

Grade 4 – Book B

(CAPS edition)

Revised for 2023

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This book was compiled and processed by E. Language in 2019 in collaboration with E.J. du Toit.

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Chapter B1


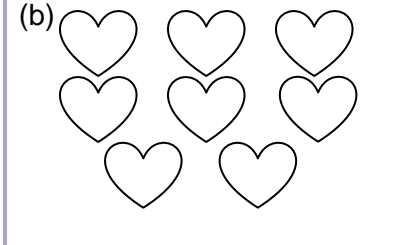
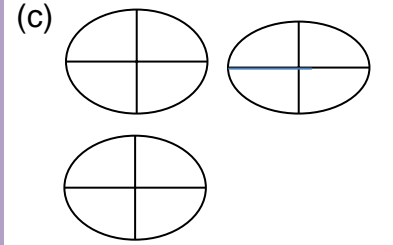
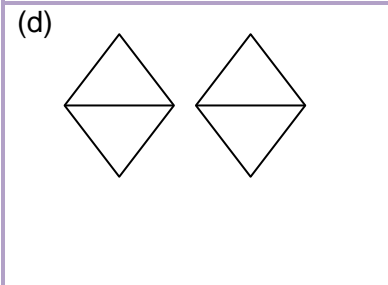
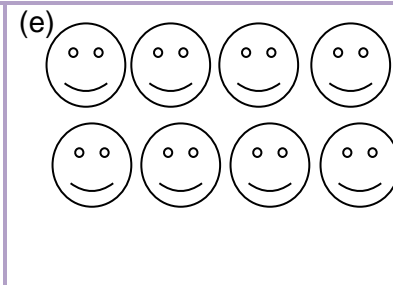
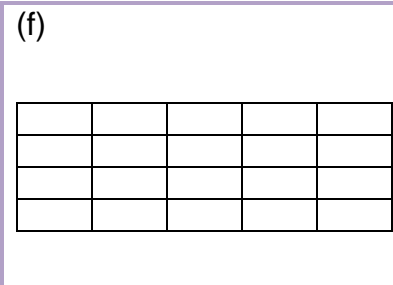
Fractions

B1.1 Principles of Fractions:

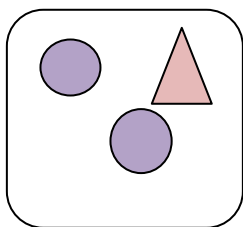
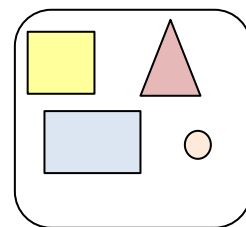
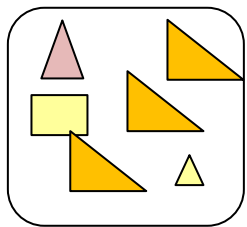
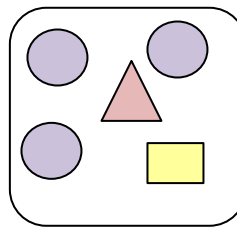
Exercise 1:

Date: _____

(1) Colour half of the shapes.

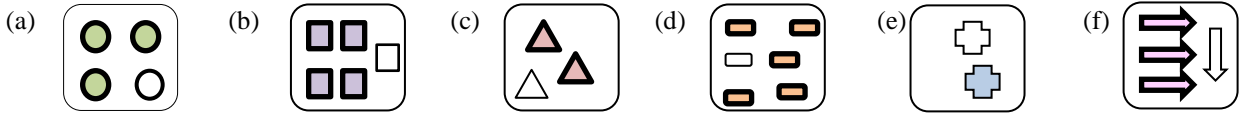
<p>(a)</p> 	<p>(b)</p> 	<p>(c)</p> 
<p>(d)</p> 	<p>(e)</p> 	<p>(f)</p> 

(2) Study the blocks and answer the questions.

			
A	B	C	D

- a) How many shapes are in block A? _____
- b) What fraction of the shapes in block A is triangles? _____
- c) How many shapes are in block D? _____
- d) What fraction of the shapes in block D is squares? _____
- e) What fraction of the shapes in block B is circles? _____
- f) What fraction of the shapes in block C is not triangles? _____

(3) What fraction of each of the following pictures are *not* shaded?




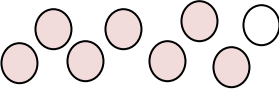

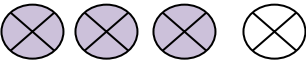
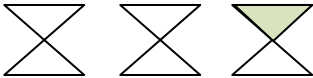
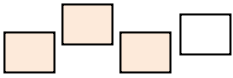
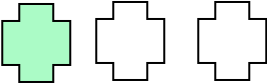
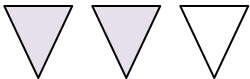
One of the four is not coloured. $\left(\frac{1}{4}\right)$

Three of the four are coloured. $\left(\frac{3}{4}\right)$

There are four quarters altogether. $\left(\frac{4}{4}\right)$

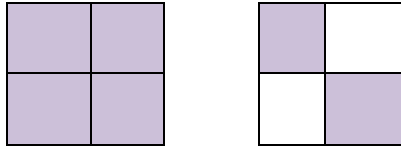
$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

(4) Complete the table:

	FRACTION SHADED	FRACTION NOT SHADED	WRITE ALL THE FRACTIONS AS A WHOLE
(a) 			
(b) 			
(c) 			
(d) 			
(e) 			
(f) 			
(g) 			
(h) 			

(5) Indicate if the following as 'true' or 'false'. Only write down a 'T' or 'F'.

(a)



There are 2 wholes. _____

There are 8 quarters. _____

There are 10 quarters coloured. _____

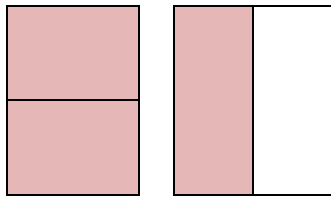
There are 4 wholes. _____

There are 4 halves _____

Two halves are coloured. _____

One whole is coloured. _____

(b)



(6) Colour the fractions.

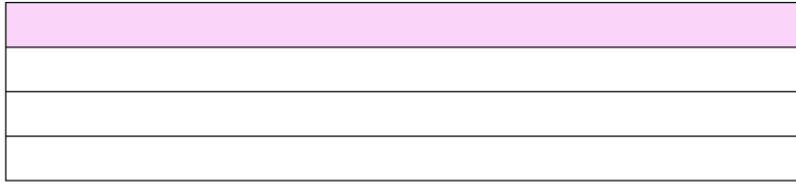
<p>(a) $\frac{1}{4}$</p>	<p>(b) $\frac{1}{2}$</p>	<p>(c) $\frac{2}{4}$</p>
<p>(d) $\frac{3}{8}$</p>	<p>(e) $\frac{2}{10}$</p>	<p>(f) $\frac{1}{2}$</p>
<p>(g) $\frac{1}{8}$</p>	<p>(h) $\frac{2}{6}$</p>	<p>(i) $\frac{5}{10}$</p>



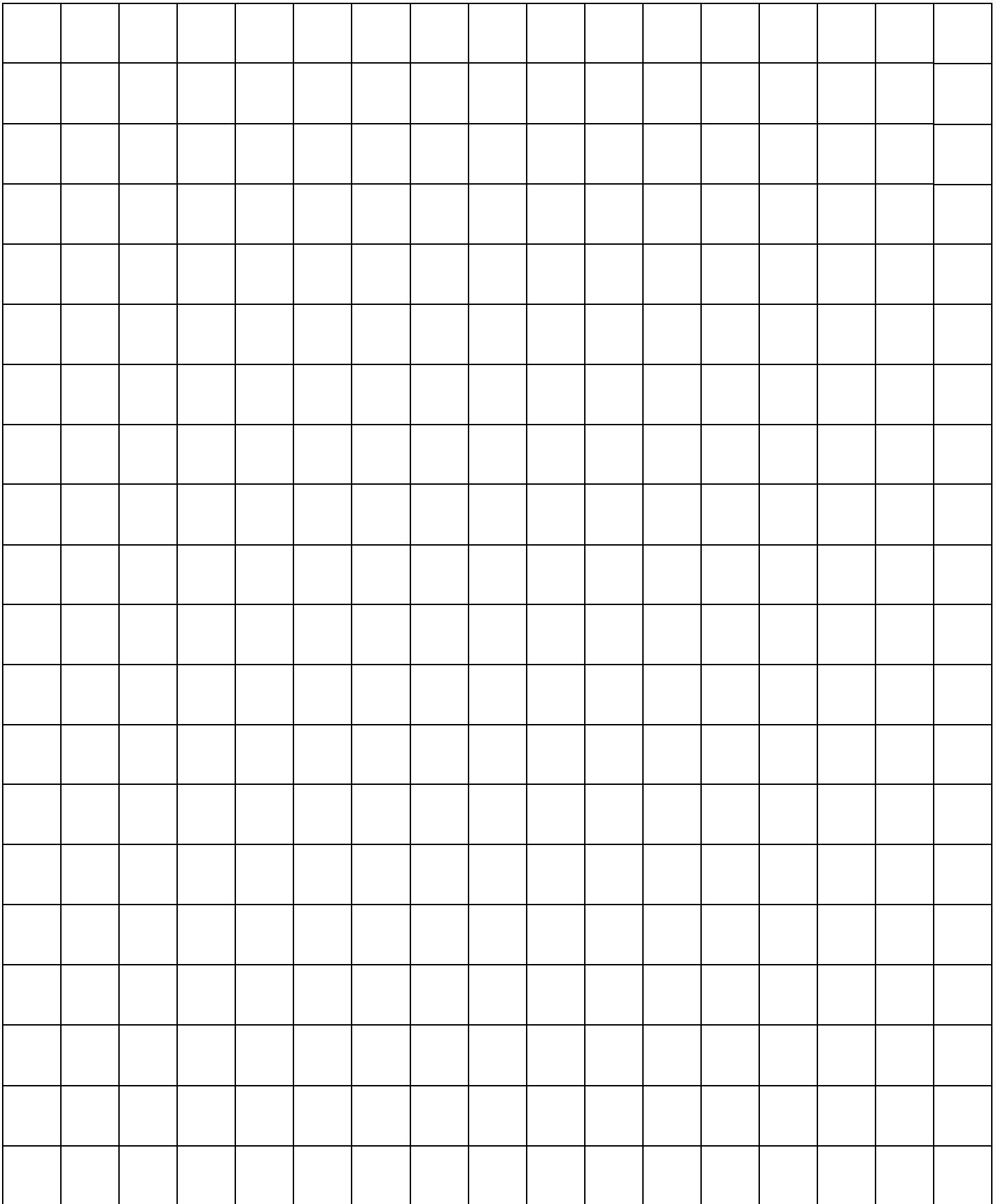
Exercise 2:

Date: _____

This block is divided into quarters. To divide a block into quarters, it has to be divided into 4 **equal parts**.

(1) **Divide the shapes and then colour it as requested.**

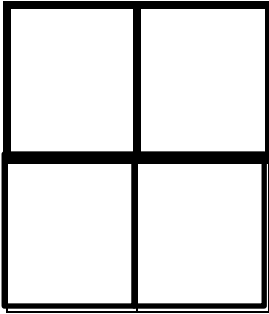
(a) Colour a $\frac{1}{4}$.	(b) Colour a $\frac{1}{3}$.	(c) Colour a $\frac{1}{4}$.
(d) Colour a $\frac{1}{4}$.	(e) Colour a $\frac{1}{5}$.	(f) Colour a $\frac{1}{10}$.
(g) Colour a $\frac{1}{3}$.	(h) Colour a $\frac{1}{6}$.	(i) Colour a $\frac{1}{5}$.



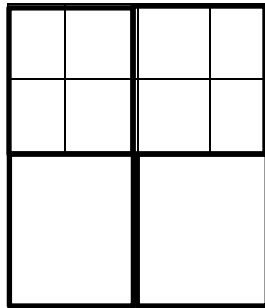
There are various options.

(2) (a) Colour one quarter each time.

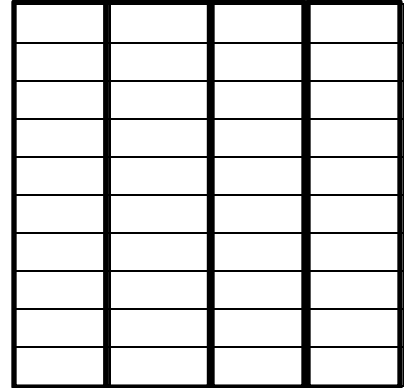
(a)



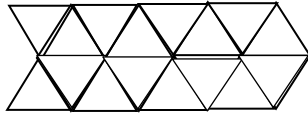
(b)



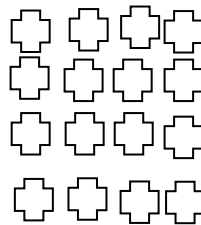
(c)



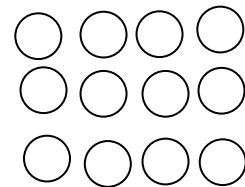
(d)



(e)



(f)



LEARN!

$$\frac{3}{4} = \frac{\text{numerator}}{\text{denominator}}$$

numerator = denominator (*one – whole*)
 numerator > denominator (*more than one whole*)
 numerator < denominator (*less than one whole*)

(3) Indicate the fractions that are more than a whole, less than a whole or equal to a whole. Write the fractions in the correct block

- (a) $\frac{2}{4}$ (b) $\frac{5}{4}$ (c) $\frac{1}{4}$ (d) $\frac{3}{4}$ (e) $\frac{9}{4}$ (f) $\frac{12}{4}$ (g) $\frac{4}{4}$

ONE WHOLE	LESS THAN A WHOLE	MORE THAN A WHOLE

(4) Use p.10 to draw the above (number 3) in blocks.

HALVE AND DOUBLE (Speed test)**Exercise B1A:**

Date: _____

(1) Write the answers.

Double the numbers.

- (a) 7 → _____
 (c) 14 → _____
 (e) 9 → _____
 (g) 11 → _____
 (i) 15 → _____
 (k) 26 → _____
 (m) 35 → _____
 (o) 22 → _____
 (q) 45 → _____
 (s) 64 → _____

Halve the numbers.

- (b) 70 → _____
 (d) 50 → _____
 (f) 90 → _____
 (h) 30 → _____
 (j) 80 → _____
 (l) 140 → _____
 (n) 104 → _____
 (p) 116 → _____
 (r) 284 → _____
 (t) 500 → _____

(2) Complete the halves and wholes

(a) 4 = halves

(c) 6 = halves

(e) 9 = halves

(g) 8 = halves

(i) 5 = halves

(b) 12 = halves

(d) 16 = halves

(f) 17 = halves

(h) 19 = halves

(j) 15 = halves

(k) 13 halves = wholes + halves remain.

(l) 23 halves = wholes + halves remain.

(m) 15 halves = wholes + halves remain

(n) 29 halves = wholes + halves remain

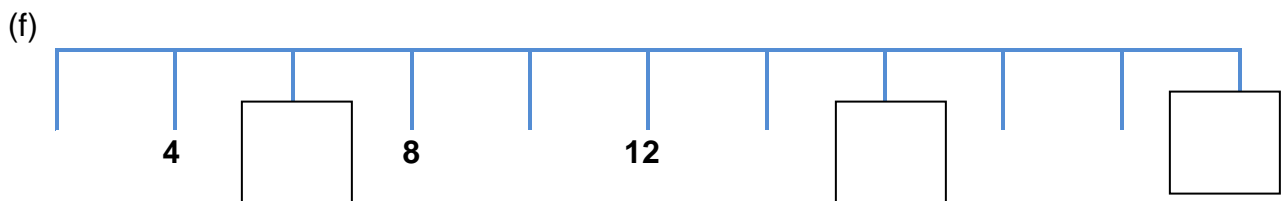
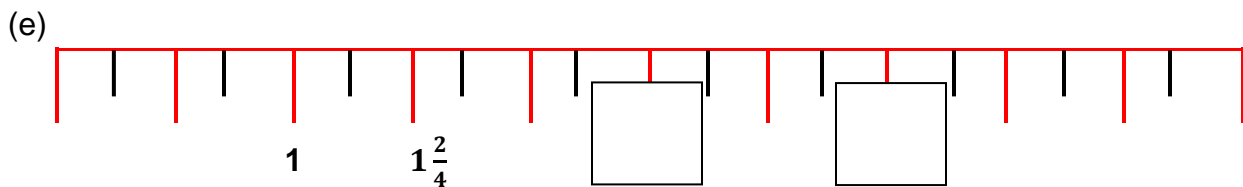
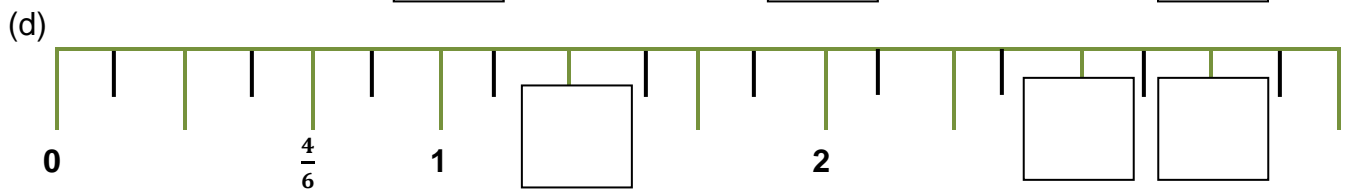
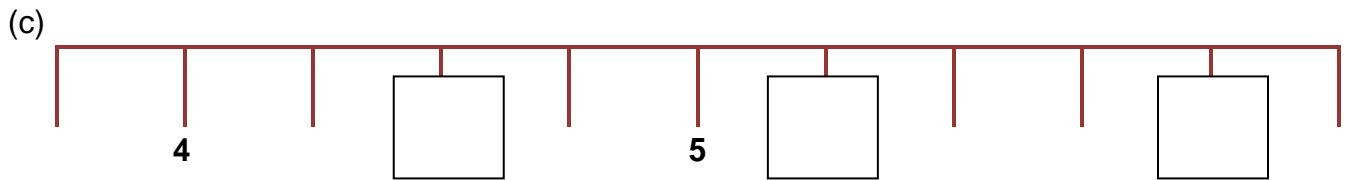
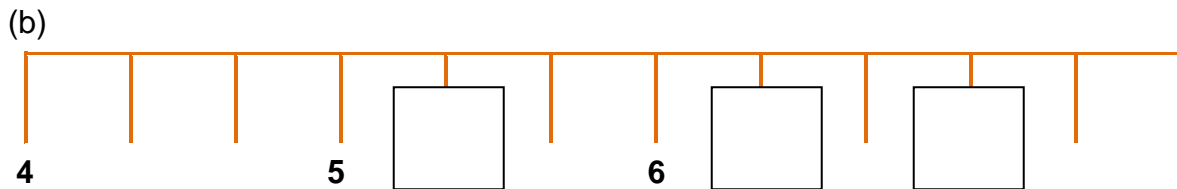
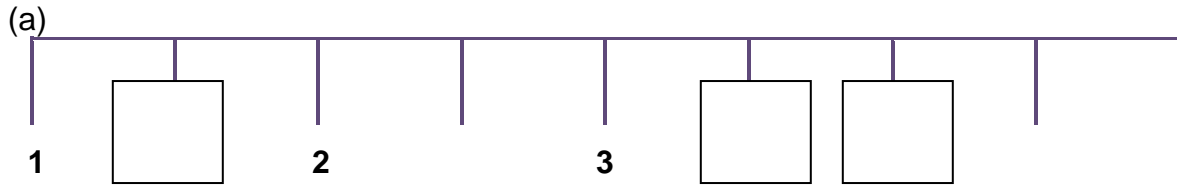
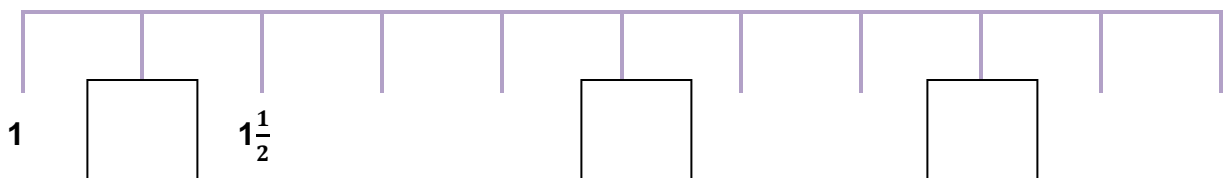
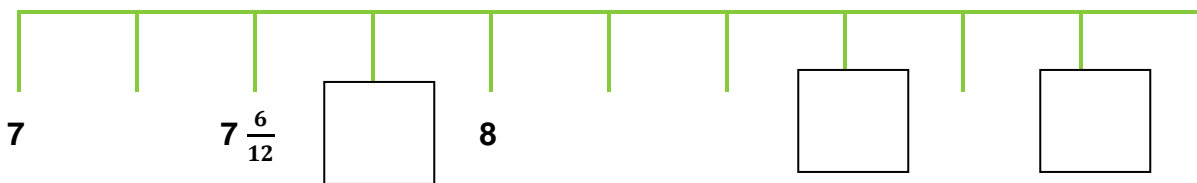
(o) 19 halves = halves + halves remain.

Total out of 35

Exercise 3:

Date: _____

(1) Complete the number line. Write down the missing numbers.

**CHALLENGING EXERCISE:**

QUARTERS (Speed test)**Exercise B1B:**

Date: _____

(1) Write the answers.

(a) 1 = _____ quarters

(c) 3 = _____ quarters

(e) 5 = _____ quarters

(g) 12 = _____ quarters

(i) 2 = _____ quarters

(k) 11 = _____ quarters

(m) 50 = _____ quarters

(o) 25 = _____ quarters

(q) 40 = _____ quarters

(s) 15 = _____ quarters

(b) 4 quarters = _____ wholes

(d) 12 quarters = _____ wholes

(f) 8 quarters = _____ wholes

(h) 20 quarters = _____ wholes

(j) 16 quarters = _____ wholes

(l) 24 quarters = _____ wholes

(n) 32 quarters = _____ wholes

(p) 40 quarters = _____ wholes

*(r) 100 quarters = _____ wholes

*(t) 120 quarters = _____ wholes

(2) Complete with quarters and wholes.

(a) 5 quarters = whole + quarter remains

(b) 9 quarters = wholes + quarter remains

(c) 14 quarters = wholes + quarters remain

(d) 25 quarters = wholes + quarter remains

(e) 34 quarters = wholes + quarters remain

Total out of 25

PROPER FRACTION	IMPROPER FRACTION	MIXED FRACTION
$\frac{4}{6}$	$\frac{13}{6}$	$1\frac{1}{2}$
The fraction is smaller than a whole. The numerator is less than the denominator.	The fraction is greater than a whole. The numerator is greater than the denominator	The fraction is greater than a whole. A number consisting of an integer and a proper fraction

Exercise 4:

Date: _____

(1) Classify the fractions as proper fractions, improper fractions, or mixed numbers.

$$\frac{15}{4}$$

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

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

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

_____ fraction

_____ fraction

_____ fraction

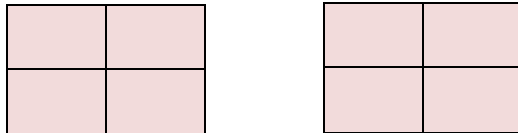
_____ fraction

(2) Encircle all the fractions that are more than 1 whole.

$\frac{15}{15}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{2}$	$\frac{7}{4}$	$\frac{1}{1}$	$\frac{4}{4}$	$\frac{12}{2}$	$\frac{14}{4}$
-----------------	---------------	---------------	---------------	---------------	---------------	---------------	----------------	----------------

(3) Complete the questions:

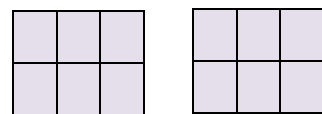
(a)



(i) There are quarters.

(ii) There are wholes.

(b)



(i) There are sixths

(ii) There are wholes

(4) How many wholes are there?

(a) $\frac{4}{2} =$ _____

(b) $\frac{14}{2} =$ _____

(c) $\frac{12}{6} =$ _____

(d) $\frac{10}{2} =$ _____

(e) $\frac{24}{3} =$ _____

(f) $\frac{15}{3} =$ _____

Fractions are the same as division.

FIFTHS (Speed test)**Exercise B1C:**

Date: _____

(1) Write the answers.

(a) 1 = _____ fifths

(c) 4 = _____ fifths

(e) 5 = _____ fifths

(g) 3 = _____ fifths

(i) 8 = _____ fifths

(k) 10 = _____ fifths

(m) 12 = _____ fifths

(o) 6 = _____ fifths

(q) 7 = _____ fifths

(s) 9 = _____ fifths

(b) 5 fifths = _____ wholes

(d) 10 fifths = _____ wholes

(f) 20 fifths = _____ wholes

(h) 25 fifths = _____ wholes

(j) 15 fifths = _____ wholes

(l) 30 fifths = _____ wholes

(n) 50 fifths = _____ wholes

(p) 40 fifths = _____ wholes

*(r) 100 fifths = _____ wholes

*(t) 150 fifths = _____ wholes

(2) Complete with fifths and wholes.

(a) 6 fifths = wholes + fifth remains.

(b) 9 fifths = wholes + fifths remain

(c) 11 fifths = wholes + fifth remains

* (d) 36 fifths = wholes + fifth remains

* (e) 34 fifths = wholes + fifths remain

Total out of 25

(g) $\frac{12}{2} =$	(h) $\frac{36}{2} =$	(i) $\frac{48}{2} =$
(j) $\frac{20}{2} =$	(k) $\frac{30}{2} =$	(l) $\frac{70}{2} =$
(m) $\frac{16}{2} =$	(n) $\frac{40}{5} =$	(o) $\frac{56}{7} =$
(p) $\frac{14}{2} =$	(q) $\frac{30}{2} =$	(r) $\frac{64}{8} =$

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

Exercise 5:

Date: _____

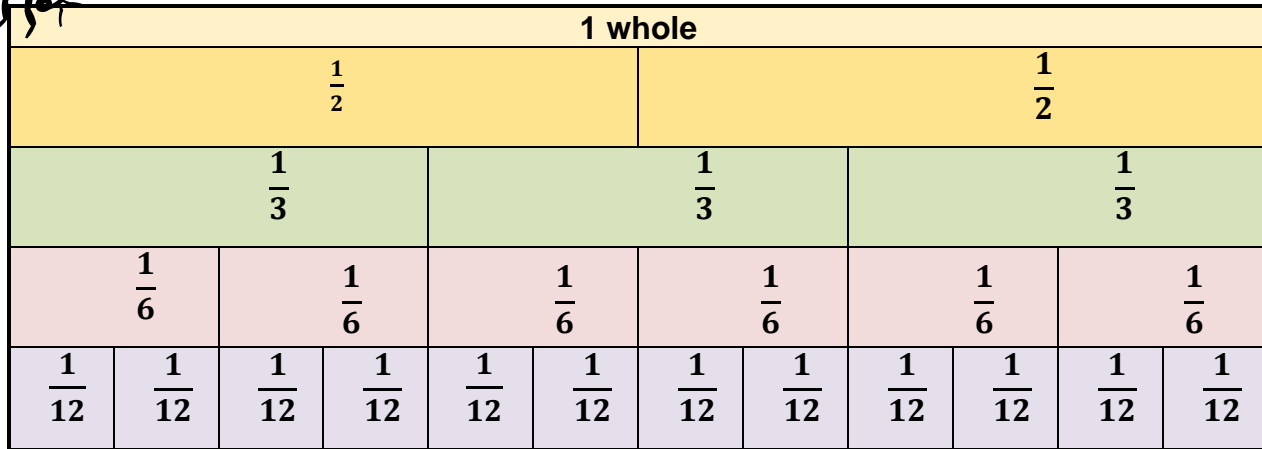
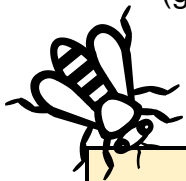
(1) Study the diagram. Fill in: > ; < or =

(a) $\frac{4}{8}$	<input type="text"/>	$\frac{1}{2}$	(b) $\frac{1}{8}$	<input type="text"/>	$\frac{1}{4}$	(c) $\frac{3}{8}$	<input type="text"/>	$\frac{2}{4}$
(d) $\frac{1}{1}$	<input type="text"/>	$\frac{4}{4}$	(e) $\frac{2}{8}$	<input type="text"/>	$\frac{1}{4}$	(f) $\frac{2}{4}$	<input type="text"/>	$\frac{1}{2}$
(g) $\frac{1}{2}$	<input type="text"/>	$\frac{4}{8}$	(h) $\frac{1}{4}$	<input type="text"/>	$\frac{2}{4}$	(i) $\frac{1}{20}$	<input type="text"/>	$\frac{1}{10}$
(j) $\frac{8}{8}$	<input type="text"/>	$\frac{20}{20}$	(k) $\frac{6}{4}$	<input type="text"/>	$\frac{1}{8}$	(l) $\frac{1}{1}$	<input type="text"/>	$\frac{5}{4}$
(m) $\frac{2}{2}$	<input type="text"/>	$\frac{2}{8}$	(n) $\frac{7}{8}$	<input type="text"/>	$\frac{4}{4}$	(o) $\frac{1}{2}$	<input type="text"/>	$\frac{6}{8}$
(p) $\frac{8}{8}$	<input type="text"/>	$\frac{4}{4}$	(q) $\frac{2}{2}$	<input type="text"/>	1	(r) $\frac{5}{4}$	<input type="text"/>	$\frac{2}{2}$
(s) 1	<input type="text"/>	$\frac{8}{8}$	(t) 2	<input type="text"/>	$\frac{2}{2}$	(u) 2	<input type="text"/>	$\frac{8}{8}$

(2) Write down all the fractions in the box that are equal to one half.

$\frac{4}{6}$	$\frac{4}{8}$	$\frac{3}{9}$	$\frac{12}{24}$	$\frac{6}{10}$	$\frac{2}{3}$	$\frac{9}{10}$	$\frac{20}{40}$	$\frac{1}{3}$	$\frac{16}{18}$
$\frac{7}{14}$	$\frac{4}{5}$	$\frac{6}{12}$	$\frac{5}{10}$	$\frac{7}{8}$	$\frac{14}{28}$	$\frac{15}{30}$	$\frac{8}{10}$	$\frac{12}{20}$	$\frac{8}{16}$

- | | | |
|-----------|-----------|-----------|
| (a) _____ | (b) _____ | (c) _____ |
| (d) _____ | (e) _____ | (f) _____ |
| (g) _____ | (h) _____ | (i) _____ |



Exercise 6:

Date: _____

(1) Complete with equivalent fractions:

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

(2) Study the above diagram and answer the following questions.

- | | |
|--|--|
| <p>(a) $\frac{2}{6}$ = _____ third</p> <p>(c) $\frac{2}{3}$ = _____ sixths</p> | <p>(b) $\frac{6}{6}$ = _____ whole</p> <p>(d) $\frac{4}{12}$ = _____ third</p> |
|--|--|

SIXTHS (Speed test)**Exercise B1D:**

Date: _____

(1) Write the answers.

(a) 1 = _____ sixths

(c) 3 = _____ sixths

(e) 6 = _____ sixths

(g) 5 = _____ sixths

(i) 9 = _____ sixths

(k) 11 = _____ sixths

(m) 12 = _____ sixths

(o) 8 = _____ sixths

(q) 20 = _____ sixths

(s) 30 = _____ sixths

(b) 6 sixths = _____ whole

(d) 12 sixths = _____ wholes

(f) 36 sixths = _____ wholes

(h) 72 sixths = _____ wholes

(j) 18 sixths = _____ wholes

(l) 42 sixths = _____ wholes

(n) 60 sixths = _____ wholes

(p) 48 sixths = _____ wholes

*(r) 120 sixths = _____ wholes

*(t) 360 sixths = _____ wholes

(2) Complete with sixths and wholes.

(a) 8 sixths = wholes + sixths remain

(b) 15 sixths = wholes + sixths remain

(c) 19 sixths = wholes + sixth remain

* (d) 37 sixths = wholes + sixth remain

* (e) 50 sixths = wholes + sixths remain

Total out of 25
