

Grade 4 – Book B

Teachers Guidelines

(CAPS edition)

Revised for 2023

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Chapter B1


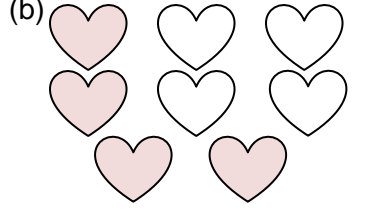
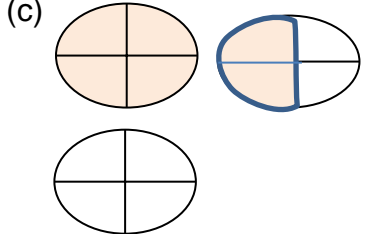
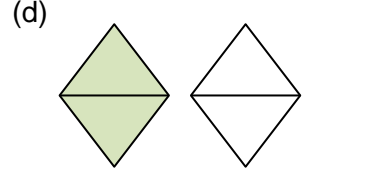
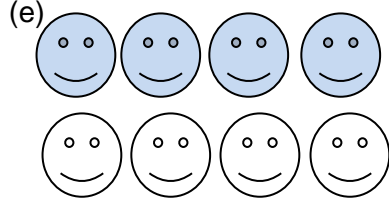
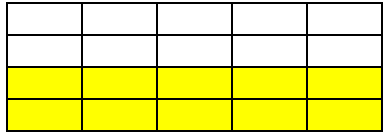
Fractions

B1.1 Principles of Fractions:

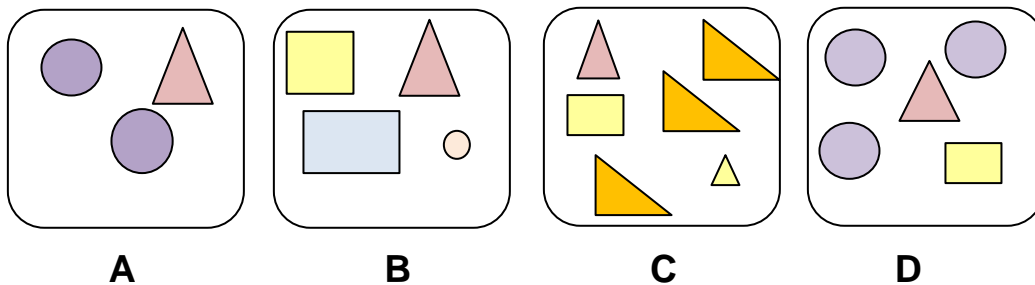
Exercise 1:

Date: _____

(1) Colour half of the shapes.

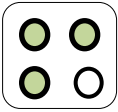
(a) 	(b) 	(c) 
(d) 	(e) 	(f) 

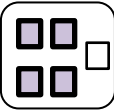
(2) Study the blocks and answer the questions.





- | | |
|---|---------------|
| a) How many shapes are in block A? | 3 |
| b) What fraction of the shapes in block A is triangles? | $\frac{1}{3}$ |
| c) How many shapes are in block D? | 5 |
| d) What fraction of the shapes in block D is squares? | $\frac{1}{5}$ |
| e) What fraction of the shapes in block B is circles? | $\frac{1}{4}$ |
| f) What fraction of the shapes in block C is not triangles? | $\frac{1}{6}$ |

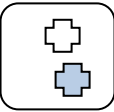
(3) What fraction of each of the following pictures are *not* shaded?


(a)  $\frac{1}{4}$

(b)  $\frac{1}{5}$

(c)  $\frac{1}{3}$

(d)  $\frac{1}{6}$

(e)  $\frac{1}{2}$

(f)  $\frac{1}{4}$


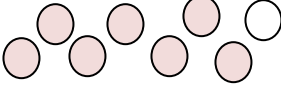

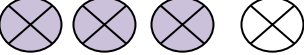
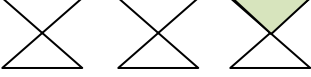
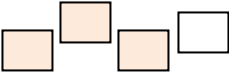
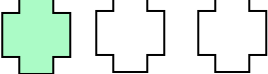
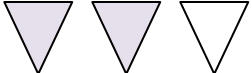
One of the four is not coloured. ($\frac{1}{4}$)

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

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

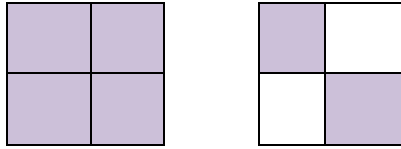
$\frac{1}{4}$	$\frac{1}{4}$
$\frac{1}{4}$	$\frac{1}{4}$

(4) Complete the table:

	FRACTION SHADED	FRACTION NOT SHADED	WRITE ALL THE FRACTIONS AS A WHOLE
(a) 	$\frac{4}{5}$	$\frac{1}{5}$	$\frac{5}{5}$
(b) 	$\frac{7}{8}$	$\frac{1}{8}$	$\frac{8}{8}$
(c) 	$\frac{1}{6}$	$\frac{5}{6}$	$\frac{6}{6}$
(d) 	$\frac{12}{16}$ or $\frac{3}{4}$	$\frac{4}{16}$ or $\frac{1}{4}$	$\frac{4}{4}$
(e) 	$\frac{1}{6}$	$\frac{5}{6}$	$\frac{6}{6}$
(f) 	$\frac{3}{4}$	$\frac{1}{4}$	$\frac{4}{4}$
(g) 	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$
(h) 	$\frac{2}{3}$	$\frac{1}{3}$	$\frac{3}{3}$

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

(a)



There are 2 wholes.

True

There are 8 quarters.

True

There are 10 quarters coloured.

False

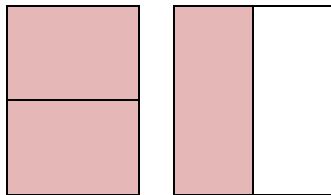
There are 4 wholes.

False

There are 4 halves

True

(b)



Two halves are coloured.

False

One whole is coloured.

False

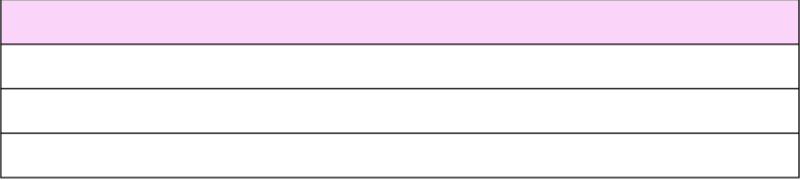
(6) Colour the fractions.

<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>

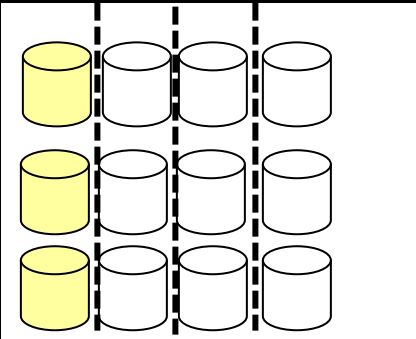
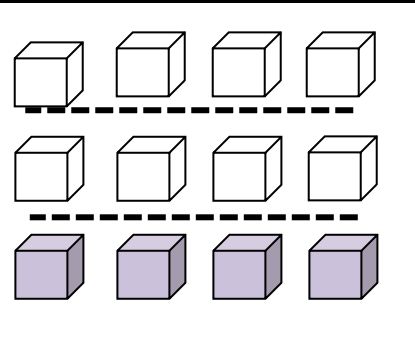
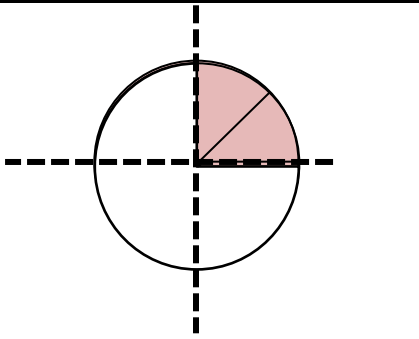
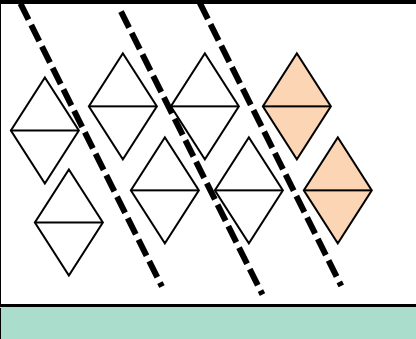
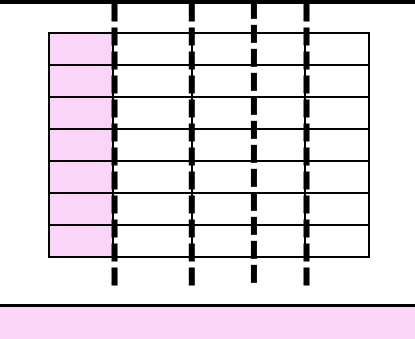
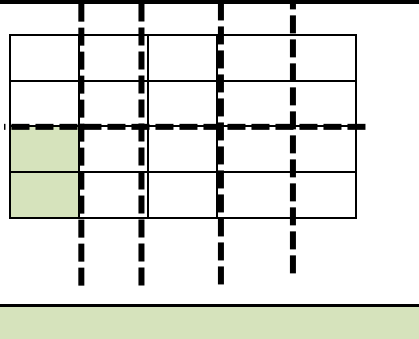
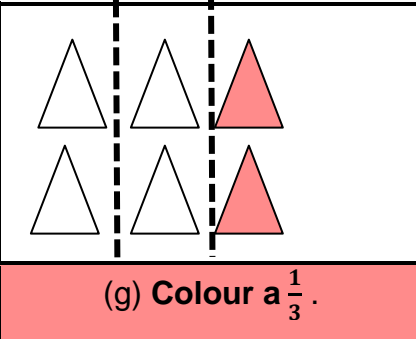
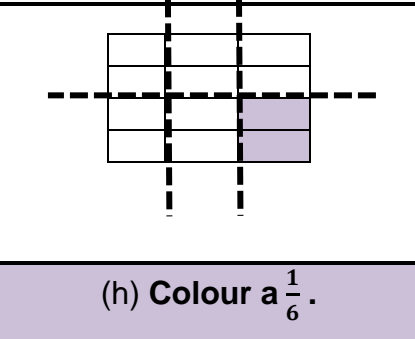
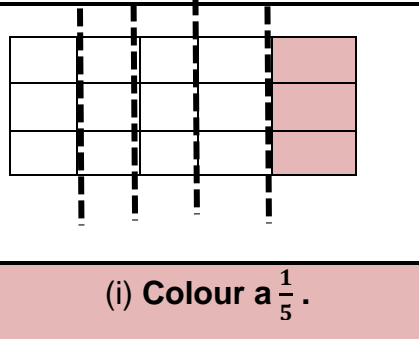
Exercise 2:

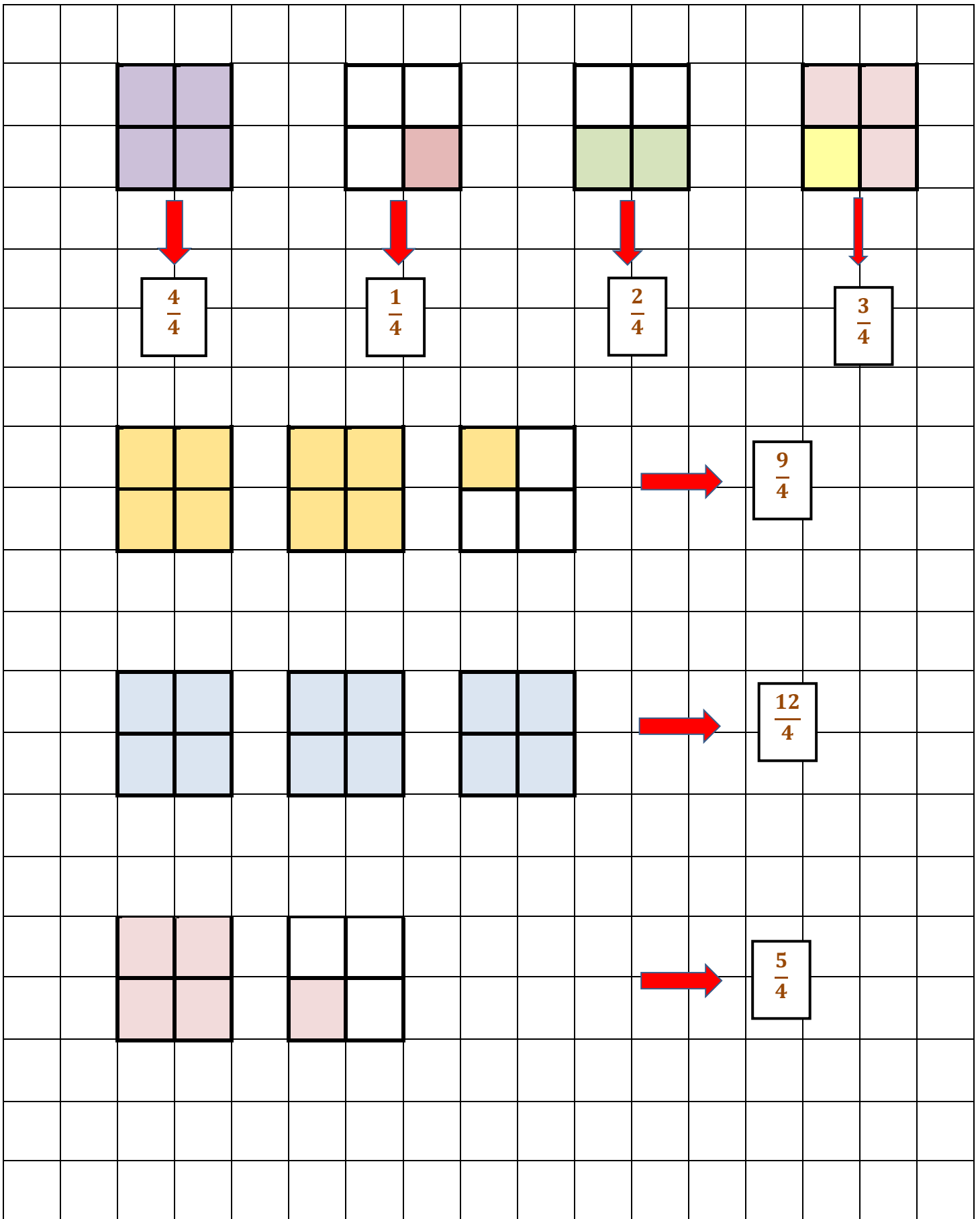
Date: _____

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



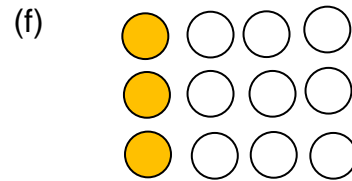
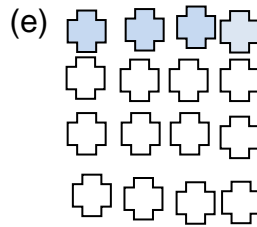
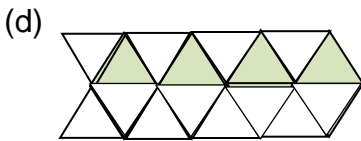
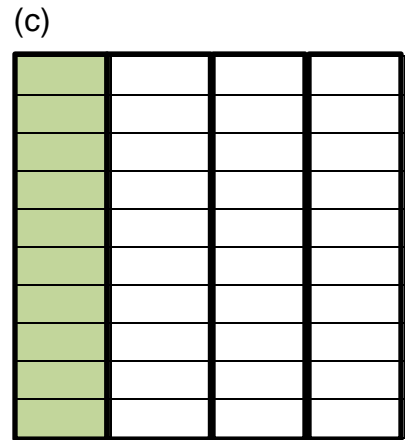
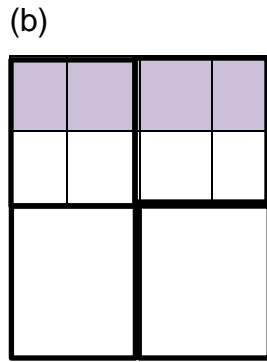
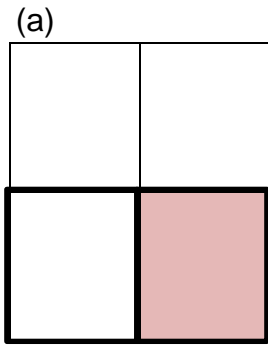
(1) Divide the shapes and then colour it as requested.

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



There are various options.

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



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
$\frac{4}{4}$	$\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$	$\frac{9}{4}$ $\frac{12}{4}$ $\frac{5}{4}$

(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 | → | _____ |
| | | | 14 |
| (c) | 14 | → | _____ |
| | | | 28 |
| (e) | 9 | → | _____ |
| | | | 18 |
| (g) | 11 | → | _____ |
| | | | 22 |
| (i) | 15 | → | _____ |
| | | | 30 |
| (k) | 26 | → | _____ |
| | | | 52 |
| (m) | 35 | → | _____ |
| | | | 70 |
| (o) | 22 | → | _____ |
| | | | 44 |
| (q) | 45 | → | _____ |
| | | | 90 |
| (s) | 64 | → | _____ |
| | | | 128 |

Halve the numbers.

- | | | | |
|-----|-----|---|------------|
| (b) | 70 | → | _____ |
| | | | 35 |
| (d) | 50 | → | _____ |
| | | | 25 |
| (f) | 90 | → | _____ |
| | | | 45 |
| (h) | 30 | → | _____ |
| | | | 15 |
| (j) | 80 | → | _____ |
| | | | 40 |
| (l) | 140 | → | _____ |
| | | | 70 |
| (n) | 104 | → | _____ |
| | | | 52 |
| (p) | 116 | → | _____ |
| | | | 58 |
| (r) | 284 | → | _____ |
| | | | 142 |
| (t) | 500 | → | _____ |
| | | | 250 |

(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

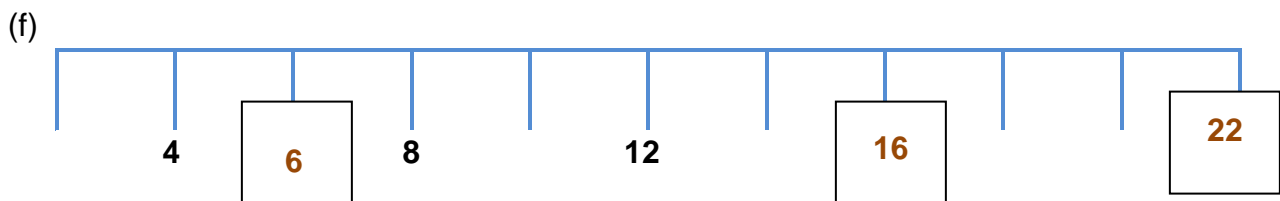
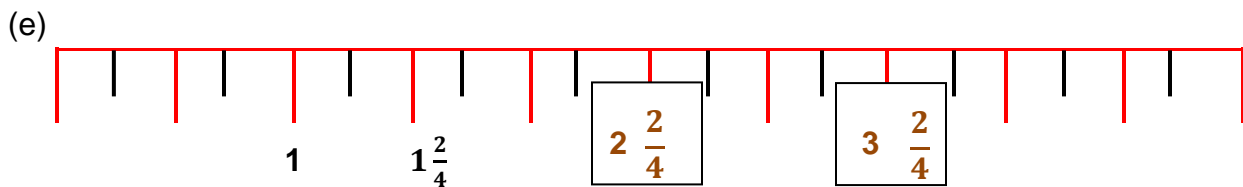
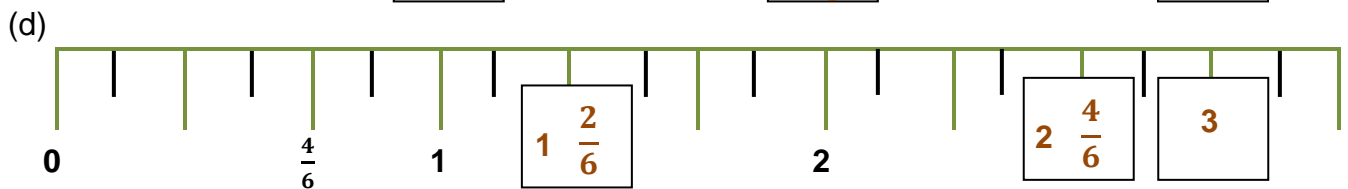
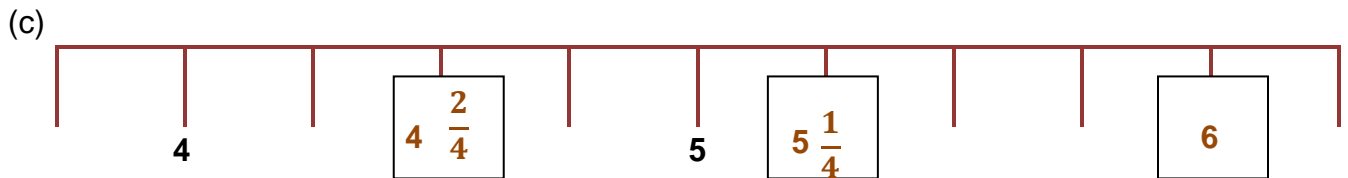
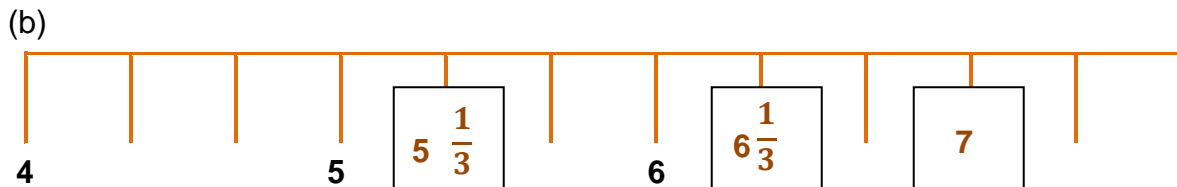
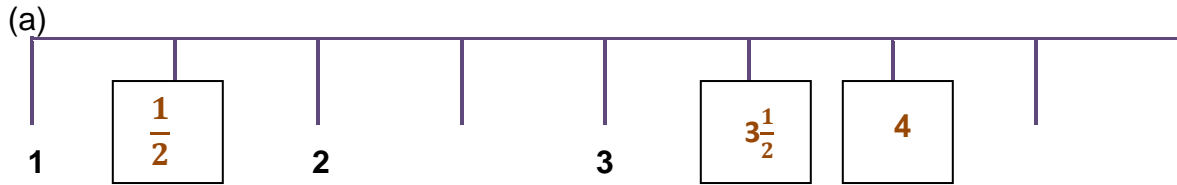
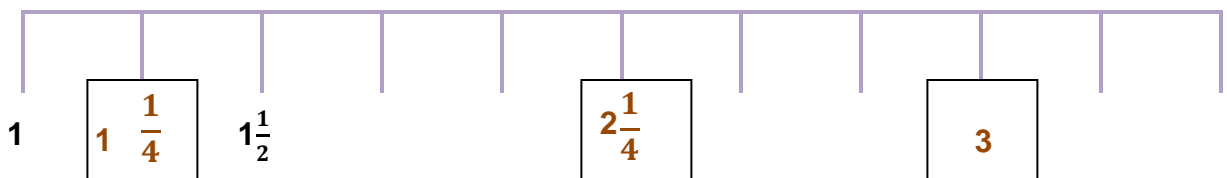
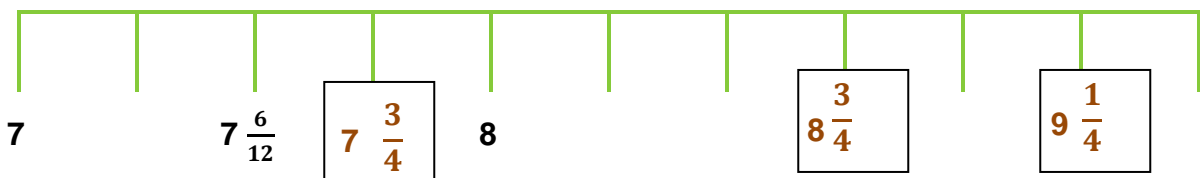
(o) 19 halves = halves + halves remain.

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 = 4 quarters

(c) 3 = 12 quarters

(e) 5 = 20 quarters

(g) 12 = 48 quarters

(i) 2 = 8 quarters

(k) 11 = 44 quarters

(m) 50 = 200 quarters

(o) 25 = 100 quarters

(q) 40 = 160 quarters

(s) 15 = 60 quarters

(b) 4 quarters = 1 wholes

(d) 12 quarters = 3 wholes

(f) 8 quarters = 2 wholes

(h) 20 quarters = 5 wholes

(j) 16 quarters = 4 wholes

(l) 24 quarters = 6 wholes

(n) 32 quarters = 8 wholes

(p) 40 quarters = 10 wholes

*(r) 100 quarters = 25 wholes

*(t) 120 quarters = 30 wholes

(2) Complete with quarters and wholes.

(a) 5 quarters = 1 whole + 1 quarter remains .

(b) 9 quarters = 2 wholes + 1 quarter remains

(c) 14 quarters = 3 wholes + 2 quarters remain

(d) 25 quarters = 6 wholes + 1 quarter remains .

(e) 34 quarters = 8 wholes + 2 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

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

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

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

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

Improper
fraction

Proper
fraction

Improper
fraction

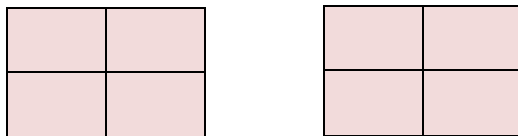
Mixed
fraction

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

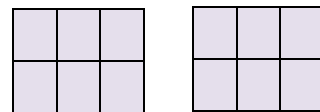
$\frac{15}{15}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{2}$	$\frac{7}{4}$	$\frac{1}{1}$	$\frac{4}{4}$	$\frac{12}{2}$	$\frac{14}{4}$
-----------------	---------------	---------------	---------------	---------------	---------------	---------------	----------------	----------------

- (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?

$$(a) \quad \frac{4}{2} = \underline{\quad 2 \quad}$$

$$(d) \quad \frac{10}{2} = \underline{\quad 5 \quad}$$

$$(b) \quad \frac{14}{2} = \underline{\quad 7 \quad}$$

$$(e) \quad \frac{24}{3} = \underline{\quad 8 \quad}$$

$$(c) \quad \frac{12}{6} = \underline{\quad 2 \quad}$$

$$(f) \quad \frac{15}{3} = \underline{\quad 5 \quad}$$

Fractions are the same as division.

FIFTHS (Speed test)

Exercise B1C:

Date: _____

(1) Write the answers.

(a) $1 = \frac{5}{5}$ fifths

(c) $4 = \frac{20}{5}$ fifths

(e) $5 = \frac{25}{5}$ fifths

(g) $3 = \frac{15}{5}$ fifths

(i) $8 = \frac{40}{5}$ fifths

(k) $10 = \frac{50}{5}$ fifths

(m) $12 = \frac{60}{5}$ fifths

(o) $6 = \frac{30}{5}$ fifths

(q) $7 = \frac{35}{5}$ fifths

(s) $9 = \frac{45}{5}$ fifths

(b) $5 \text{ fifths} = \frac{1}{5}$ wholes

(d) $10 \text{ fifths} = \frac{2}{5}$ wholes

(f) $20 \text{ fifths} = \frac{4}{5}$ wholes

(h) $25 \text{ fifths} = \frac{5}{5}$ wholes

(j) $15 \text{ fifths} = \frac{3}{5}$ wholes

(l) $30 \text{ fifths} = \frac{6}{5}$ wholes

(n) $50 \text{ fifths} = \frac{10}{5}$ wholes

(p) $40 \text{ fifths} = \frac{8}{5}$ wholes

*(r) $100 \text{ fifths} = \frac{20}{5}$ wholes

*(t) $150 \text{ fifths} = \frac{30}{5}$ wholes

(2) Complete with fifths and wholes.

(a) $6 \text{ fifths} = \boxed{1}$ wholes + $\boxed{1}$ fifth remains.

(b) $9 \text{ fifths} = \boxed{1}$ wholes + $\boxed{4}$ fifths remain

(c) $11 \text{ fifths} = \boxed{2}$ wholes + $\boxed{1}$ fifth remains

* (d) $36 \text{ fifths} = \boxed{7}$ wholes + $\boxed{1}$ fifth remains

* (e) $34 \text{ fifths} = \boxed{6}$ wholes + $\boxed{4}$ fifths remain

Total out of 25

(g) $\frac{12}{2} =$	6	(h) $\frac{36}{2} =$	18	(i) $\frac{48}{2} =$	24
(j) $\frac{20}{2} =$	10	(k) $\frac{30}{2} =$	15	(l) $\frac{70}{2} =$	35
(m) $\frac{16}{2} =$	8	(n) $\frac{40}{5} =$	8	(o) $\frac{56}{7} =$	8
(p) $\frac{14}{2} =$	7	(q) $\frac{30}{2} =$	15	(r) $\frac{64}{8} =$	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) $\frac{4}{8}$	=	$\frac{1}{2}$	(b) $\frac{1}{8}$	<	$\frac{1}{4}$	(c) $\frac{3}{8}$	<	$\frac{2}{4}$
(d) $\frac{1}{1}$	=	$\frac{4}{4}$	(e) $\frac{2}{8}$	=	$\frac{1}{4}$	(f) $\frac{2}{4}$	=	$\frac{1}{2}$
(g) $\frac{1}{2}$	=	$\frac{4}{8}$	(h) $\frac{1}{4}$	<	$\frac{2}{4}$	(i) $\frac{1}{20}$	<	$\frac{1}{10}$
(j) $\frac{8}{8}$	=	$\frac{20}{20}$	(k) $\frac{6}{4}$	>	$\frac{1}{8}$	(l) $\frac{1}{1}$	<	$\frac{5}{4}$
(m) $\frac{2}{2}$	>	$\frac{2}{8}$	(n) $\frac{7}{8}$	<	$\frac{4}{4}$	(o) $\frac{1}{2}$	<	$\frac{6}{8}$
(p) $\frac{8}{8}$	=	$\frac{4}{4}$	(q) $\frac{2}{2}$	=	1	(r) $\frac{5}{4}$	>	$\frac{2}{2}$
(s) 1	=	$\frac{8}{8}$	(t) 2	>	$\frac{2}{2}$	(u) 2	>	$\frac{8}{8}$

(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) $\frac{4}{8}$

(b) $\frac{12}{24}$

(c) $\frac{20}{40}$

(d) $\frac{7}{14}$

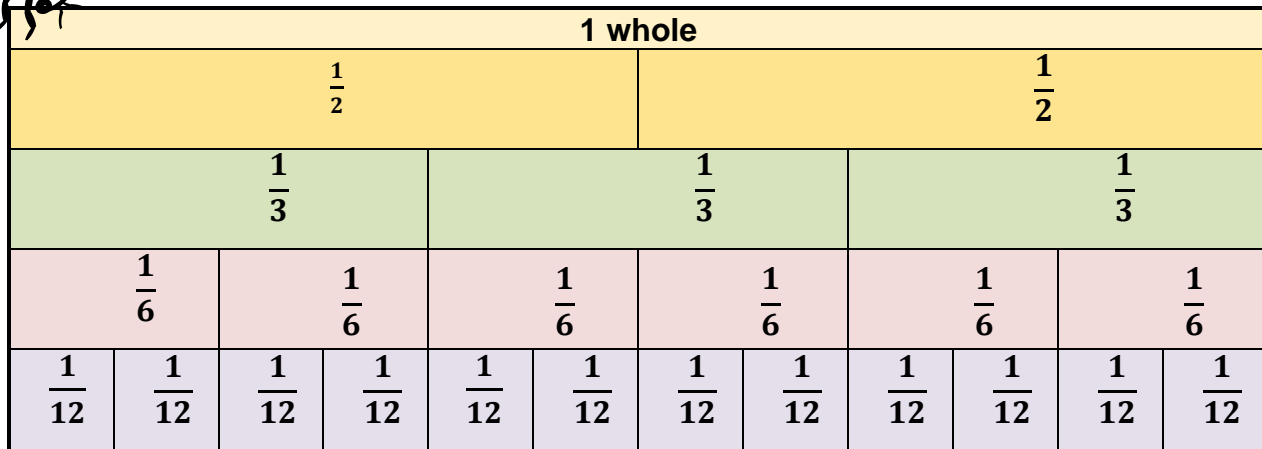
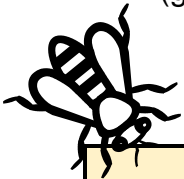
(e) $\frac{6}{12}$

(f) $\frac{5}{10}$

(g) $\frac{14}{28}$

(h) $\frac{15}{30}$

(i) $\frac{8}{16}$



Exercise 6:

Date: _____

(1) Complete with equivalent fractions:

1	=	$\frac{2}{2}$	=	$\frac{3}{3}$	=	$\frac{4}{4}$	=	$\frac{8}{8}$
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(2) Study the above diagram and answer the following questions.

(a) $\frac{2}{6}$ = 1 third

(b) $\frac{6}{6}$ = 1 whole

(c) $\frac{2}{3}$ = 4 sixths

(d) $\frac{4}{12}$ = 1 third

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

Date: _____

(1) Write the answers.

(a) $1 = \frac{6}{6}$ sixths

(c) $3 = \frac{18}{6}$ sixths

(e) $6 = \frac{36}{6}$ sixths

(g) $5 = \frac{30}{6}$ sixths

(i) $9 = \frac{54}{6}$ sixths

(k) $11 = \frac{66}{6}$ sixths

(m) $12 = \frac{72}{6}$ sixths

(o) $8 = \frac{48}{6}$ sixths

(q) $20 = \frac{120}{6}$ sixths

(s) $30 = \frac{180}{6}$ sixths

(b) $6 \text{ sixths} = \frac{1}{1}$ whole

(d) $12 \text{ sixths} = \frac{2}{1}$ wholes

(f) $36 \text{ sixths} = \frac{6}{1}$ wholes

(h) $72 \text{ sixths} = \frac{12}{1}$ wholes

(j) $18 \text{ sixths} = \frac{3}{1}$ wholes

(l) $42 \text{ sixths} = \frac{7}{1}$ wholes

(n) $60 \text{ sixths} = \frac{10}{1}$ wholes

(p) $48 \text{ sixths} = \frac{8}{1}$ wholes

*(r) $120 \text{ sixths} = \frac{20}{1}$ wholes

*(t) $360 \text{ sixths} = \frac{60}{1}$ wholes

(2) Complete with sixths and wholes.

(a) $8 \text{ sixths} = \boxed{1} \text{ wholes} + \boxed{2} \text{ sixths remain}$

(b) $15 \text{ sixths} = \boxed{2} \text{ wholes} + \boxed{3} \text{ sixths remain}$

(c) $19 \text{ sixths} = \boxed{3} \text{ wholes} + \boxed{1} \text{ sixth remain}$

* (d) $37 \text{ sixths} = \boxed{6} \text{ wholes} + \boxed{1} \text{ sixth remain}$

* (e) $50 \text{ sixths} = \boxed{8} \text{ wholes} + \boxed{2} \text{ sixths remain}$

Total out of 25
