Cambridge Assessment International Education

Cambridge Lower Secondary Checkpoint

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

6483112968

MATHEMATICS **1112/01**

Paper 1 **October 2020**

1 hour

You must answer on the question paper.

You will need: Geometrical instruments
Tracing paper (optional)

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You should show all your working in the booklet.
- You are **not** allowed to use a calculator.

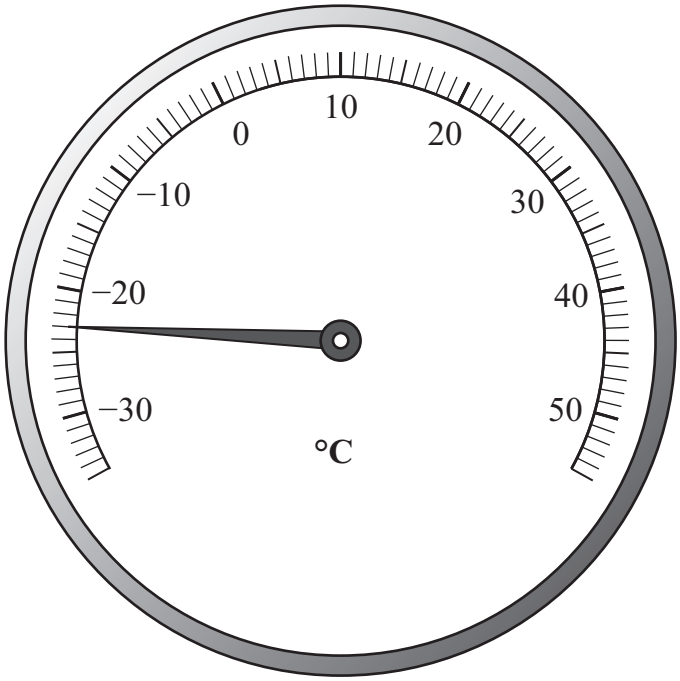
INFORMATION

- The total mark for this paper is 50.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages. Blank pages are indicated.

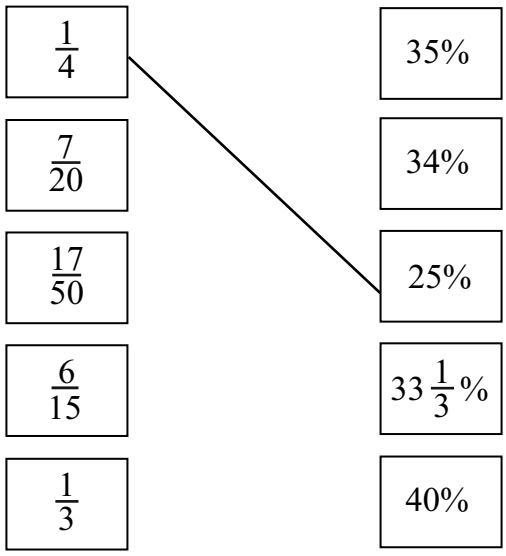
IB20 10_1112_01/6RP

1 Write down the temperature shown on this scale.



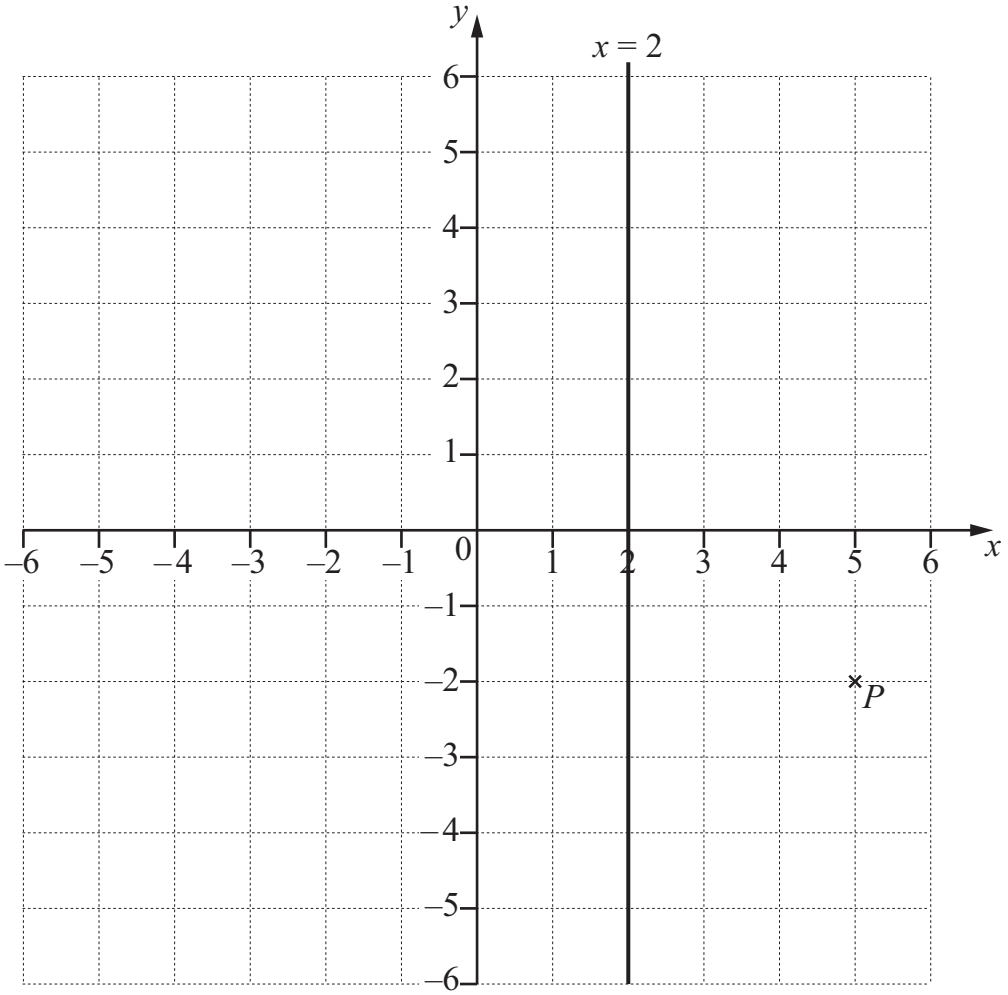
..... °C [1]

2 Draw a line to match each fraction to its percentage equivalent.
The first one has been done for you.



[2]

3

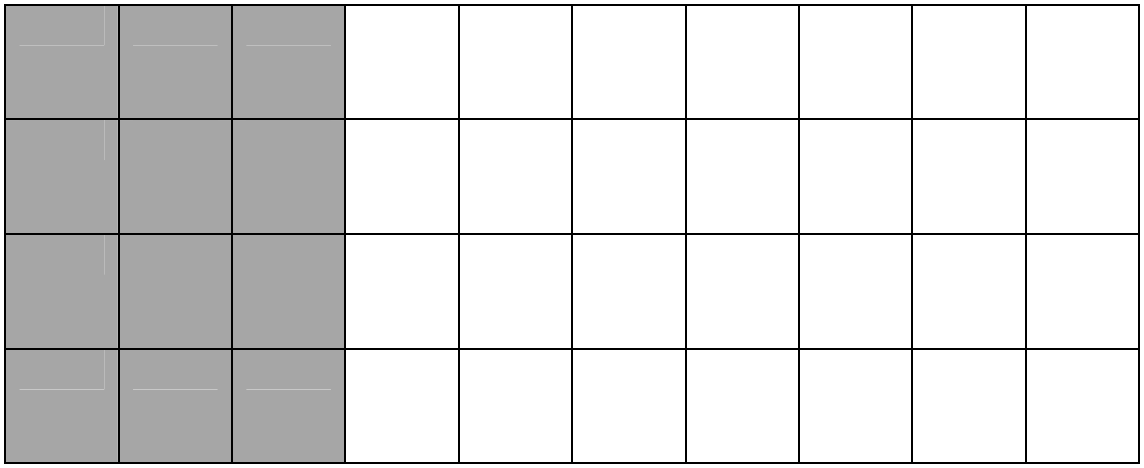


Q is the reflection of P in the line $x = 2$

Work out the coordinates of Q.

(..... , ...) [1]

4 Here is a shape that has been divided into equal parts.



(a) Write down the fraction of the shape that is shaded.
Give your answer in its simplest form.

..... [1]

(b) Find the percentage of the shape that is **unshaded**.

..... % [1]

5 Choose from these units to give the most appropriate unit of measurement for each item.

g kg m *l* m*l* m^2 cm^2

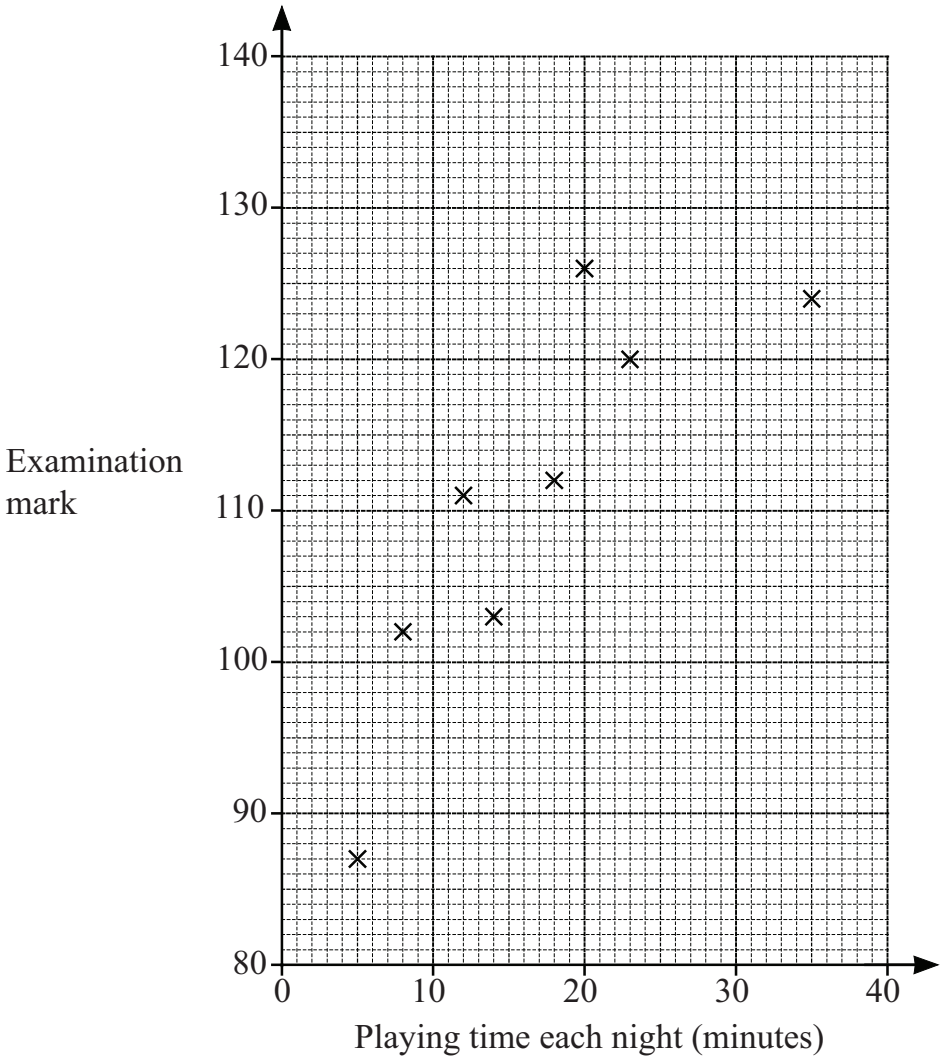
The area of a classroom floor. .....

The mass of a child. .....

The amount of water in a swimming pool. ..... [1]

6 Yuri is a piano teacher.
He collects the examination marks of his students.
He asks each of them how many minutes they play their piano for each night.

The scatter diagram shows some of his data.



(a) The playing times and examination marks of 2 more students are shown in the table.

Playing time each night (minutes)	Examination mark
12	106
30	125

Plot these values on the scatter diagram.

[1]

(b) Describe the relationship between playing time and examination mark.

.....

[1]

7 Write $\frac{43}{7}$ as a mixed number.

..... [1]

8 Angelique is n years old.

Jamila says,

'To get my age, start with Angelique's age, add one and then double.'

Write an expression, in terms of n, for Jamila's age.

..... [1]

9 Use numbers from the list to complete the sentences.

2	9	14	20	23	35	36

You may use a number more than once.

The square numbers are ..... and .....

The factors of 18 are ..... and .....

The multiples of 4 are ..... and .....

[3]

10 Complete each statement with the correct power of 10 from the box.

The first one has been done for you.

10^3		10^4	
10^1	10^2		10^8
10^6		10^5	

10×10 is the same as 10^2

10 000 is the same as .....

One million is the same as .....

$1000 \div 0.01$ is the same as .....

[2]

11 Here is a calculation $48 \times 23 = 1104$

Use this calculation to work out the following.

(a) 48×24

..... [1]

(b) 4.8×0.23

..... [1]

(c) $1104 \div 2.3$

..... [1]

12 Simplify.

$f \times f \times f \times f \times f$

.....

$3 \times g \times g \times 2 \times g$

.....

[2]

13 Draw a ring around **all** the statements that are examples of discrete data.

mark out of 10 on a test	time taken to run a marathon
mass of a bag of oranges	average speed of a journey
number of books sold	

[1]

14 The thickness of a pile of paper is 24 mm.

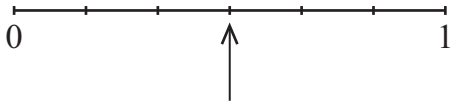
Each sheet is the same and has a thickness of $\frac{2}{11}$ mm.

Find the number of sheets of paper in the pile.

..... [2]

15 Mike throws a fair six-sided dice.

(a) The scale shows the probability of an event.



Tick (✓) **all** the events that could be represented by the arrow.

Getting an odd number on the dice.	☐
Getting the number 3 on the dice.	☐
Getting a number less than 4 on the dice.	☐

[1]

(b) Draw an arrow (↑) on the scale to show the probability of getting a 4 or a 5 on the dice.

[1]

16 In a traffic survey of 495 vehicles, 390 are cars.

Work out the fraction of the vehicles that are **not** cars.
Give your answer as a fraction in its simplest form.

..... [2]

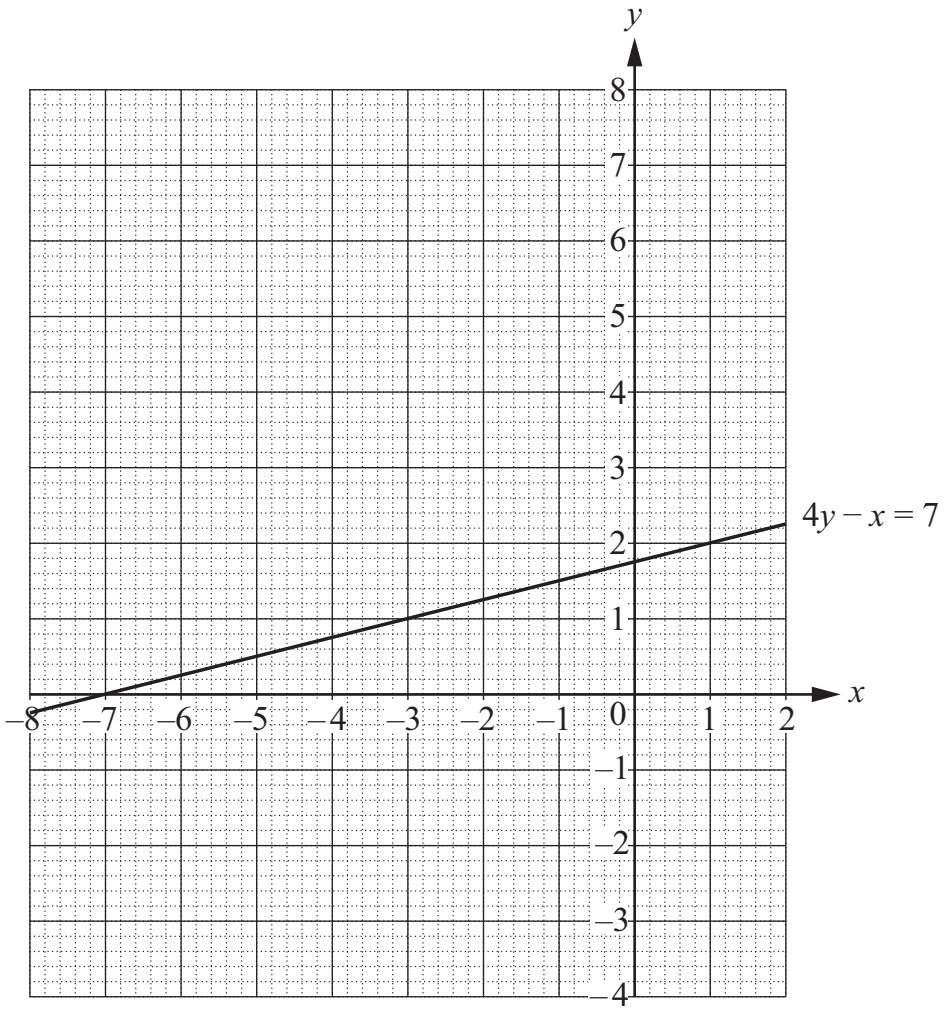
17 **(a)** Complete the table of values for $y - 2x = 6$

x	-4	-2	0
y	-2		

[1]

(b) The line $4y - x = 7$ is shown on the grid below.

Draw the line $y - 2x = 6$ on the same grid.



[2]

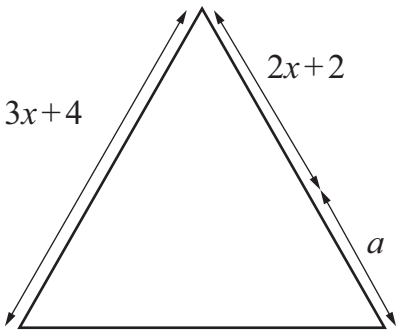
(c) **Use the graph** to solve the simultaneous equations

$4y - x = 7$ and $y - 2x = 6$

$x =$ .....

$y =$ ..... [1]

18 The diagram shows an **equilateral** triangle.
All measurements are in cm.



NOT TO SCALE

The perimeter of the triangle is 57 cm.

Find the length of a.

..... cm [3]

19 A sequence begins

3, −6, 12, −24, 48, …

(a) Write down the term-to-term rule for this sequence.

..... [1]

(b) Write down the next **two** terms.

..... and ..... [1]

20 Blessy has r red flowers, w white flowers and y yellow flowers.

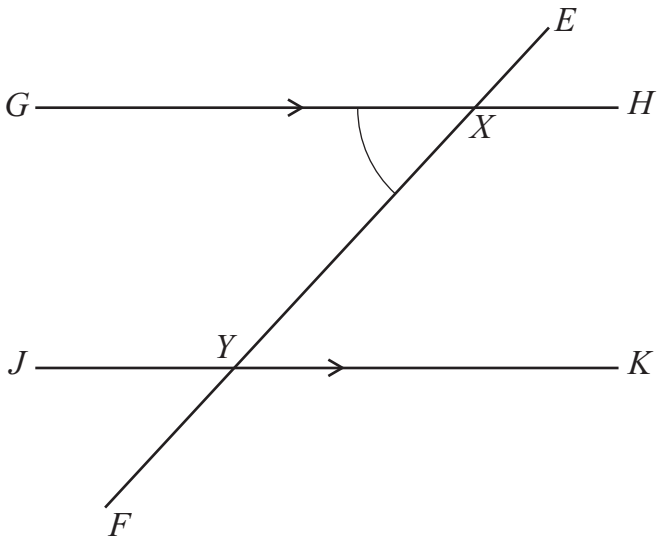
$r : w = 3 : 2$
$w : y = 4 : 3$

Blessy has 12 yellow flowers.

Work out how many flowers she has in total.

..... [2]

21 The diagram shows a pair of parallel lines, GH and JK.



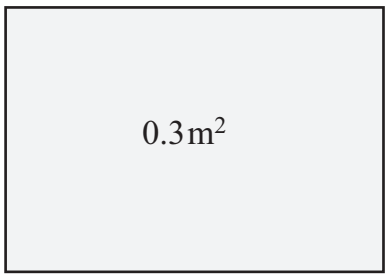
EF is a straight line that crosses GH at X and crosses JK at Y.

On the diagram,

- label with the letter A the angle that is **alternate** to angle GXY,
- label with the letter C the angle that is **corresponding** to angle GXY.

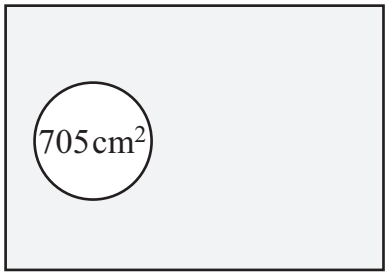
[2]

22 A piece of paper has an area of $0.3\,m^2$.



NOT TO SCALE

A circle of area $705\,cm^2$ is cut out of the piece of paper.



NOT TO SCALE

Work out the area of the paper that remains.
Give your answer in square metres.

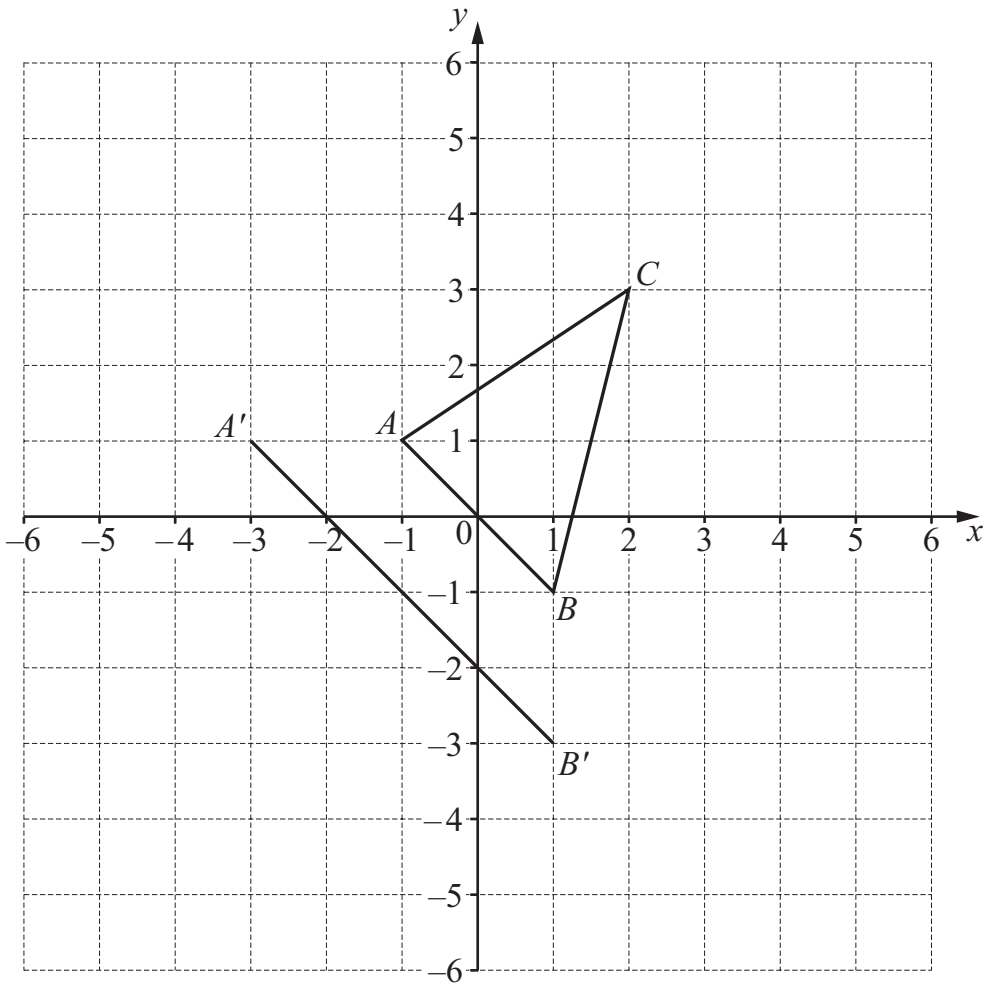
..... m^2 [2]

23 Factorise fully.

$10ab - 5b^2$

..... [2]

24 The diagram shows a triangle ABC on a grid.



A' and B' are the images of A and B after an enlargement.

(a) Plot C', the image of C after the enlargement. [1]

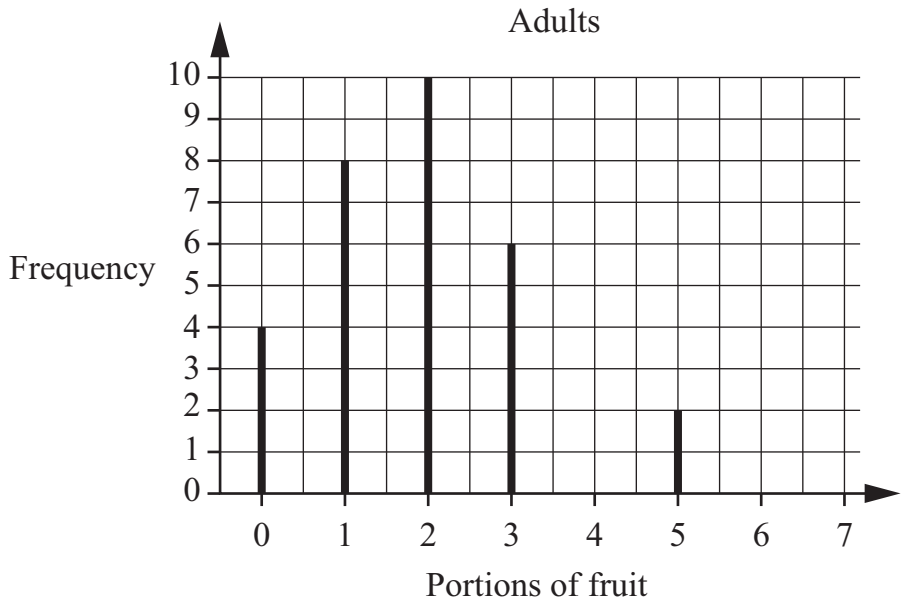
(b) Describe fully the enlargement from triangle ABC to triangle $A'B'C'$.

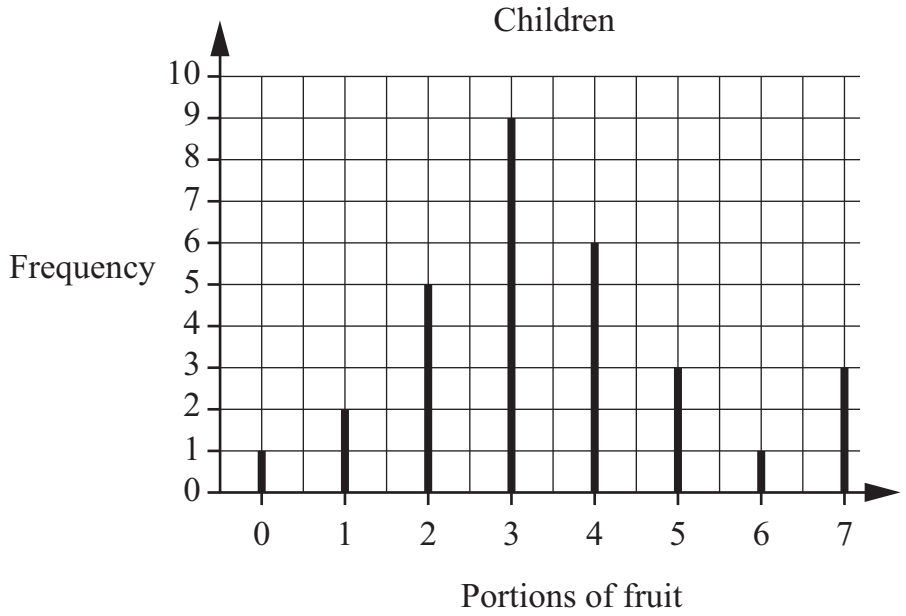
.....

..... [2]

25 Hassan investigates the amount of fruit that people eat.

The bar-line charts show the number of portions of fruit that 30 adults and 30 children ate on Monday.





Tick (✓) to show who ate more fruit on Monday.

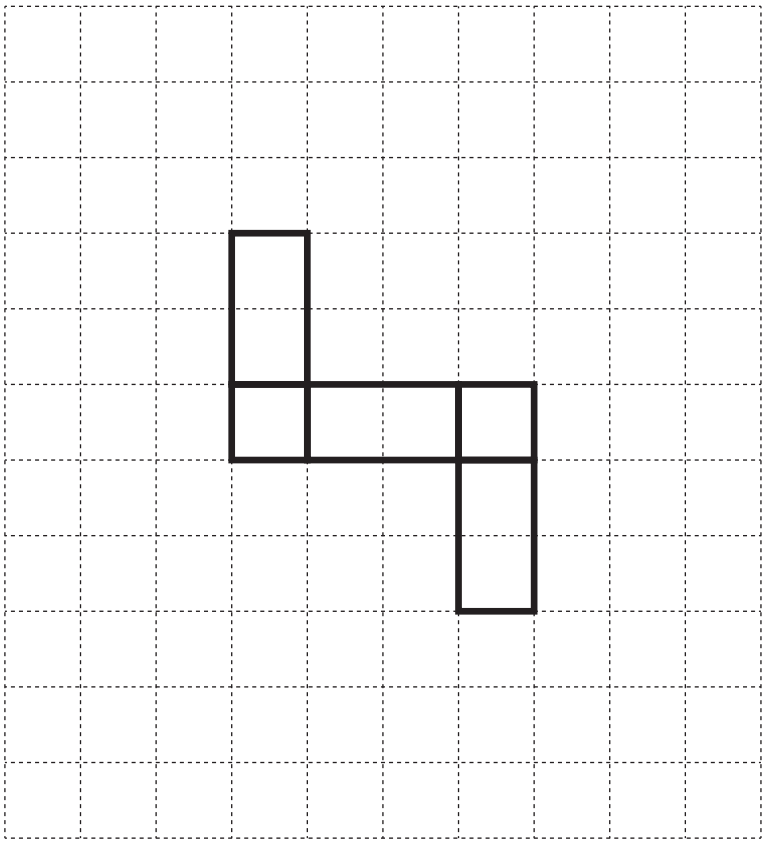
Adults ☐ Children ☐

Give a reason to explain your answer.

.....

..... [1]

26 This is part of the net of a cuboid.



Draw the missing face to complete the net. [1]