

Cambridge International Examinations
Cambridge Checkpoint

CANDIDATE
NAME

--

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

MATHEMATICS

1112/01

Paper 1

April 2014

1 hour

Candidates answer on the Question Paper.

Additional Materials: Geometrical Instruments

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer all questions.

NO CALCULATOR ALLOWED.

You should show all your working in the booklet.

The number of marks is given in brackets [] at the end of each question or part question.

The total number of marks for this paper is 50.

This document consists of 15 printed pages and 1 blank page.

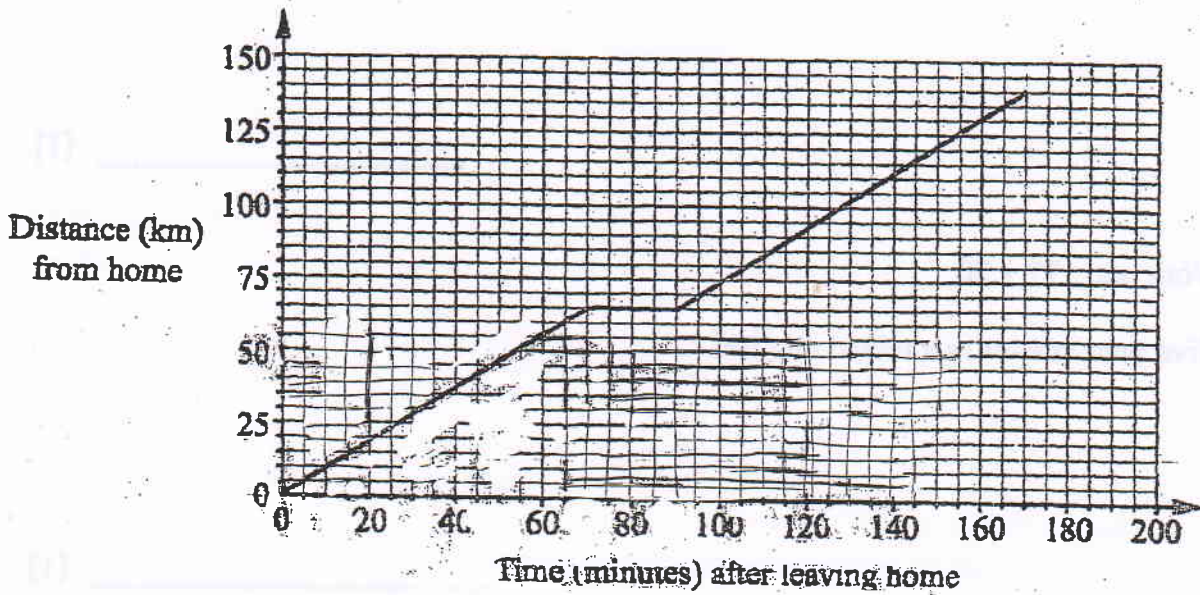
187

- 1 The temperature at midnight on Tuesday was 3°C .
At midnight on Wednesday the temperature is 7 degrees colder.

What is the temperature at midnight on Wednesday?

..... $^{\circ}\text{C}$ [1]

- 2 The travel graph shows Ed's journey from home to his friend's house.



Complete these sentences.

The distance Ed travels is kilometres.

Ed stops for a rest after 70 minutes when he is kilometres from home.

[2]

- 3 Ahmed scores 17 marks out of 20 in a mathematics test.

Write his score as a percentage.

..... % [1]

4 Solve $13 - 2x = 7$

$x =$ [1]

5 (a) Work out 18.6×7

..... [1]

(b) Work out $177 \div 20$

Give your answer as a mixed number.

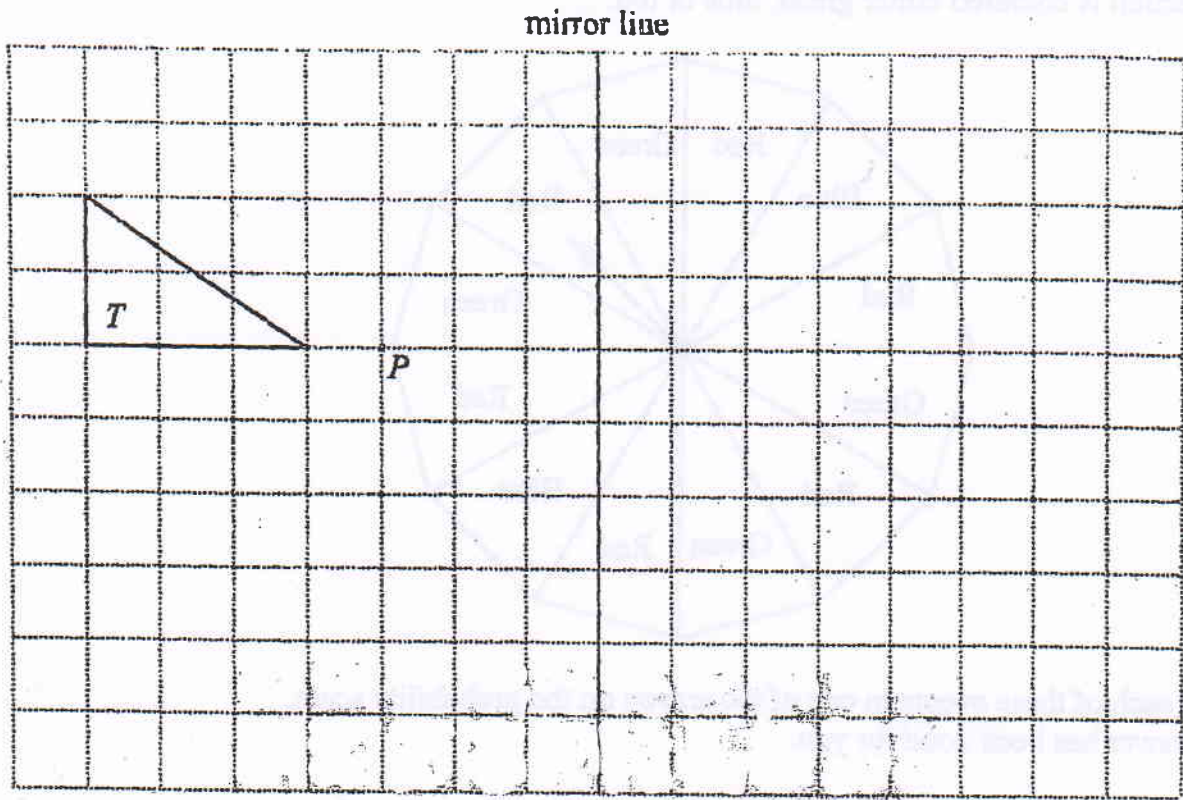
..... [1]

6 Leena has some counters.
She gives 20% of them to Archana and 40% of them to Mukti.
Leena is left with 30 counters.

How many counters did Leena start with?

..... [2]

7 Triangle T is drawn on the grid.



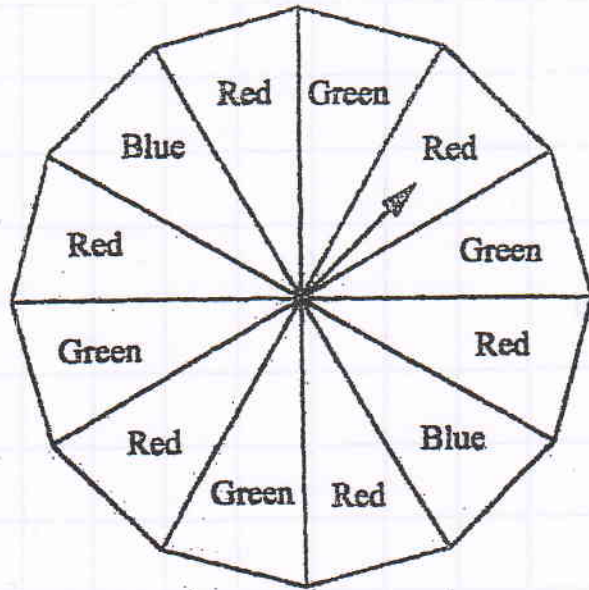
(a) Reflect triangle T in the mirror line.

[1]

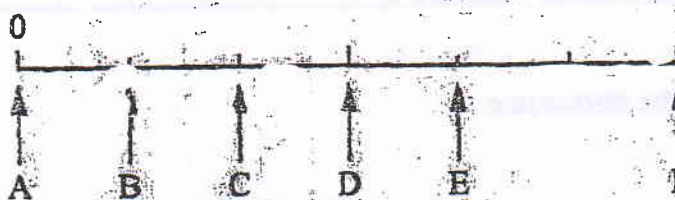
(b) Rotate triangle T 90° anticlockwise about the point P .

[1]

8 Holly has a fair 12-sided spinner.
Each section is coloured either green, blue or red.



Match each of these events to one of the arrows on the probability scale.
One answer has been done for you.



- Probability of a red section = D
- Probability of a blue section =
- Probability of a yellow section =
- Probability of a green section =

[2]

- 9 Danii makes a tower from 3 identical cubes and 2 identical cuboids.



NOT TO
SCALE

Each cube is 4.6 cm high.
The whole tower is 29 cm high.

Work out the height of each cuboid.

..... cm [2]

- 10 A rule to find the cooking time in minutes, T , for a chicken is given as

Multiply the mass in kilograms, K , by 40 and then add 35

Tick (✓) the box that shows a correct formula.

$$K = 35 + 40T$$

$$T = 40 + 35K$$

$$T = 35 + 40K$$

$$K = 40 + 35T$$

[1]

11 Work out $11.4 \div 9$

Give your answer correct to two decimal places.

..... [2]

12 Here is a sequence of numbers:

11, 15, 19, 23, ...

(a) Write down the next two terms in the sequence.

..... [1]

(b) Find the n th term of the sequence.

..... [2]

(c) Sonya says that 92 is in the sequence.

Is she correct? Yes No

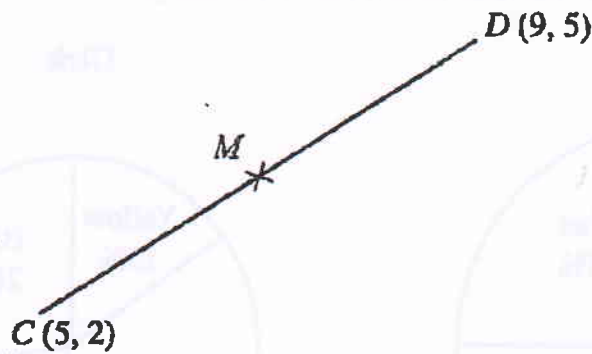
Explain your answer.

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





13 Chaz draws a line CD .



Point C has the co-ordinates $(5, 2)$.
 Point D has the co-ordinates $(9, 5)$.
 Point M is the midpoint of the line CD .

Work out the co-ordinates of the point M .

$M = (\dots , \dots)$ [2]

14 (a) Put these numbers in order of size, starting with the smallest

5^2

$\sqrt[3]{125}$

3^3

.....

smallest largest

[1]

(b) Explain why $\sqrt{150}$ must be between 12 and 13

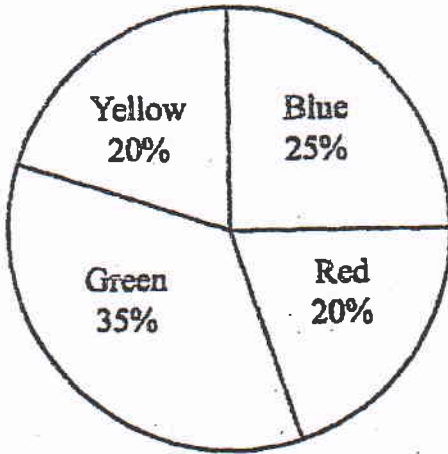
.....

.....

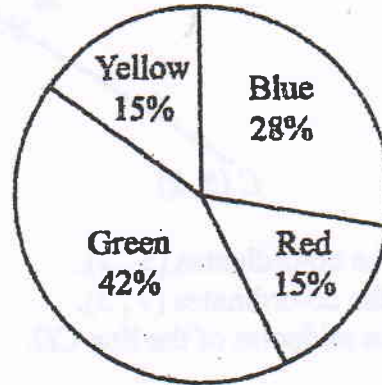
[1]

15 A school has 120 boys and 100 girls.
A survey of favourite colours is carried out in the whole school.

Boys



Girls



Rajiv says,



The pie charts show that more boys than girls prefer blue.

Check whether Rajiv is correct.
You must show your calculations.

[2]

16 Put one set of brackets in each calculation to make the answer correct.

(a) $4 + 9 \times 6 - 4 = 22$

[1]

(b) $24 \div 12 - 8 + 2 = 4$

[1]

17 Collette travels to work by car.

She records how long (in minutes) it takes her to travel to work on 25 mornings. She also records how long it takes her to travel home from work on these days. The diagram shows her results.

Journey times to work (minutes)							Journey times home (minutes)						
9	8	7	6	6	5	4	2	5	6	8			
8	8	7	4	2	1	0	3	0	3	5	5	6	7
	9	7	4	2	2	1	4	1	1	3	4	7	8
		6	6	5	4	2	5	0	1	2	4	9	9
							6	4	6	7			

Key		
4	2	= 42
3	4	= 43

(a) Complete the table showing the values of the median and range.

	Journey times to work (minutes)	Journey times home (minutes)
Median	38	
Range		42

[2]

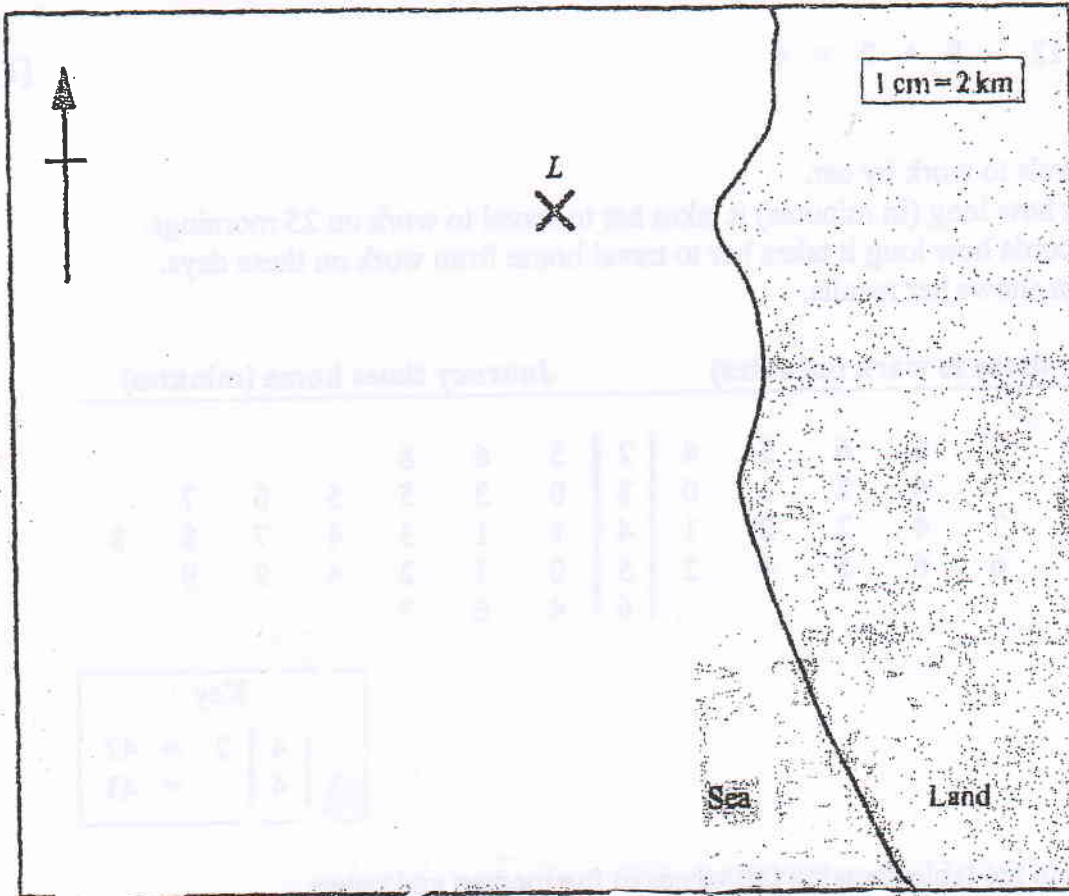
(b) Use the median values from the table in part (a) to compare the times of Collette's journeys to and from work.

.....

.....

[1]

- 18 The diagram shows a map drawn to a scale of 1 cm to 2 km.
A lighthouse is at point *L*.



- (a) A boat is 12.2 km west of the lighthouse.

Mark the position of the boat on the map.
Label it *B*.

[1]

- (b) A ferry is 14 km from the lighthouse.
The bearing of the ferry from the lighthouse is 210°

Mark the position of the ferry on the map.
Label it *T*.

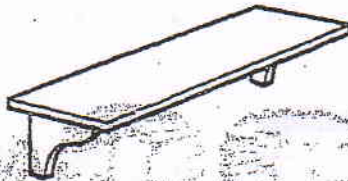
[2]

19 Work out

$$\left(\frac{3}{4} - \frac{1}{5}\right) \div \frac{2}{3}$$

..... [2]

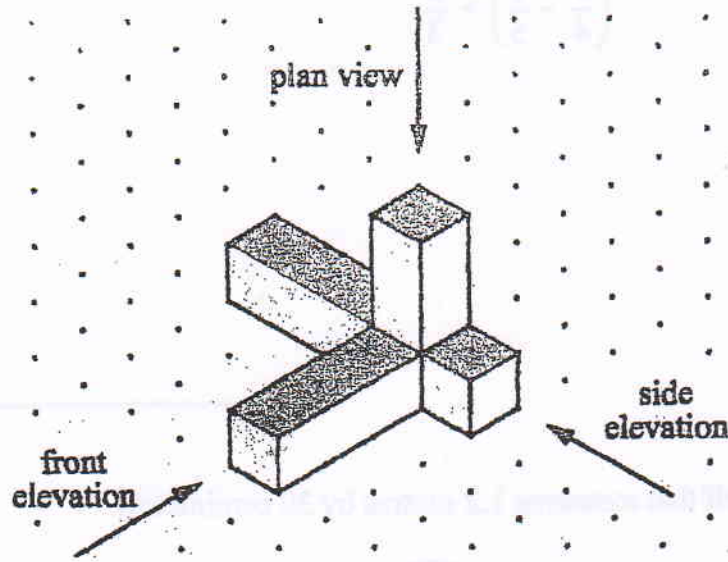
20 Jamila has a rectangular shelf that measures 1.2 metres by 30 centimetres.



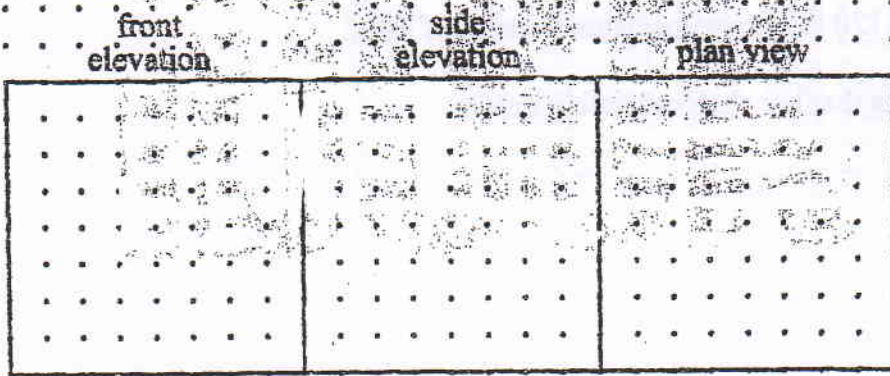
It can safely hold 120 kilograms per square metre of shelf.

Work out the mass that her shelf can safely hold.

..... kilograms [3]



On the grid below draw the three elevations.



[3]



22 Tick (✓) all the calculations whose value is the same as 16×0.1

$16 \div 10$

$16 \div \frac{1}{10}$

16×10

16×10^{-1}

[1]

23 A bag contains $2\frac{1}{2}$ kg of potatoes.



Steve uses one third of the potatoes

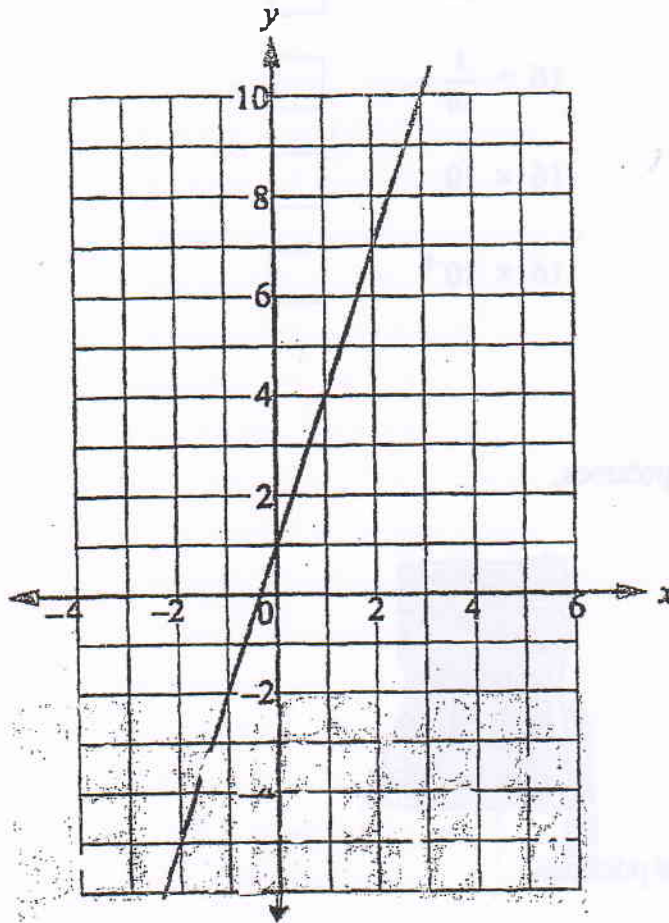
Calculate the mass of the potatoes that he uses.
Give your answer as a fraction.

..... kg [1]

24 Work out 2.56×4.8

..... [2]

25 The diagram shows a straight line drawn on a grid.



(a) Write down the gradient of the line.

..... [1]

(b) Write down the equation of the line.
Give your answer in the form $y = mx + c$

$y =$ [1]