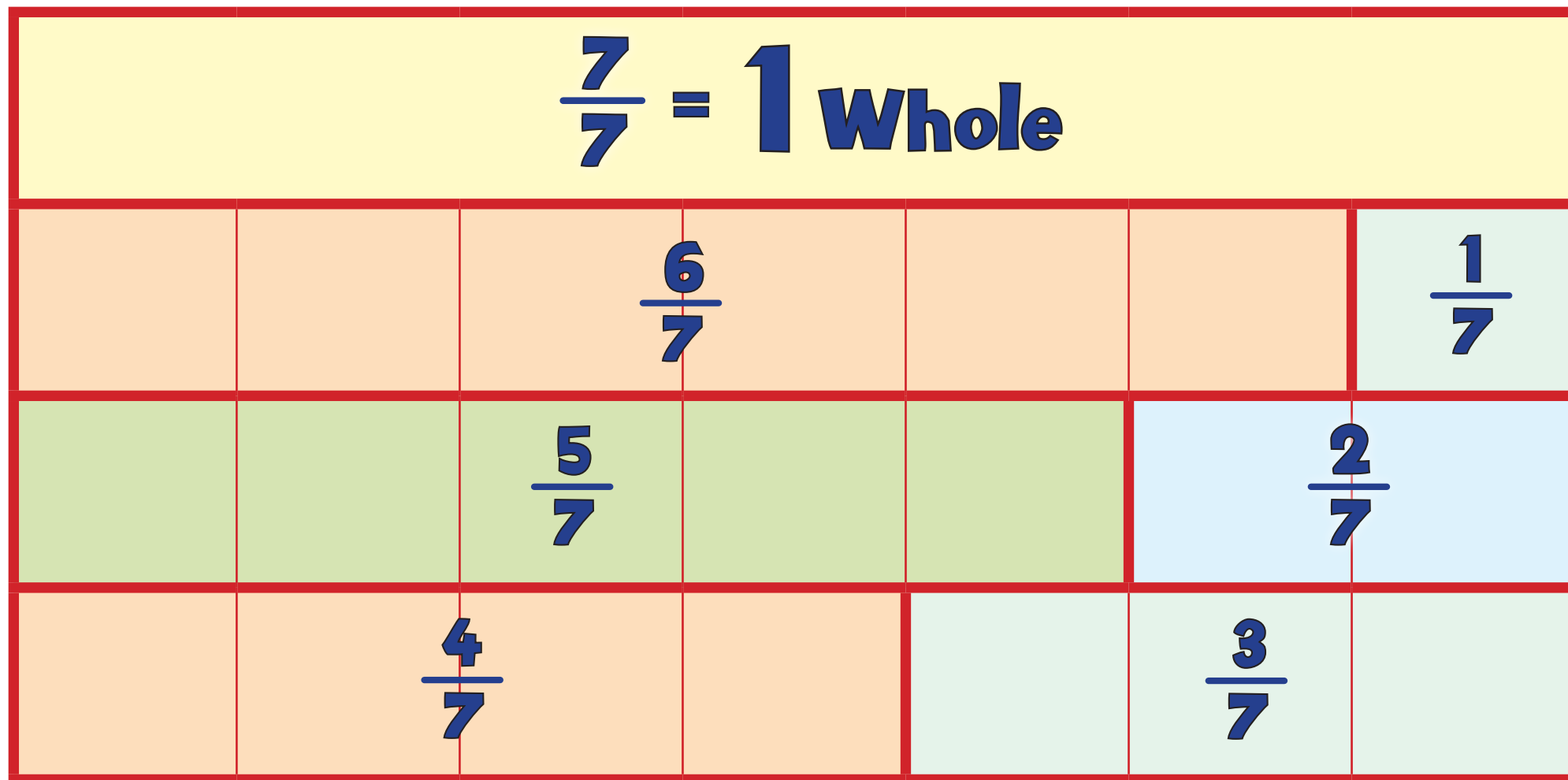
$$\frac{2}{5} + \frac{3}{5}$$



F1: Fractions to 1

4a

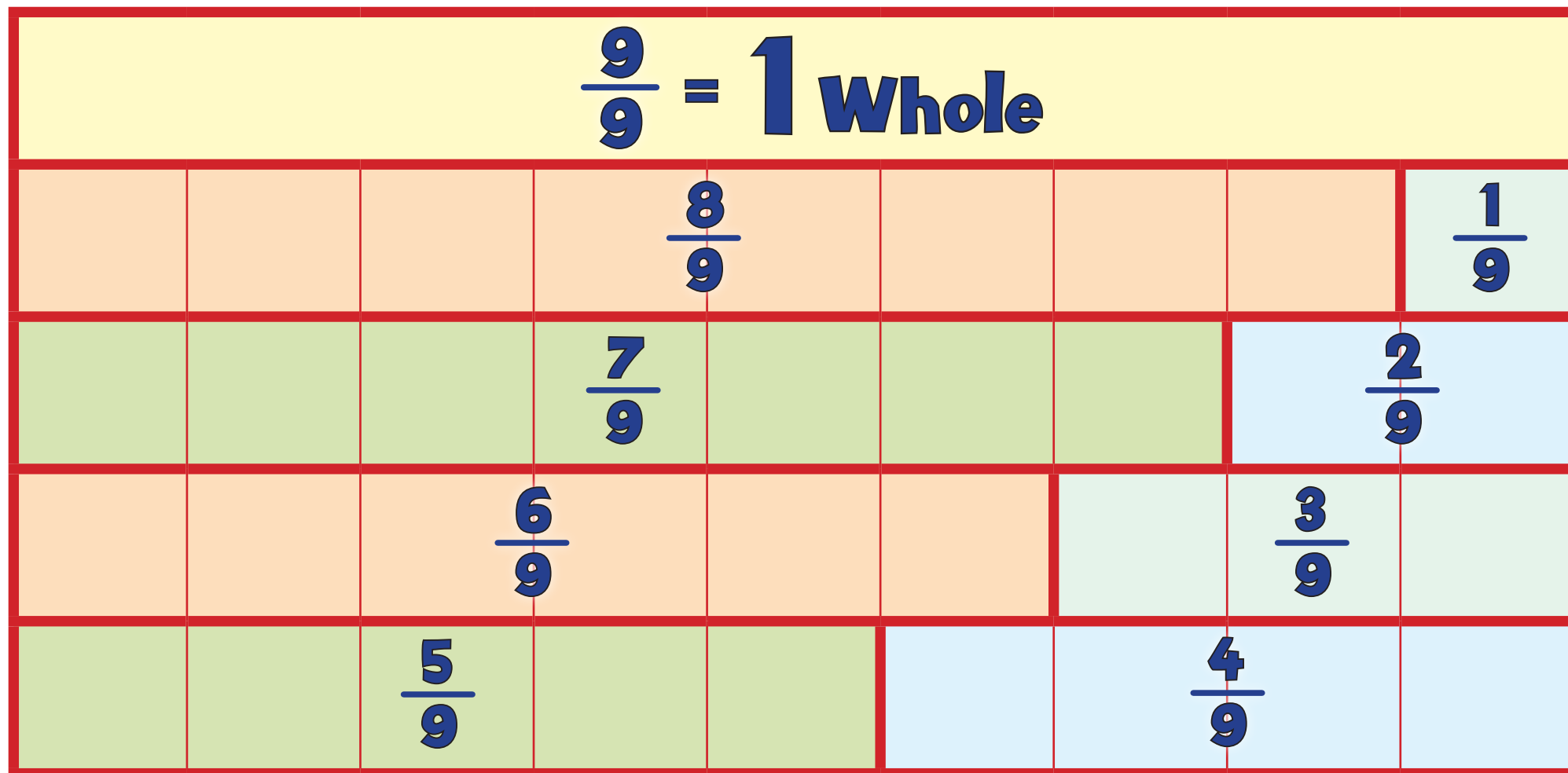
Sevenths



F1: Fractions to 1

4b

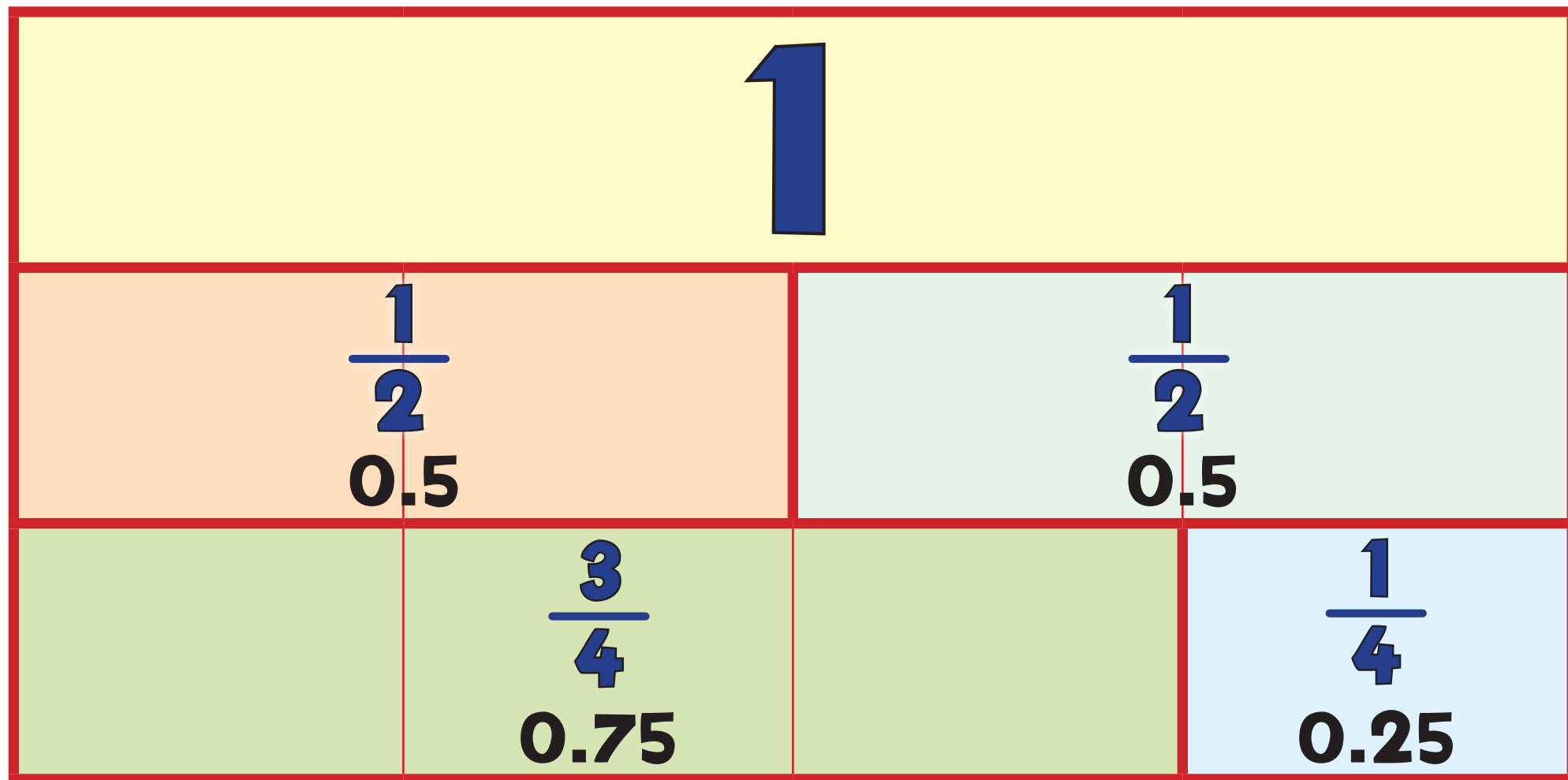
Ninths



Fl: Fractions to 1

4c

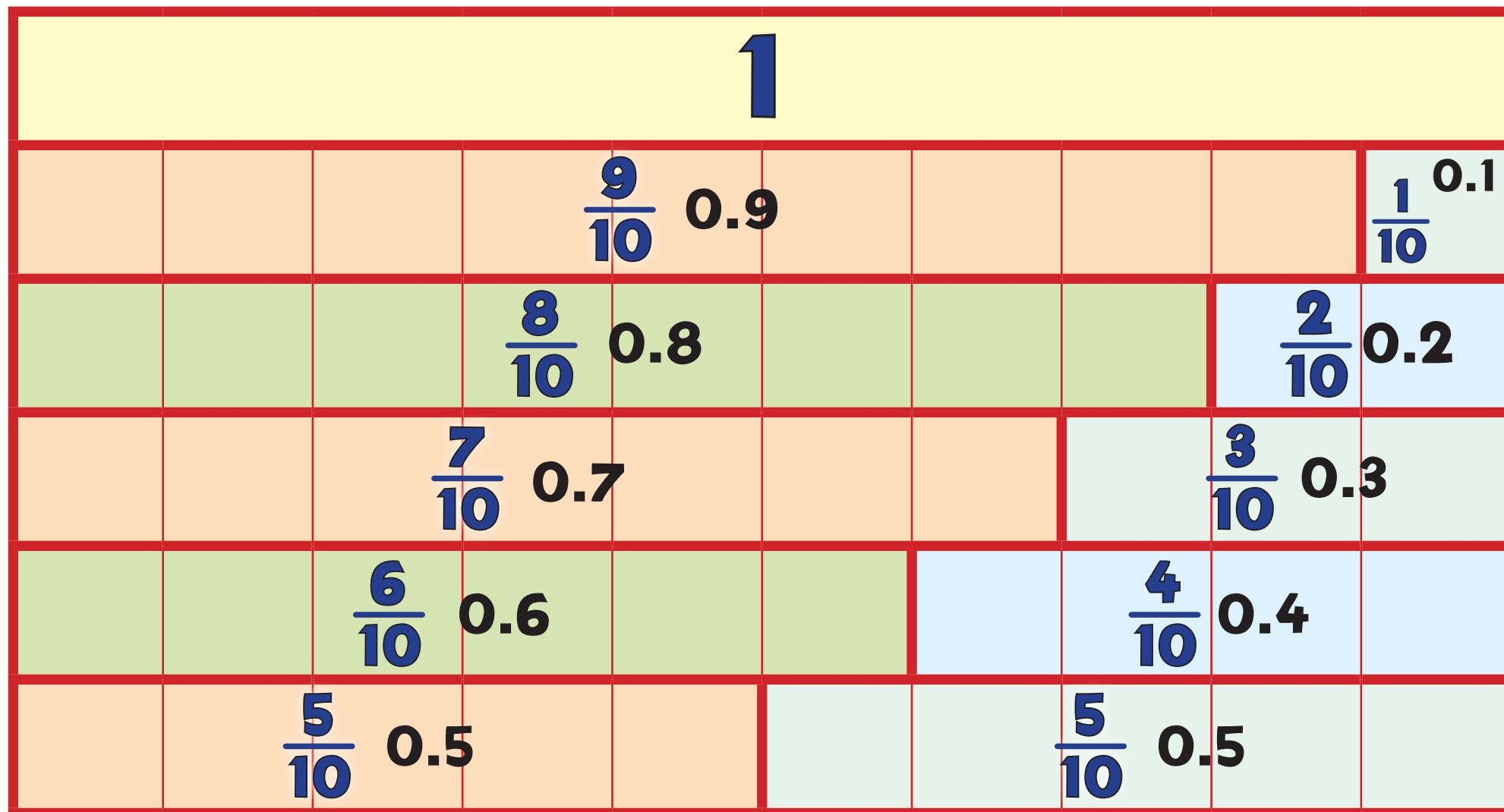
Halves and Quarters



F1: Fractions to 1

4d

Tenths

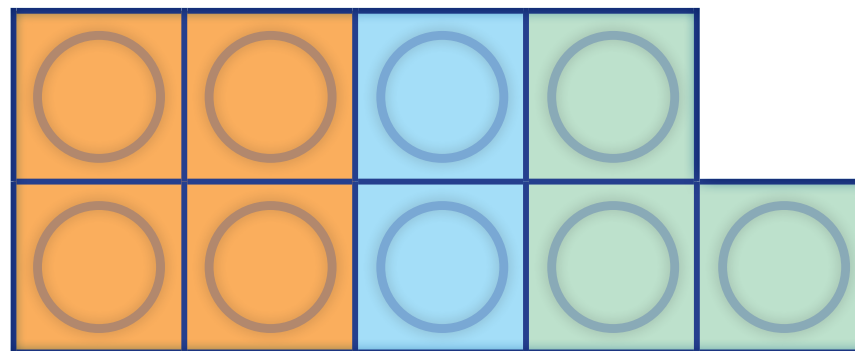


F1: Fractions to 1

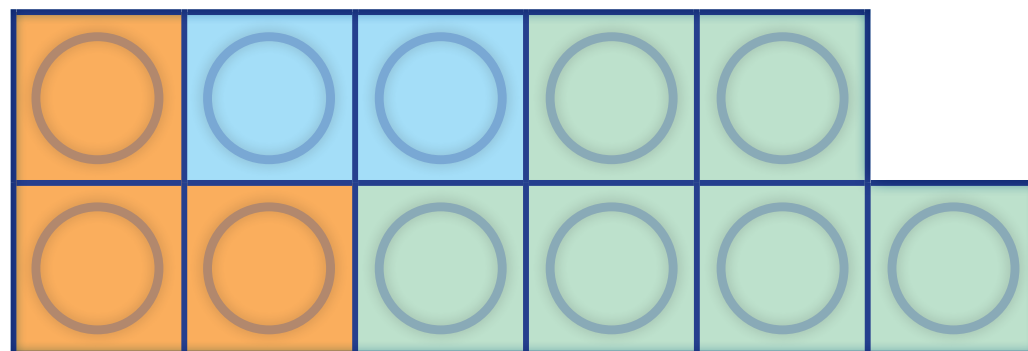
4e

Make a Whole!

$$\frac{4}{9} + \frac{2}{9} + \frac{3}{9}$$



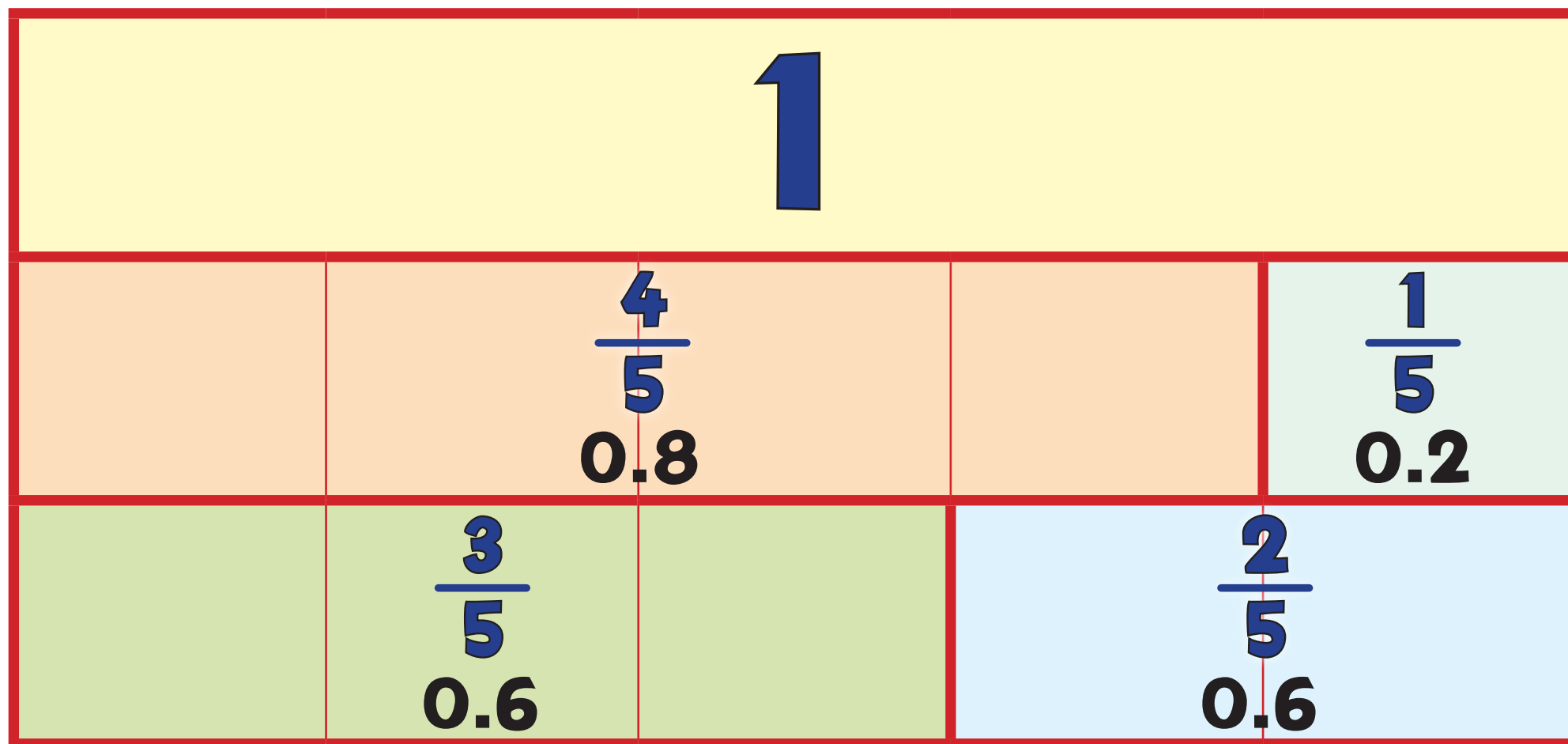
$$\frac{3}{11} + \frac{2}{11} + \frac{6}{11}$$



F1: Fractions to 1

5a

Fifths



F1: Fractions to 1

5b

Thirds

1

$\frac{2}{3}$

0.6 $\dot{6}$

$\frac{1}{3}$

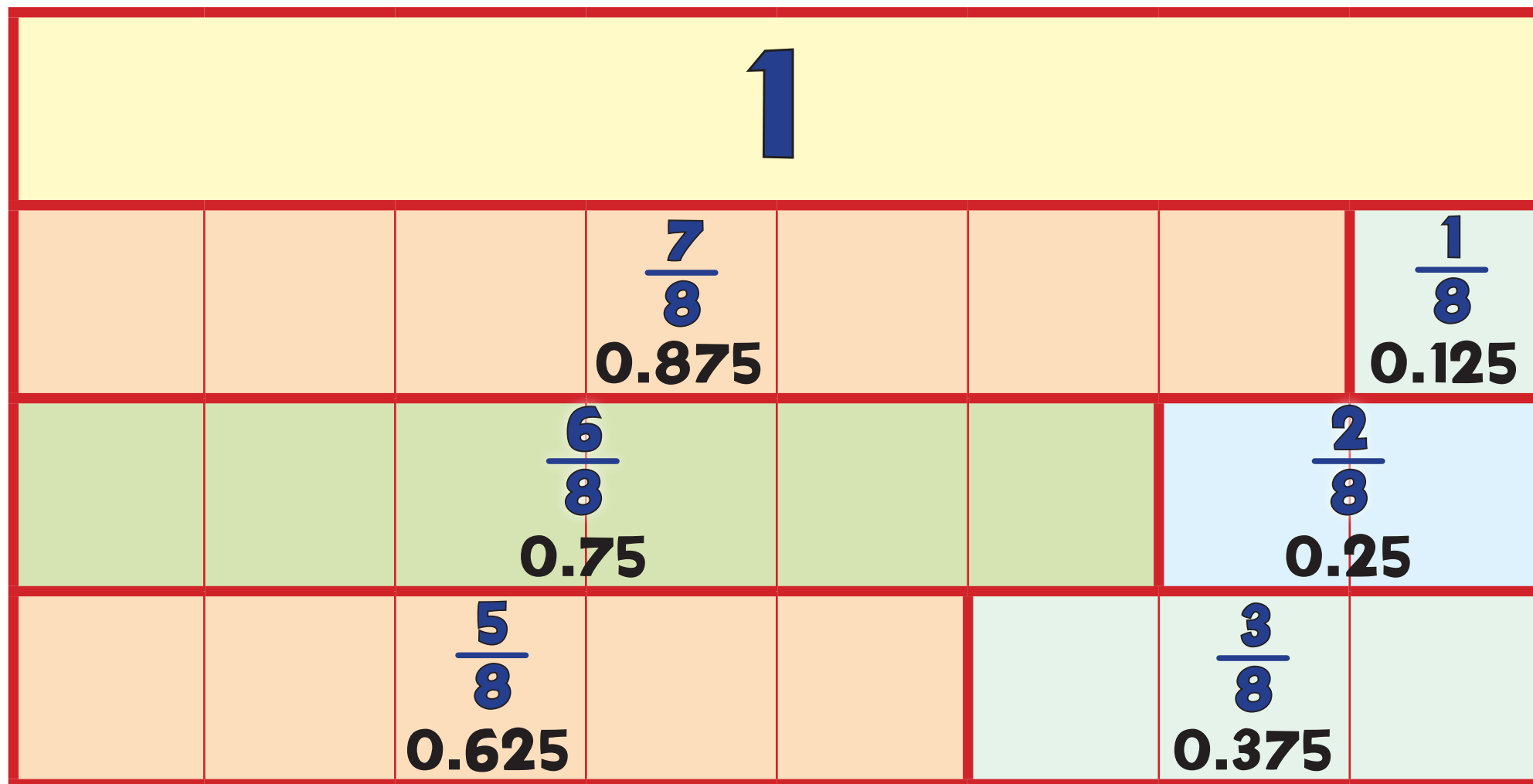
0.3 $\dot{3}$



Fl: Fractions to 1

6

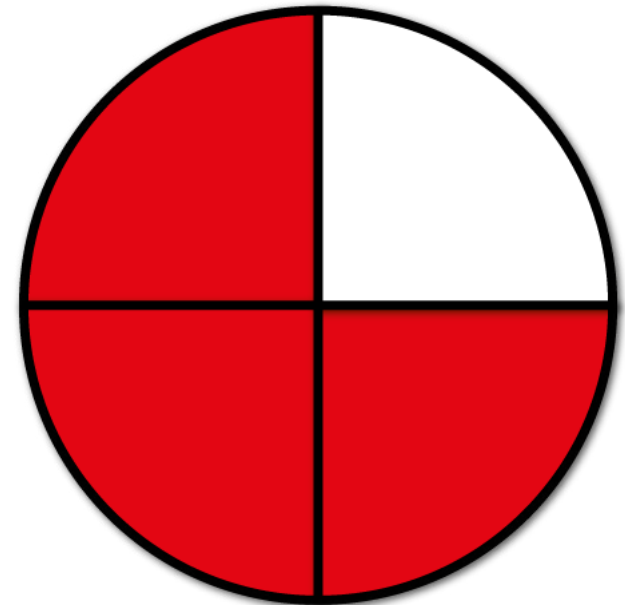
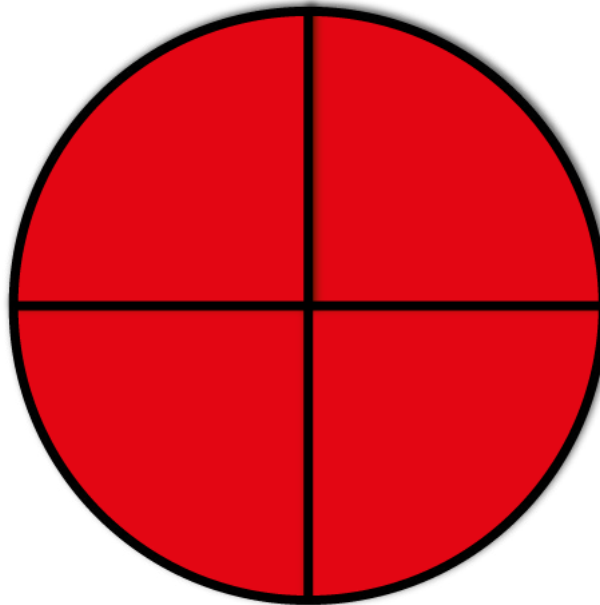
Eighths



FJ: Fractions Greater than 1

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

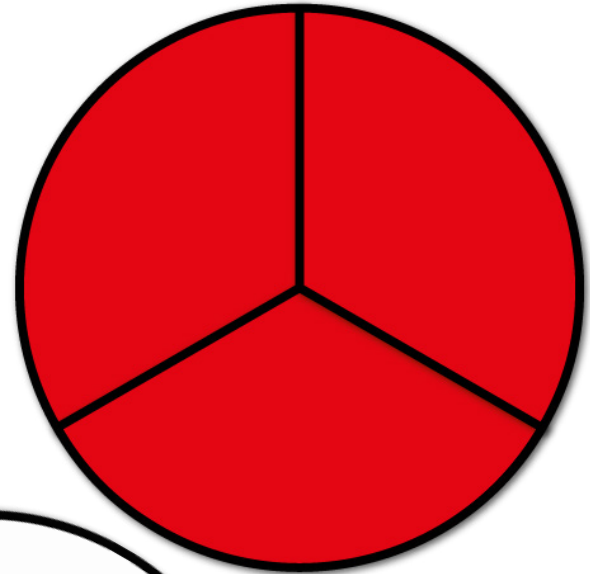
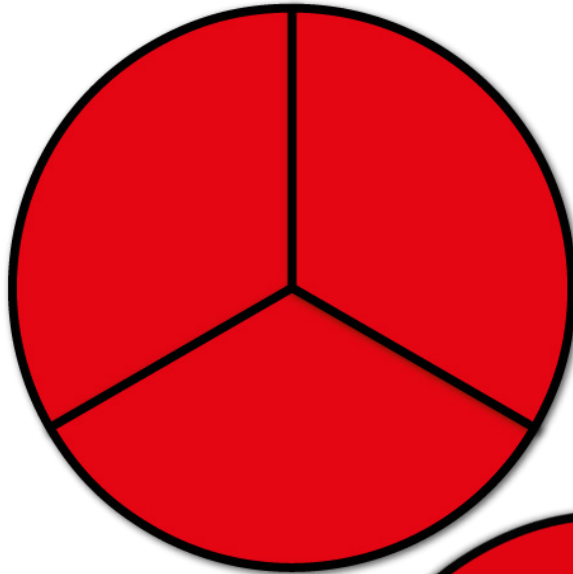
$$\frac{7}{4}$$



FJ: Fractions Greater than 1

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

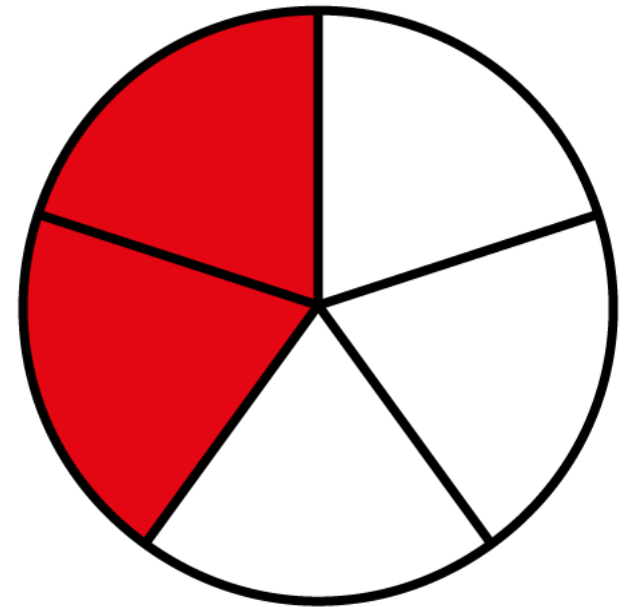
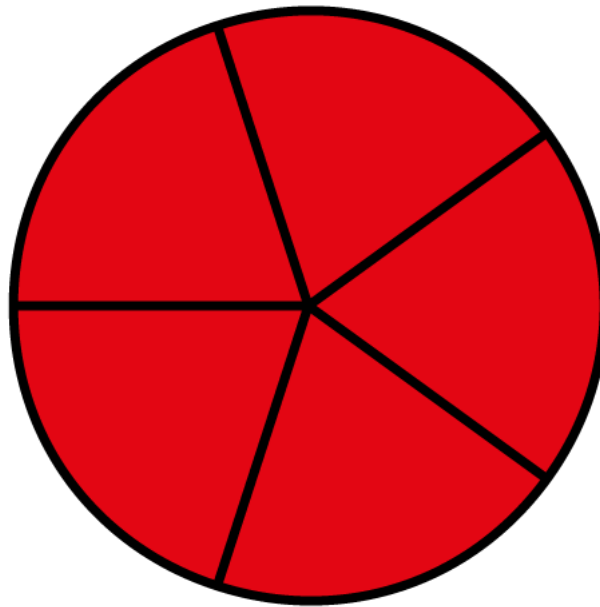
$$\frac{7}{3}$$



FJ: Fractions Greater than 1

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

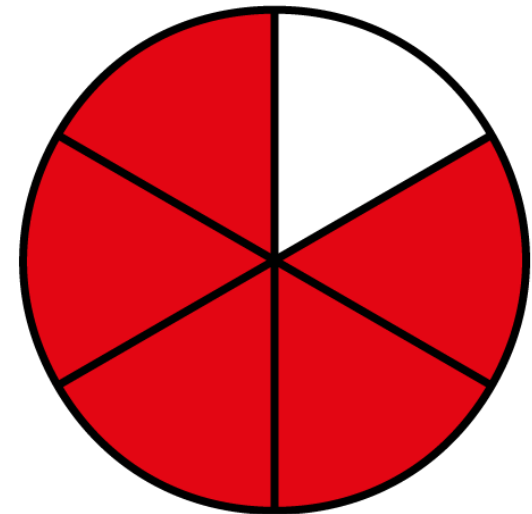
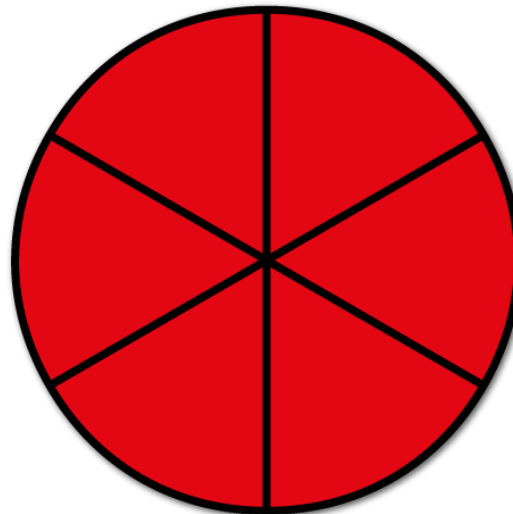
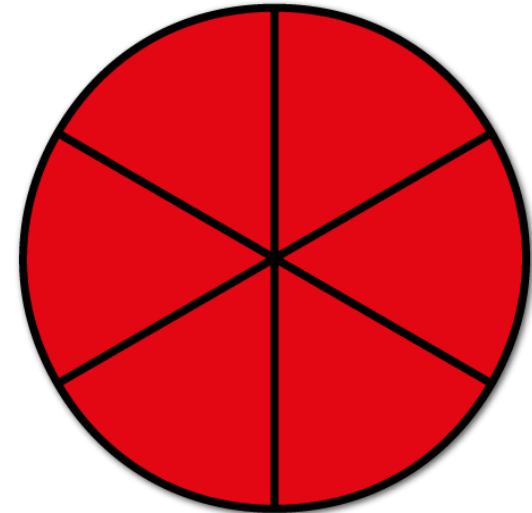
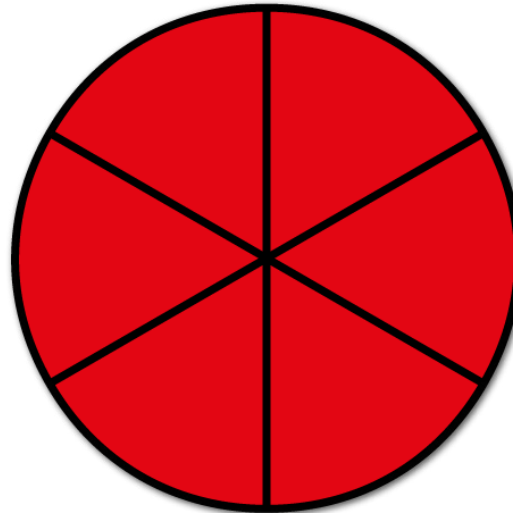
$$\frac{7}{5}$$



FJ: Fractions Greater than 1

$$3\frac{5}{6}$$

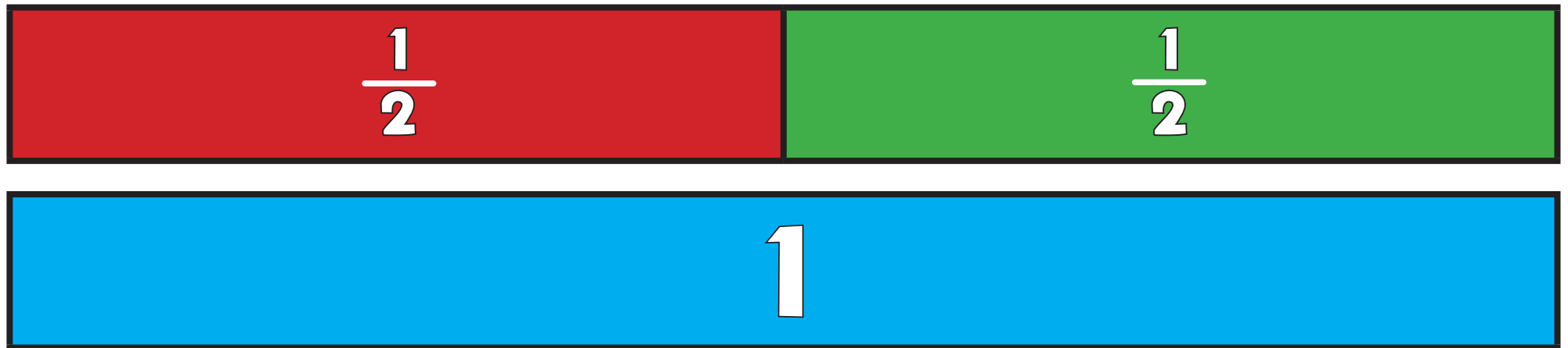
$$\frac{23}{6}$$



FK: Calculating with Fractions

1+

$$\frac{1}{2} + \frac{1}{2} = 1$$



FK: Calculating with Fractions

2+

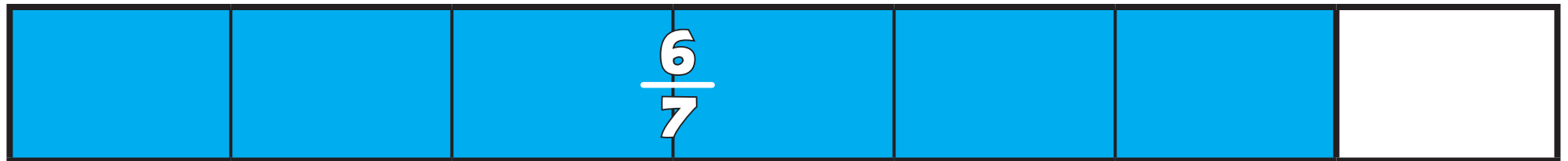
$$\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$$



FK: Calculating with Fractions

3+

$$\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$$



FK: Calculating with Fractions

4+

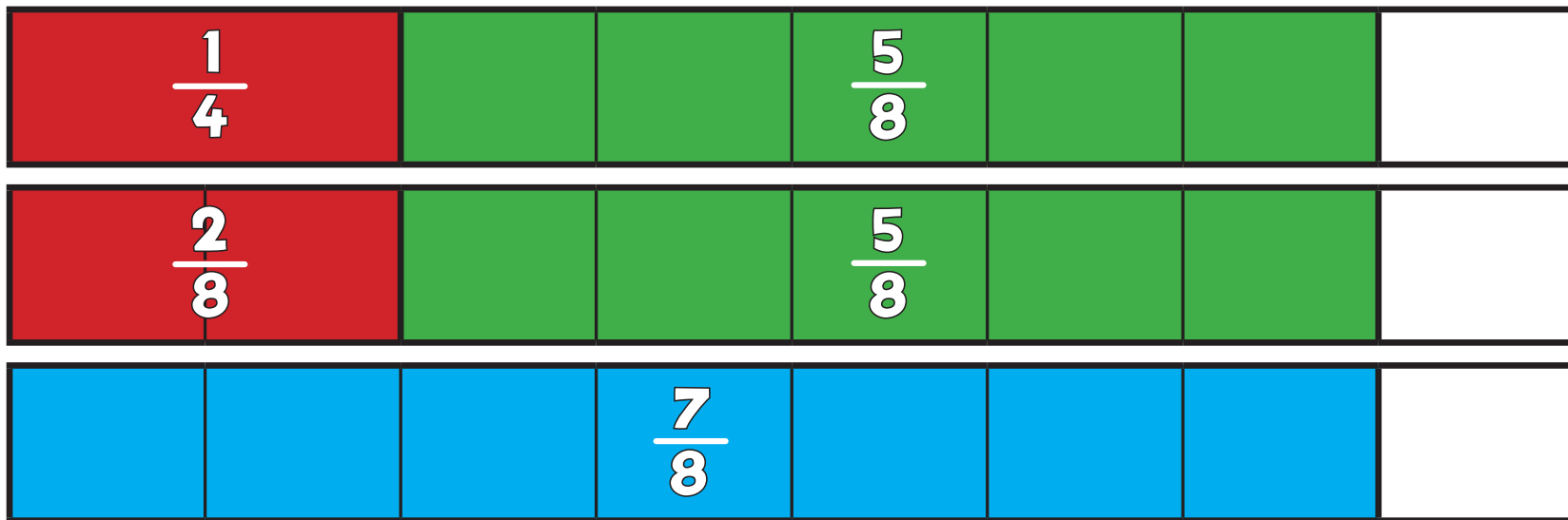
$$\frac{4}{5} + \frac{3}{5} = \frac{7}{5} = 1\frac{2}{5}$$



FK: Calculating with Fractions

5+

$$\frac{1}{4} + \frac{5}{8} = \frac{2}{8} + \frac{5}{8} = \frac{7}{8}$$



FK: Calculating with Fractions

6+a

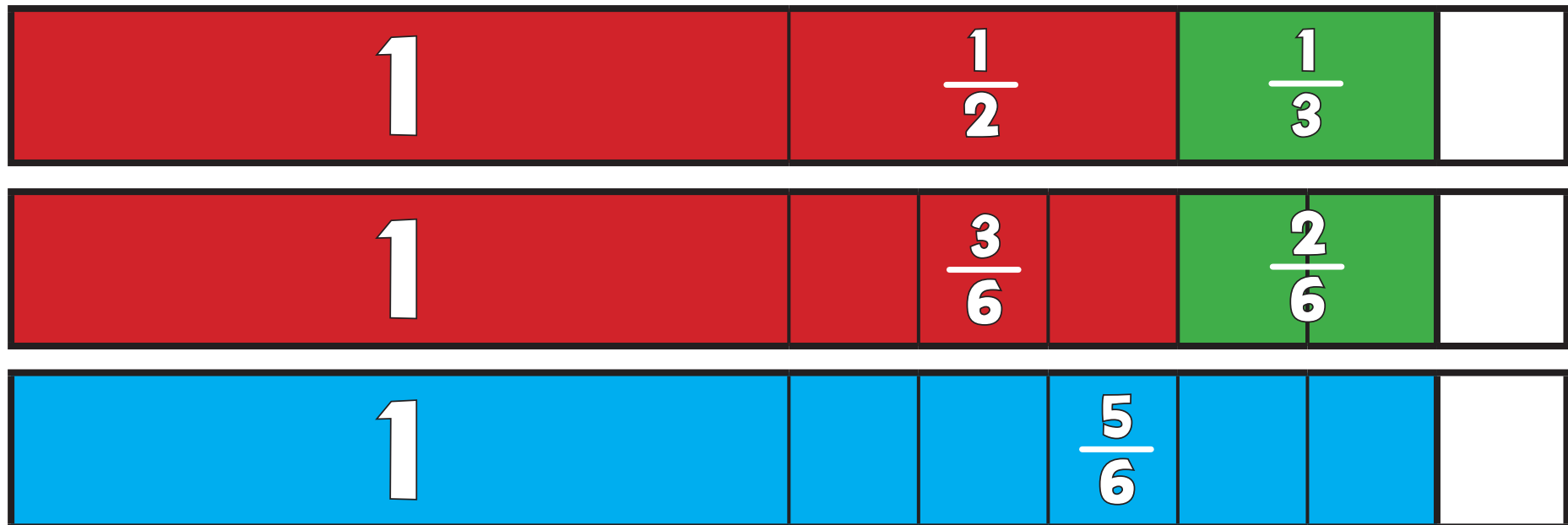
$$\frac{1}{4} + \frac{2}{3} = \frac{3}{12} + \frac{8}{12} = \frac{11}{12}$$



FK: Calculating with Fractions

6+b

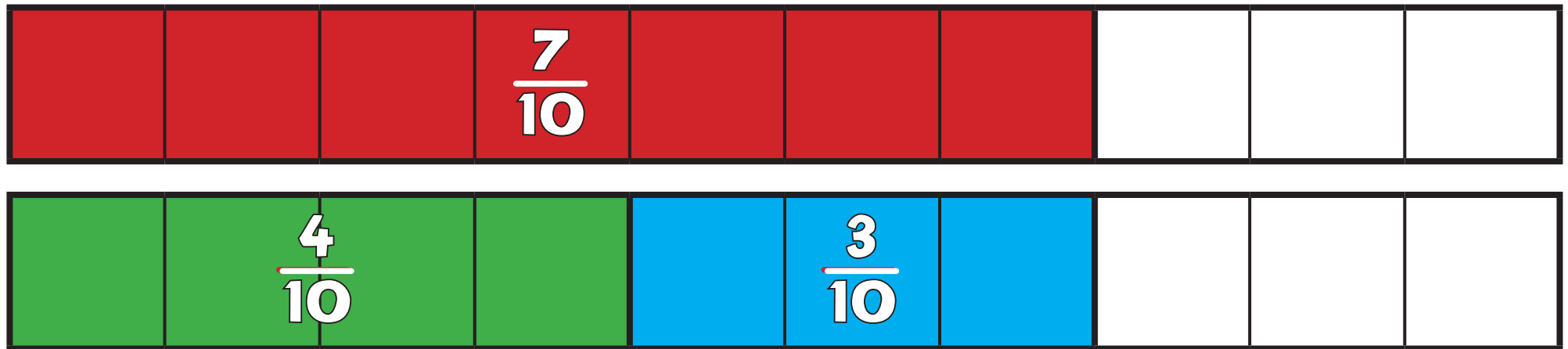
$$1\frac{1}{2} + \frac{1}{3} = 1\frac{3}{6} + \frac{2}{6} = 1\frac{5}{6}$$



FK: Calculating with Fractions

3-

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



FK: Calculating with Fractions

4-

$$\frac{9}{8} - \frac{5}{8} = \frac{4}{8}$$



FK: Calculating with Fractions

5-

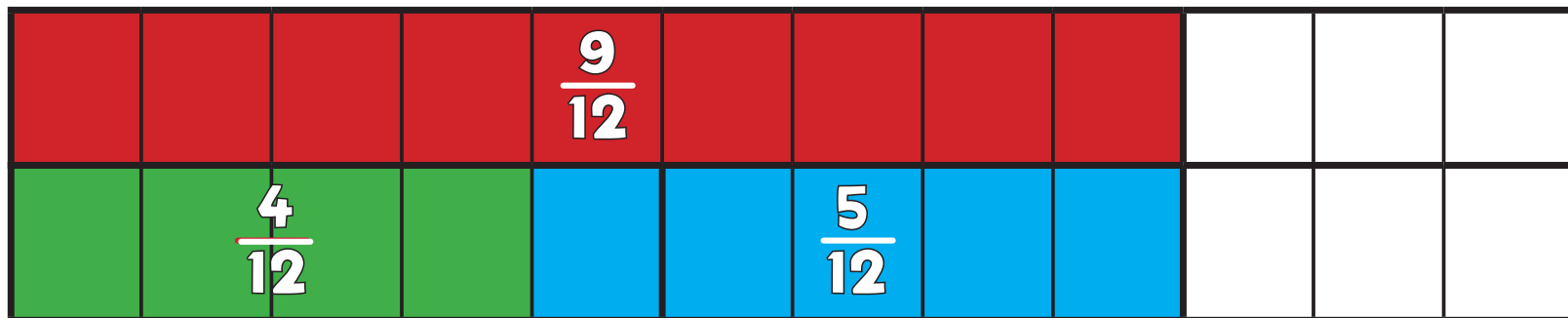
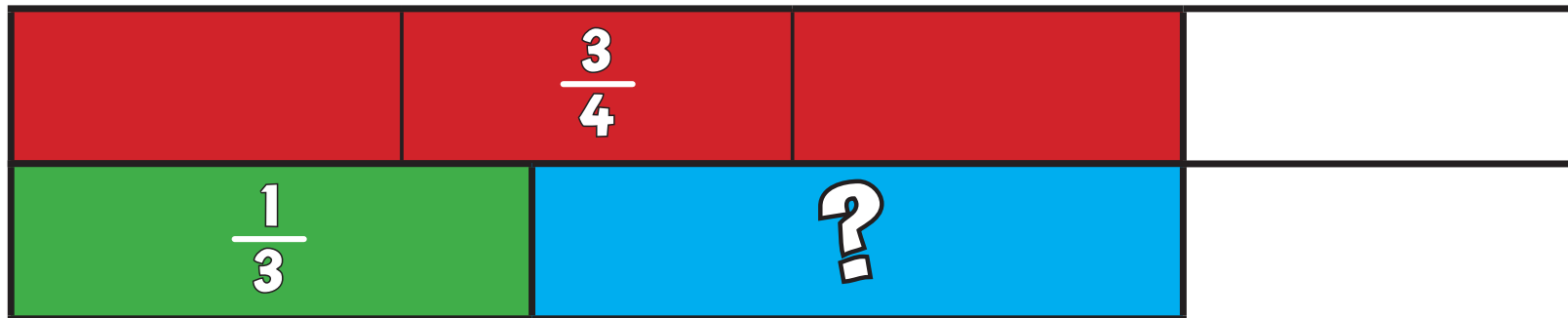
$$\frac{9}{10} - \frac{3}{5} = \frac{3}{10}$$



FK: Calculating with Fractions

6-a

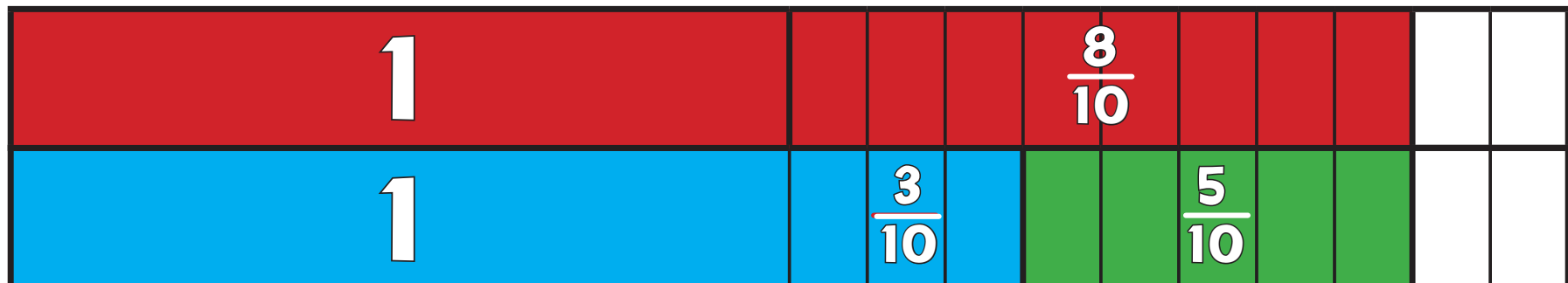
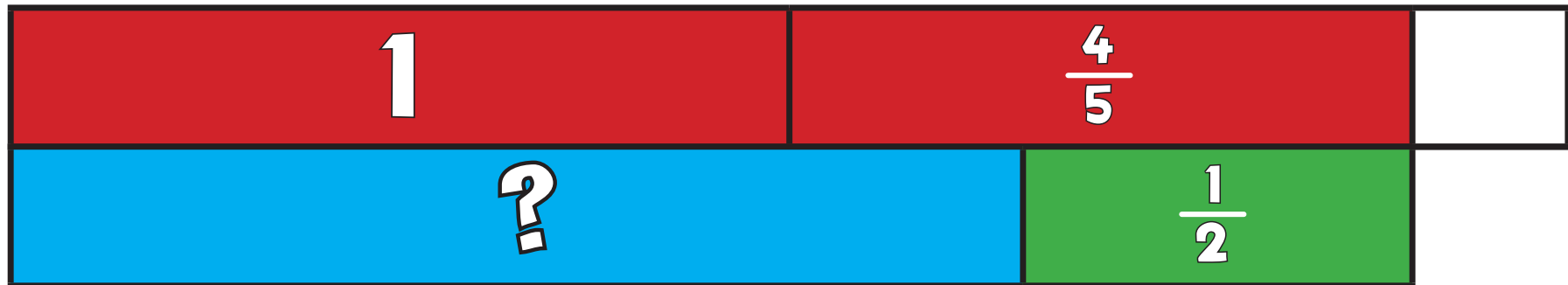
$$\frac{3}{4} - \frac{1}{3} = \frac{9}{12} - \frac{4}{12} = \frac{5}{12}$$



FK: Calculating with Fractions

6-b

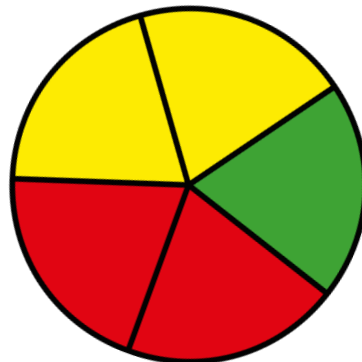
$$1\frac{4}{5} - \frac{1}{2} = 1\frac{8}{10} - \frac{5}{10} = 1\frac{3}{10}$$



FK: Calculating with Fractions

5xa

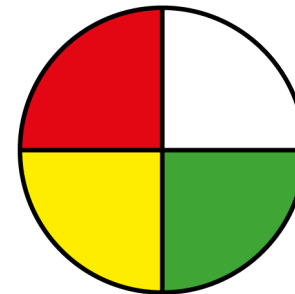
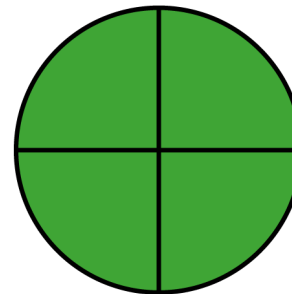
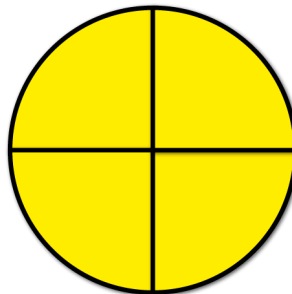
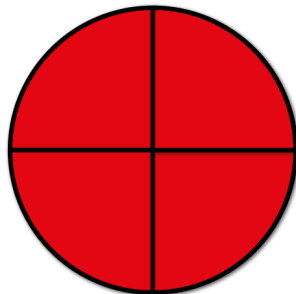
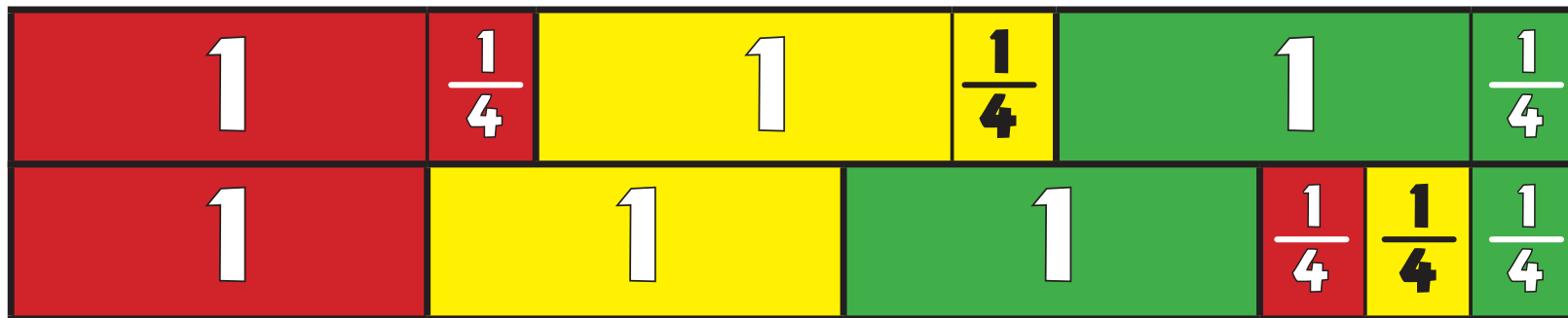
$$\frac{2}{5} \times 4 = \frac{8}{5} = 1 \frac{3}{5}$$



FK: Calculating with Fractions

5xb

$$1\frac{1}{4} \times 3 = 3\frac{3}{4}$$



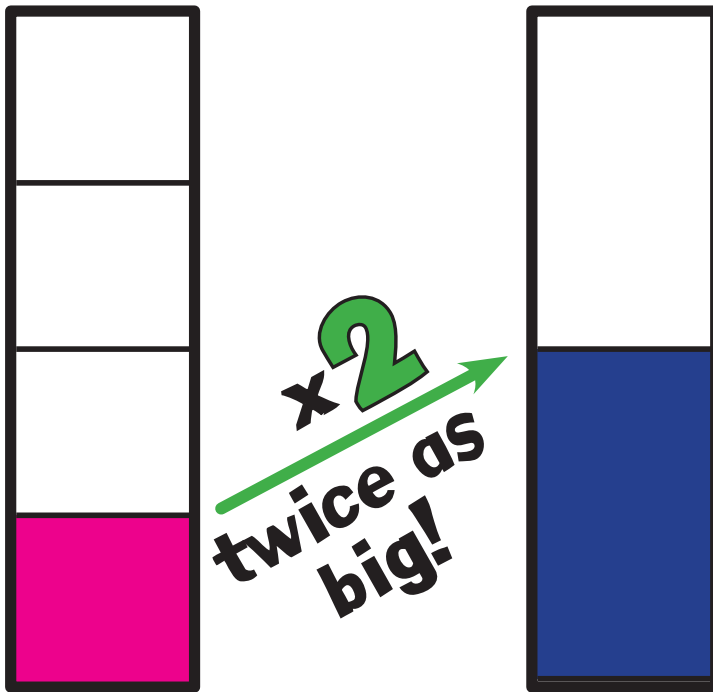
FK: Calculating with Fractions

6xa

Scaling Model

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

$$\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$$

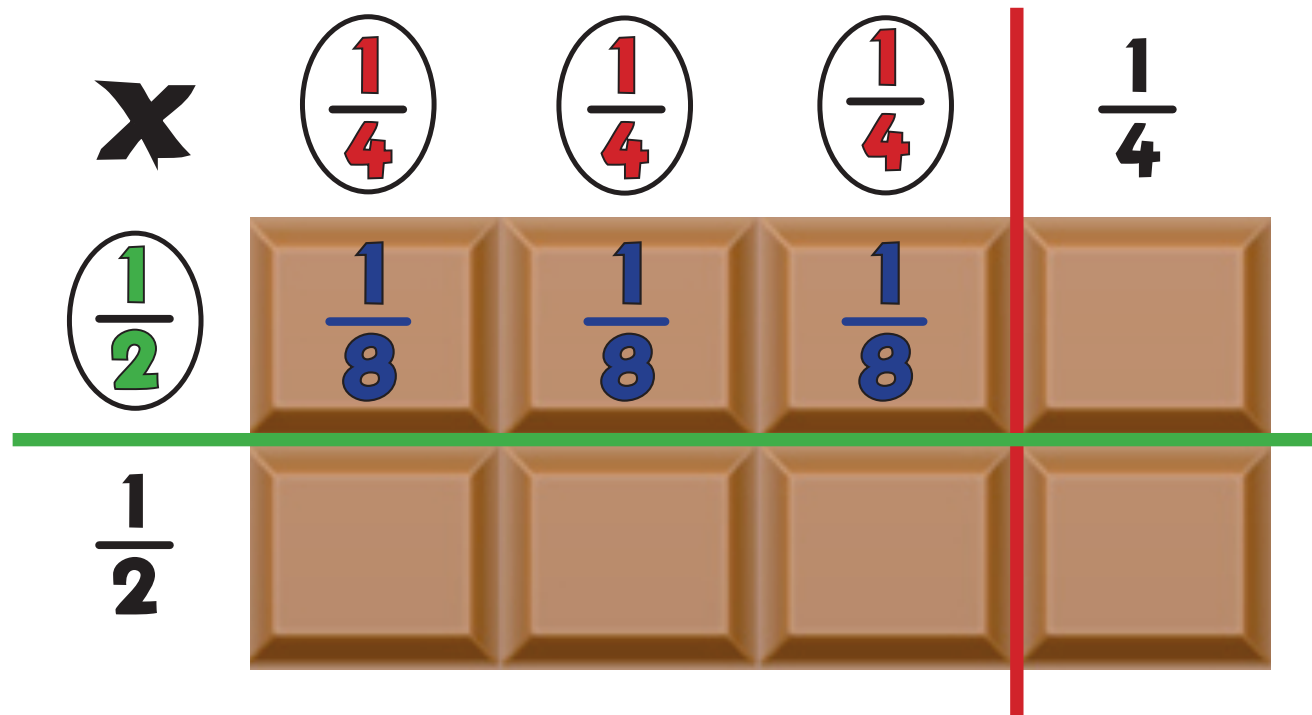


FK: Calculating with Fractions

6xb

"If I had **three quarters** of a chocolate bar, and gave you **half** of what I had, how much of the whole bar would you get?
Answer: **Three eighths.**"

$$\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$$



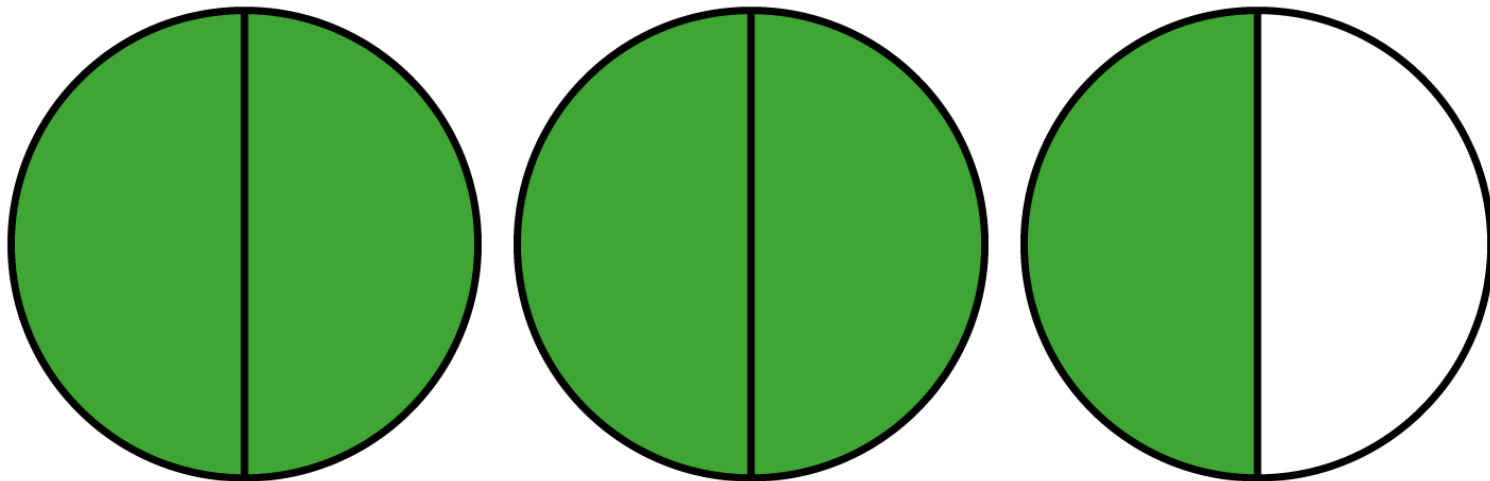
FK: Calculating with Fractions

5 ÷ a

Grouping Model - Dividing by a Fraction

$$2\frac{1}{2} \div \frac{1}{2} = 5$$

"How many halves
can I fit into a 2 and
a half?
Answer: 5."



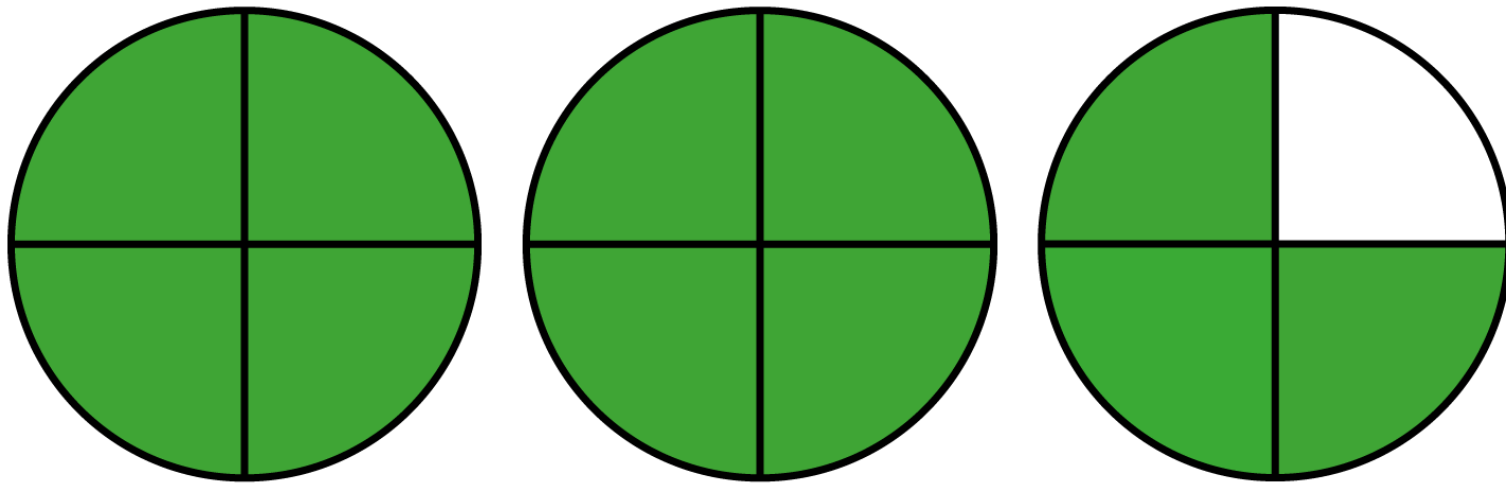
FK: Calculating with Fractions

5÷b

Grouping Model - Dividing by a Fraction

$$2\frac{3}{4} \div \frac{1}{4} = 11$$

“How many **quarters**
can I fit into a **two and**
three-quarters?
Answer: **11.**”



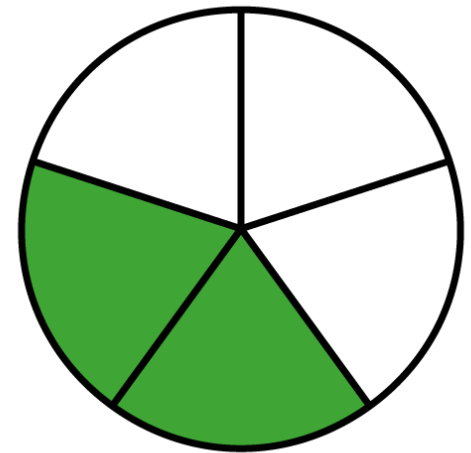
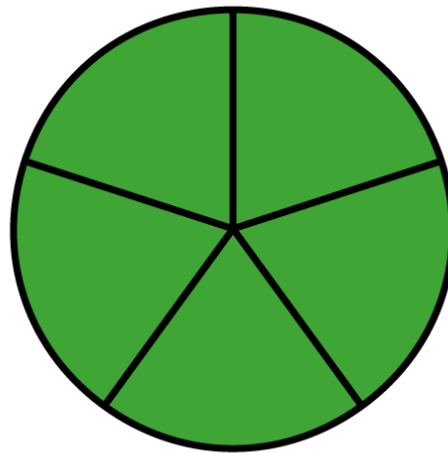
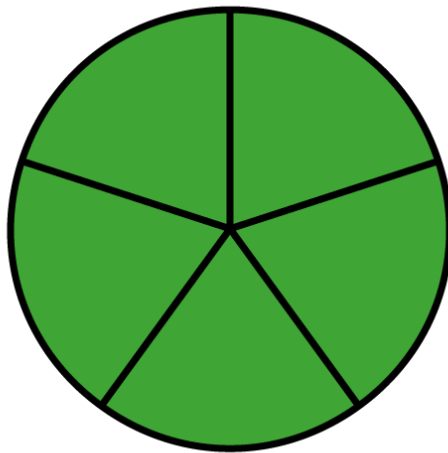
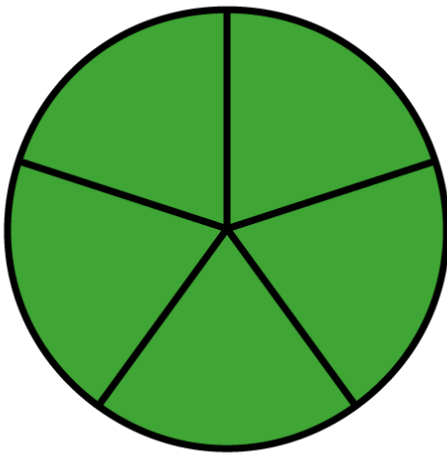
FK: Calculating with Fractions

6 ÷ a

Grouping Model - Dividing by a Fraction

$$3\frac{2}{5} \div \frac{1}{5} = 17$$

“How many **fifths**
can I fit into a **3**
and **2 fifths**?
Answer: **17**.”



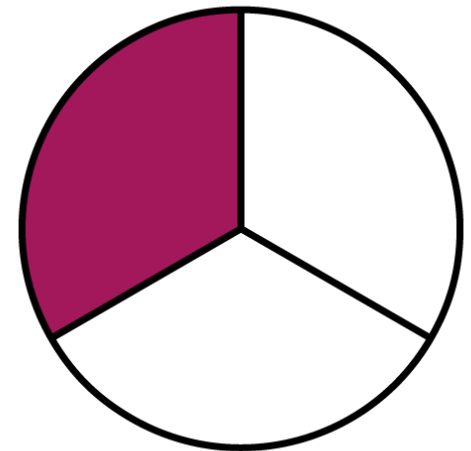
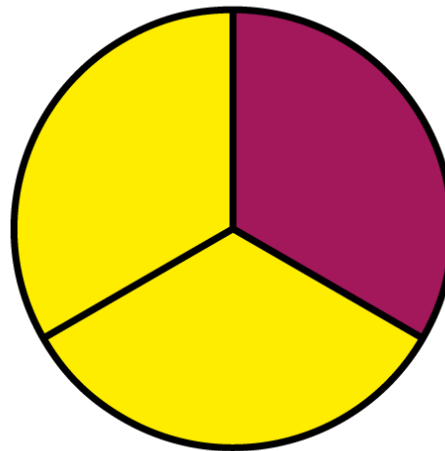
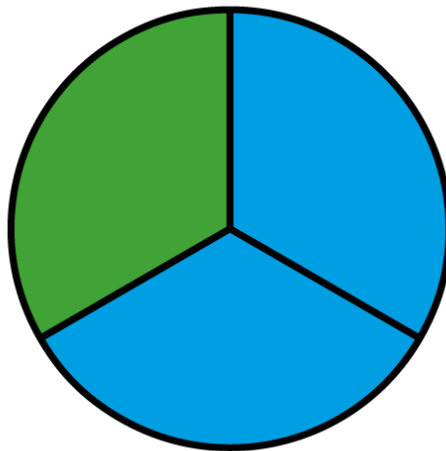
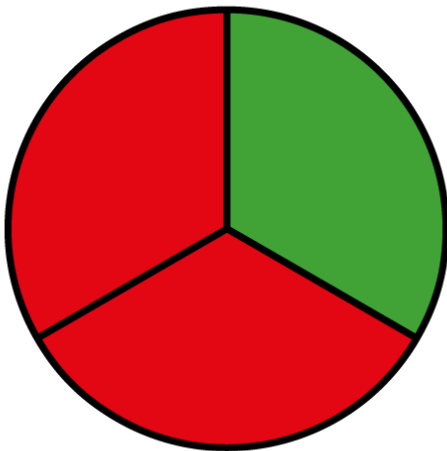
FK: Calculating with Fractions

6 ÷ b

Grouping Model - Dividing by a Fraction

$$3\frac{1}{3} \div \frac{2}{3} = 5$$

"How many **two-thirds** can I fit into a **3 and a third**?
Answer: **5**."



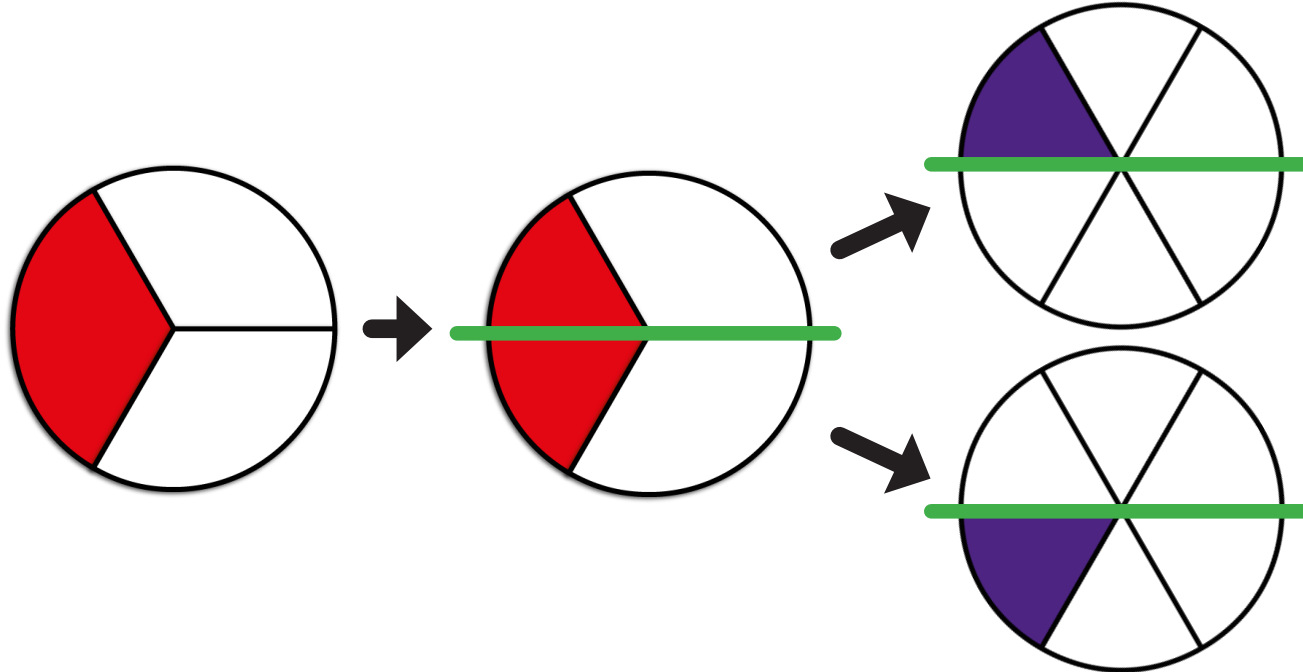
FK: Calculating with Fractions

6÷c

Sharing Model - Dividing a fraction by a whole number

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

"If I share a **third** into **2** equal amounts, how much in each group?" Answer: **A sixth**

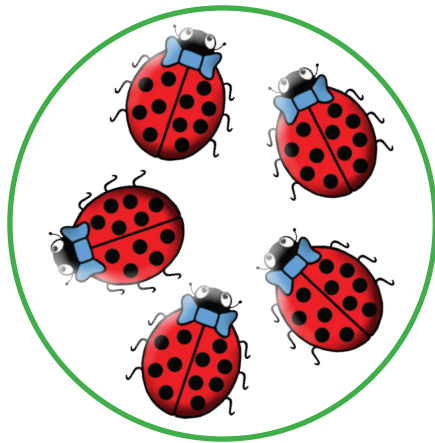


FL: Division as a Fraction

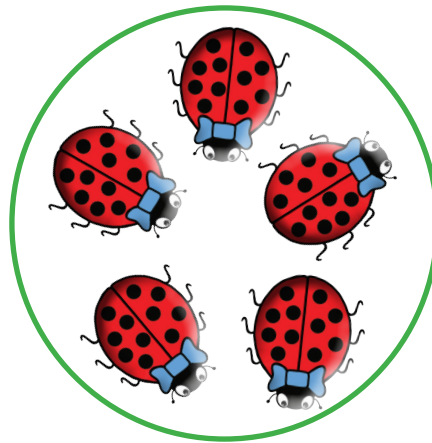
3

Sharing Model

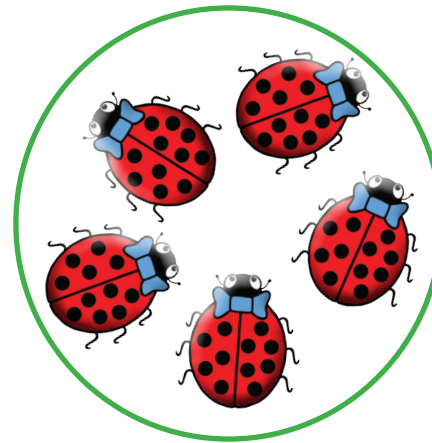
$$\frac{1}{4} \text{ of } 20 = 20 \div 4 = 5$$



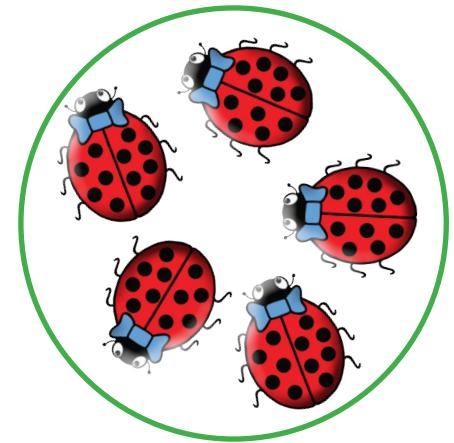
$\frac{1}{4}$



$\frac{1}{4}$



$\frac{1}{4}$



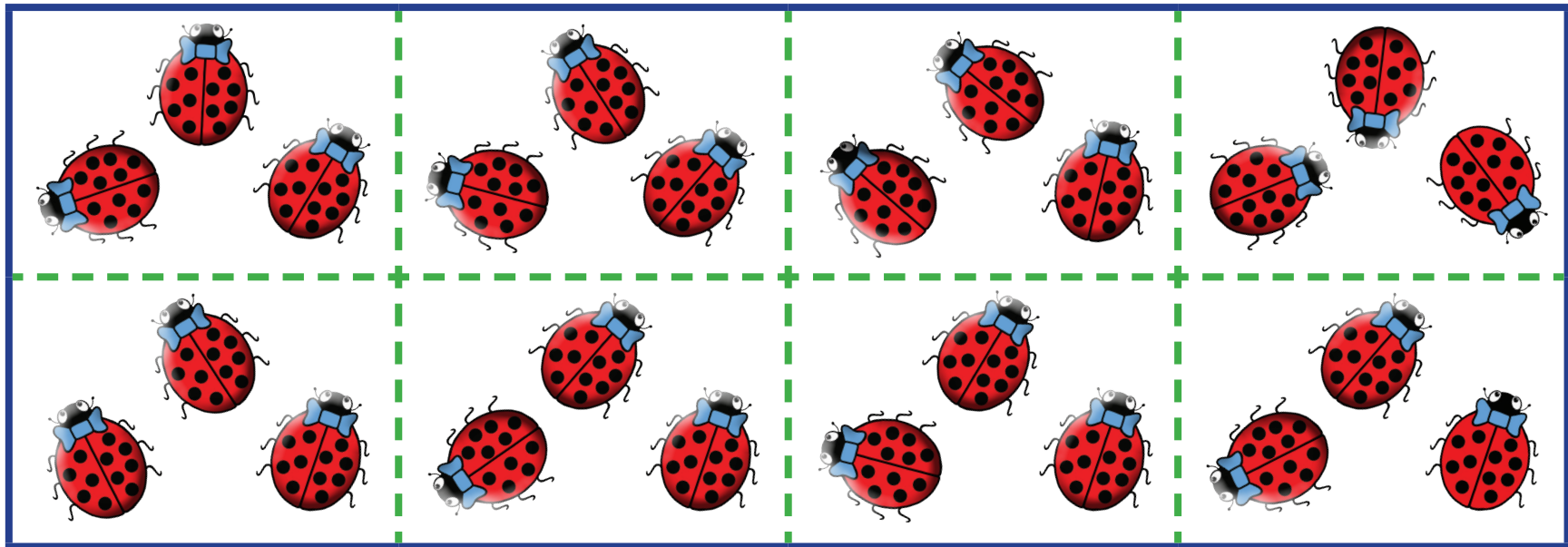
$\frac{1}{4}$

FL: Division as a Fraction

4a

Sharing Model

$$\frac{1}{8} \text{ of } 24 = 24 \div 8 = 3$$



FL: Division as a Fraction

4b

$$\frac{1}{4} \text{ of } 3 = 3 \div 4 = \frac{3}{4}$$

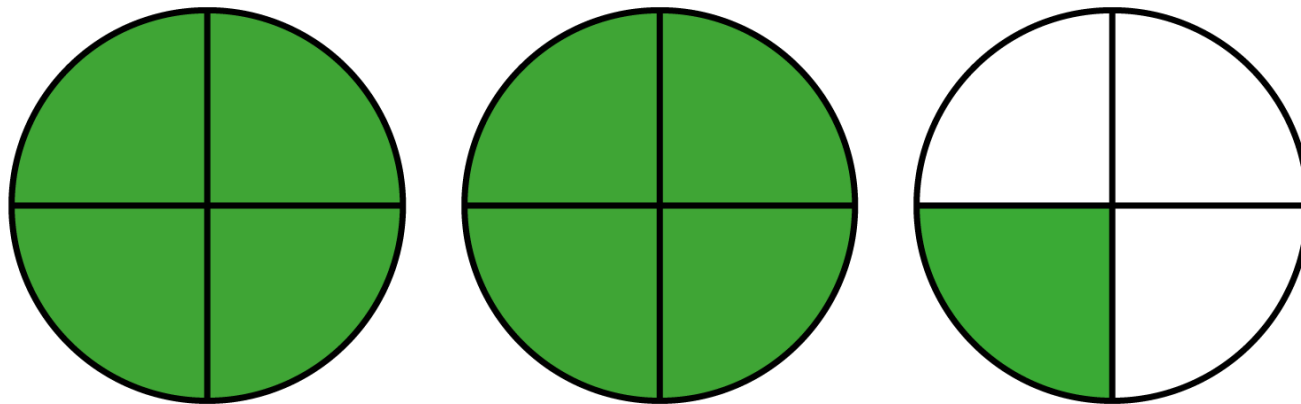


FL: Division as a Fraction

5a

Mixed Number Model

$$\frac{1}{4} \text{ of } 9 = 9 \div 4 = \frac{9}{4} = 2\frac{1}{4}$$



(9 quarters = 2 and a quarter)

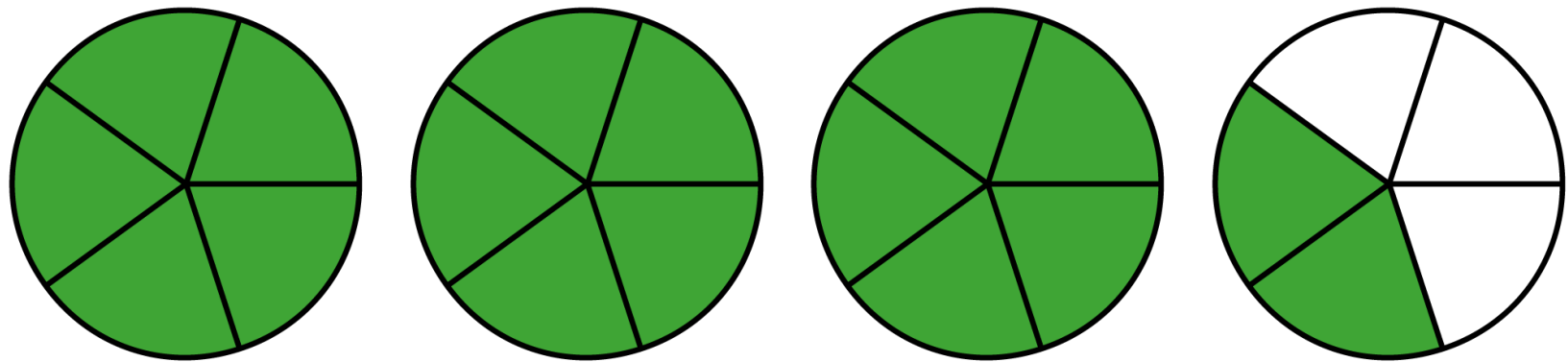
FL: Division as a Fraction

5b

Mixed Number Model

$$\frac{1}{5} \text{ of } 17 = 17 \div 5 = \frac{17}{5} = 3\frac{2}{5}$$

(3.4)



(17 fifths = 3 wholes and 2 fifths)

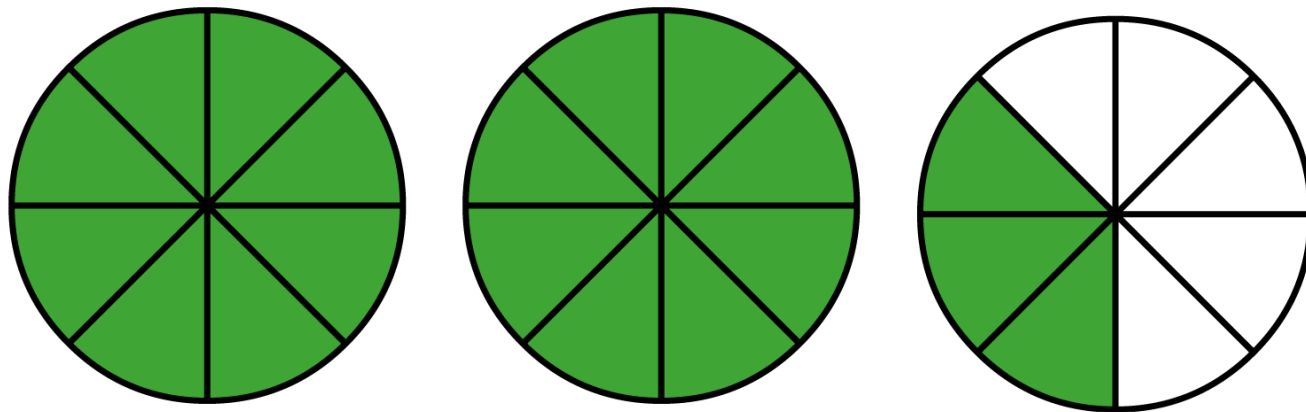
FL: Division as a Fraction

6a

Mixed Number Model

$$\frac{1}{8} \text{ of } 19 = 19 \div 8 = \frac{19}{8} = 2\frac{3}{8}$$

(2.375)



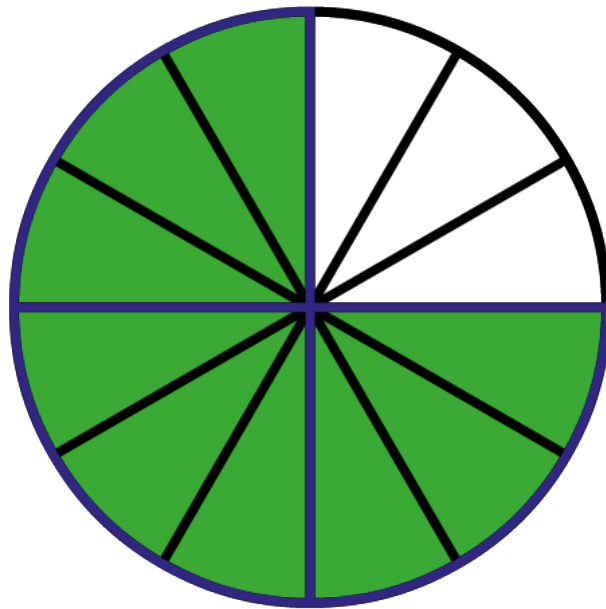
(19 eighths = 2 and 3 eighths)

FL: Division as a Fraction

6b

Mixed Number Model

$$\frac{1}{12} \text{ of } 9 = 9 \div 12 = \frac{9}{12} = \frac{3}{4} \quad (0.75)$$



(9 twelfths =
3 quarters)

FM: Jump!

5

x100

x10

÷10

÷100

1000 100 10 1 ■ $\frac{1}{10}$ $\frac{1}{100}$

3400

340

34

3.4

0.34



FM: Remainders = 5r2!

6

$$\begin{aligned} &= 5\frac{1}{2} \\ 22 \div 4 &= 5r2 \\ &= 5.5 \end{aligned}$$

$$\begin{aligned} &= 5\frac{2}{9} \\ 47 \div 9 &= 5r2 \\ &= 5.\dot{2} \end{aligned}$$

$$\begin{aligned} &= 5\frac{2}{8} \\ 42 \div 8 &= 5r2 \\ &= 5.25 \end{aligned}$$

$$\begin{aligned} &= 5\frac{2}{5} \\ 27 \div 5 &= 5r2 \\ &= 5.4 \end{aligned}$$

$$\begin{aligned} &= 5\frac{1}{5} \\ 52 \div 10 &= 5r2 \\ &= 5.2 \end{aligned}$$

$$\begin{aligned} &= 5\frac{2}{3} \\ 17 \div 3 &= 5r2 \\ &= 5.\dot{6} \end{aligned}$$

$$\begin{aligned} &= 5\frac{2}{6} = 5\frac{1}{3} \\ 32 \div 6 &= 5r2 \\ &= 5.\dot{3} \end{aligned}$$

$$\begin{aligned} &= 5\frac{2}{7} \\ 37 \div 7 &= 5r2 \\ &= 5.\overline{285714} \end{aligned}$$

