

Name

the PiXL_{club}
partners in excellence

Class

the PiXL_{club}
partners in excellence

Practice Paper 2

Edexcel Linear Specification

Foundation Tier

June 2015

We offer this service, but make no great claims as to its accuracy.

Time 1 Hour 45 Minutes
Marks Available 100

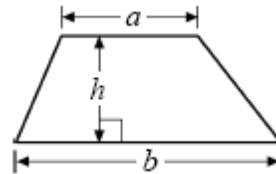


Commissioned by The PiXL Club Ltd.

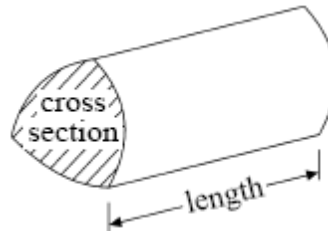
Formulae: Foundation Tier

**You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.**

Area of trapezium = $(a + b)h$



Volume of prism = area of cross section \times length



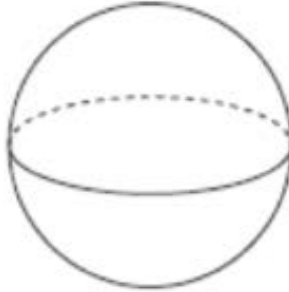
Question 1

(a) Write down the mathematical name for each of these 3-D shapes.

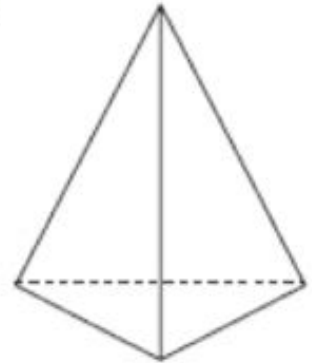
(i)



(ii)



(iii)



(i)

(ii)

(iii)

(3)

(b) Here is a solid prism made from centimetre cubes.

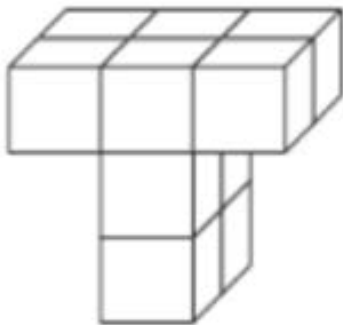


Diagram NOT
accurately drawn



Find the volume of the prism.

..... cm³
(1)

(Total 4 marks)

Question 2

Impossible	Unlikely	Even chance	Likely	Certain
------------	----------	-------------	--------	---------

From the words above, choose what best describes the probability.

(a) that the sun will shine in July next year in London,

.....
(1)

(b) that the next baby to be born will be a boy,

.....
(1)

(c) that there will be 50 days next month.

.....
(1)

(Total 3 marks)

Question 3

(a) Work out 5^2

.....
(1)

(b) Find the square root of 3.24

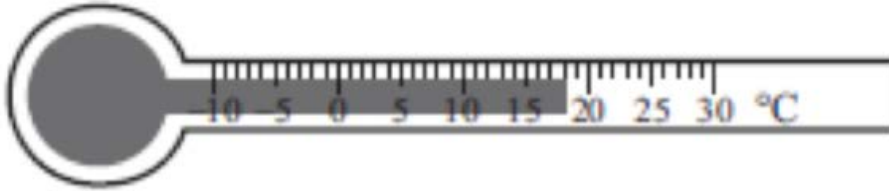
.....
(1)

(Total 2 marks)

Question 4

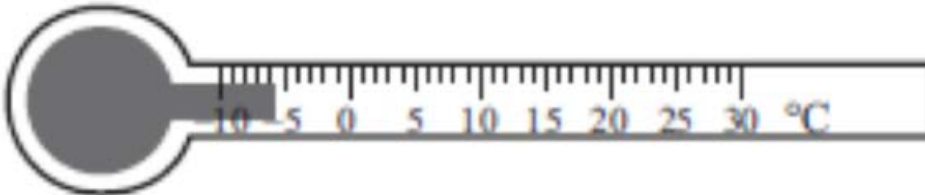
(a) Write down the temperature shown on each of these thermometers.

(i)



..... °C

(ii)



..... °C
(2)

The table shows the temperatures, in London, at different times on New Years Day, 2008.

Time of Day	Temperature
6am	-3°C
10am	0°C
Noon	2°C
2pm	5°C
6pm	4°C
10pm	-1°C

(b) Write down the lowest temperature.

..... °C
(1)

(c) Work out the difference in temperature between 6pm and 10pm.

..... °C
(1)

(Total 4 marks)

Question 5

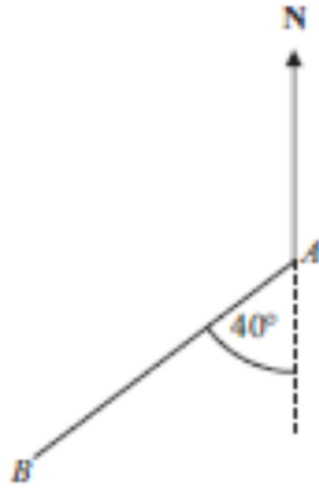


Diagram **NOT** accurately drawn

Work out the bearing of *B* from *A*.

..... °

(Total 2 marks)

Question 6

There are 11 children in a room.

6 of the children are girls.

(a) What fraction of the children are girls?

.....
(1)

2 of the boys are sitting down.

(b) What fraction of the boys are sitting down?

.....
(1)

(Total 2 marks)

Question 7

(a) Simplify $k + k + k + k + k$

.....
(1)

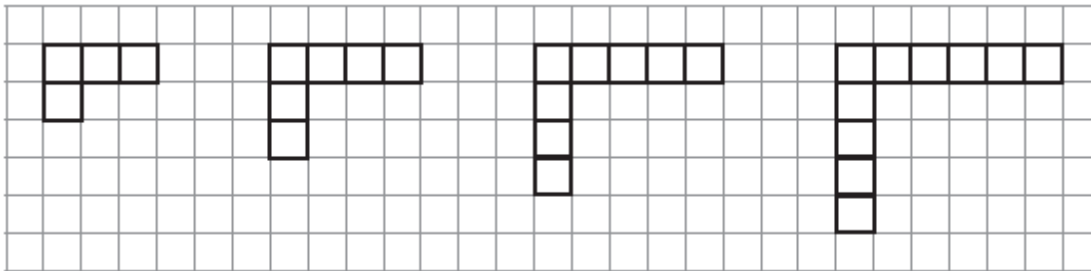
(b) Simplify $2m + 3m - m$

.....
(1)

(Total 2 marks)

Question 8

Here are some patterns made from squares.



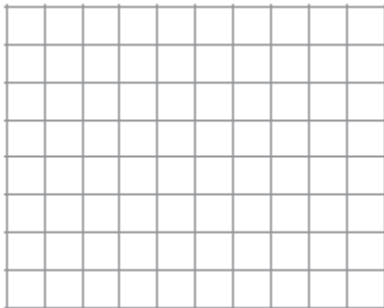
Pattern 1

Pattern 2

Pattern 3

Pattern 4

(a) On the grid below, draw Pattern 5



(1)

(b) Complete the table for Pattern 5 and Pattern 6

Pattern	1	2	3	4	5	6
Number of squares	4	6	8	10		

(2)

Amit says

“625 is a number in the sequence 4, 6, 8, 10,”

(c) Amit is **wrong**.
Explain why.

.....
.....

(1)

(Total 4 marks)

Question 9

Here are the weights, in kg, of 7 people.

57 87 49 49 72 45 75

(a) Work out the range of these weights.

..... kg
(2)

(b) Work out the mean weight.

..... kg
(2)

(Total 4 marks)

Question 10

Here are all the factors of 16

1 2 4 8 16

(a) Write down the factor of 16 that is a prime number.

.....
(1)

(b) Write down all the factors of 14

.....
(2)

(Total 3 marks)

Question 11

- (a) Write these numbers in order of size.
Start with the smallest number.

0.306 0.63 0.3 0.068

.....
(1)

- (b) Write these fractions in order of size.
Start with the smallest fraction.

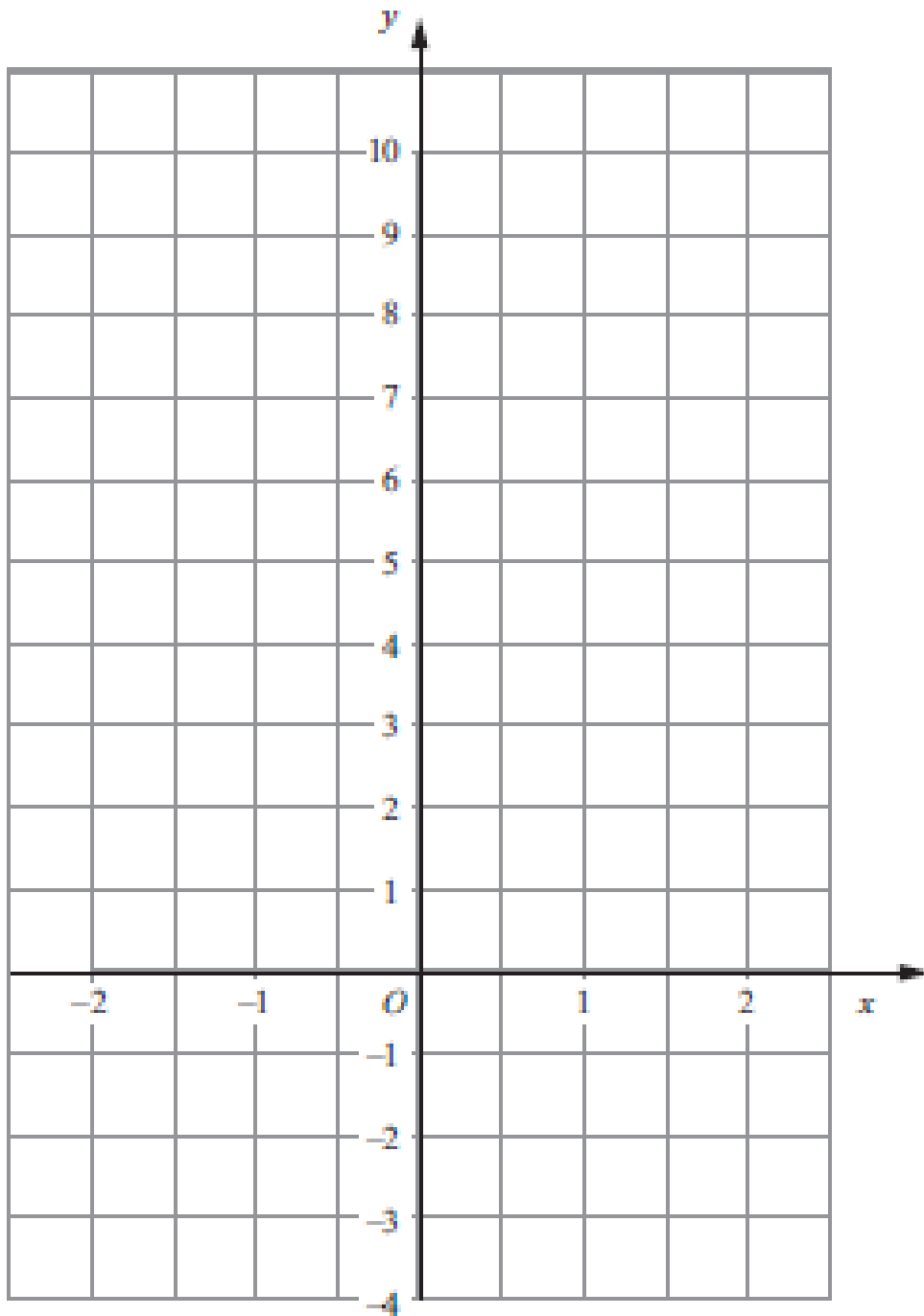
$\frac{3}{4}$ $\frac{7}{12}$ $\frac{5}{6}$ $\frac{3}{8}$

.....
(2)

(Total 3 marks)

Question 12

On the grid draw a graph of $y = 3x + 4$



(Total 4 marks)

Question 13

The equation

$$x^3 + 10x = 25$$

has a solution between 1 and 2.

Use a trial and improvement method to find this solution.

Give your answer correct to one decimal place.

You must show all your working.

$x = \dots\dots\dots$

(Total 4 marks)

Question 14

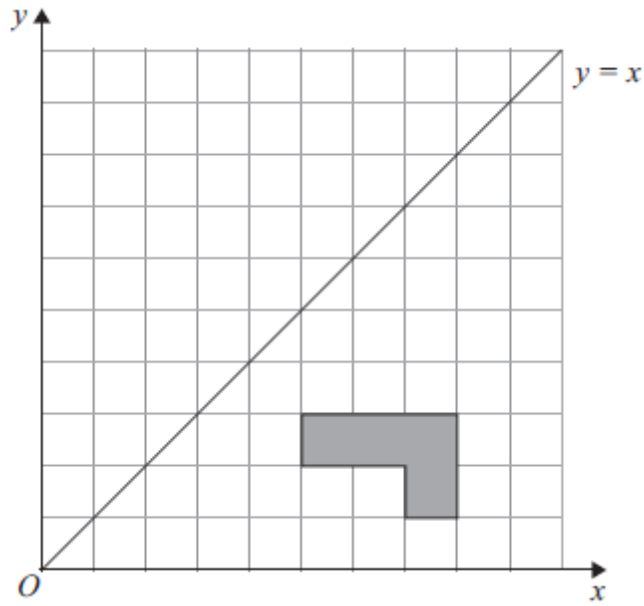
Use your calculator to work out

$$\frac{13.7 + 5.86}{2.54 \times 3.17}$$

Write down all the figures on your calculator display.
You must give your answer as a decimal.

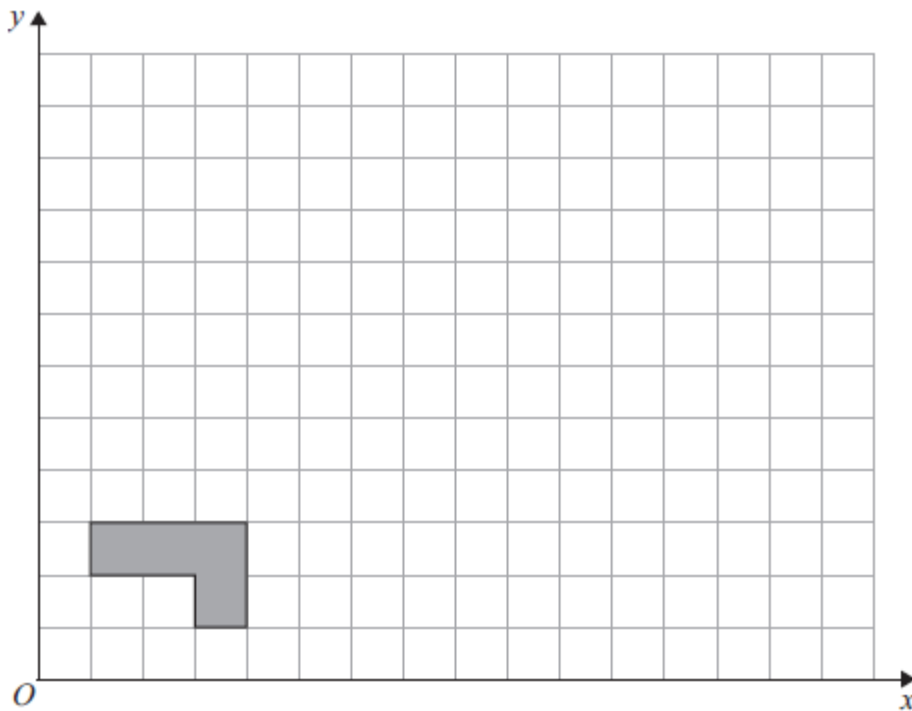
.....
(Total 2 marks)

Question 15



(a) Reflect the shaded shape in the line $y = x$.

(2)



(b) On the grid, enlarge the shaded shape by a scale factor of 3, centre O .

(3)

(Total 5 marks)

Question 16

(a) Work out $\frac{1}{3} + \frac{1}{12}$

.....
(1)

(b) Work out $\frac{3}{4} \times \frac{1}{5}$

.....
(1)

(Total 2 marks)

Question 17

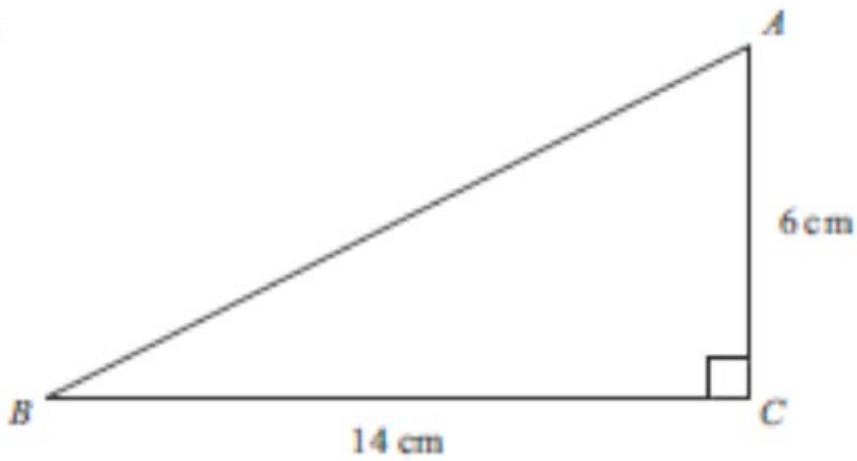


Diagram NOT accurately drawn

ABC is a right-angled triangle.

$AC = 6\text{cm}$.

$BC = 14\text{cm}$.

(a) Work out the area of triangle *ABC*.

..... cm^2
(2)

- (b) Calculate the length of AB .
Give your answer correct to 2 decimal places.

..... cm
(3)

(Total 5 marks)

Question 18

There are some sweets in a bag.

18 of the sweets are toffees.

12 of the sweets are mints.

- (a) Write down the ratio of the number of toffees to the number of mints.
Give your ratio in its simplest form.

..... :

(2)

There are some oranges and apples in a box.

The total number of oranges and apples is 54

The ratio of the number of oranges to the number of apples is 1 : 5

- (b) Work out the number of apples in the box.

.....

(2)

(Total 4 marks)

Question 19

Sethina recorded the times, in minutes, taken to repair 80 car tyres.
Information about these times is shown in the table.

Time(tminutes)	Frequency		
$0 < t \leq 6$	15		
$6 < t \leq 12$	25		
$12 < t \leq 18$	20		
$18 < t \leq 24$	12		
$24 < t \leq 30$	8		

Calculate an estimate for the mean time taken to repair each car tyre.

..... minutes

(Total 4 marks)

Question 20

The shape below has rotational symmetry.



Write down the order of rotational symmetry.

.....

(Total 1 mark)

Question 21

800 students are going on a school trip by bus.

Each bus can carry 34 students.

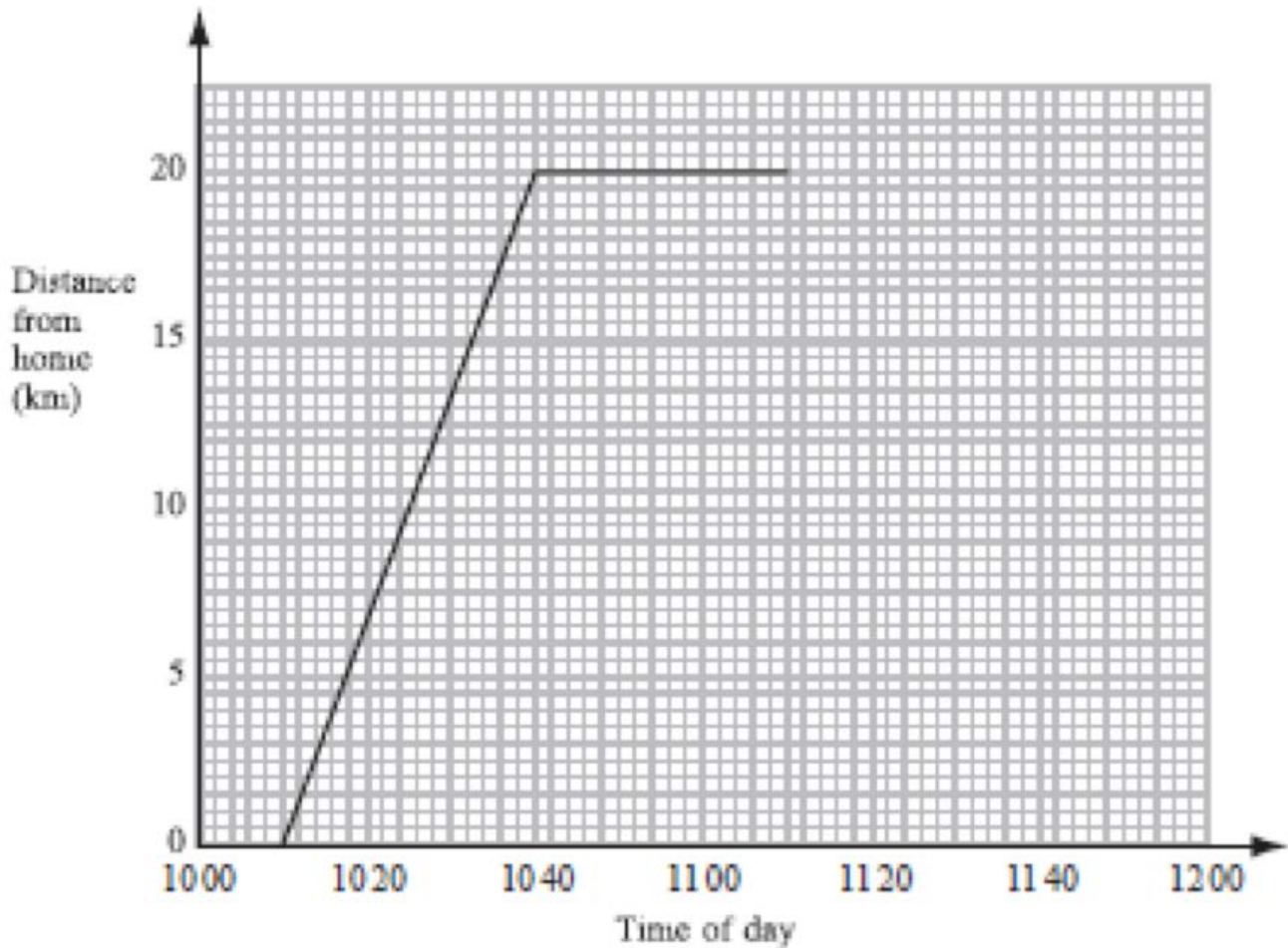
Work out the smallest number of buses needed to carry all the students.

.....

(Total 2 marks)

Question 22

Jamie travelled 20 km from his home to his friend's house.
 Jamie then spent some time at his friend's house before returning home.
 Here is the travel graph for part of Jamie's journey.



(a) Write down the time that Jamie left home.

.....
(1)

(b) Write down Jamie's distance from home at 10 20.

..... km
(1)

Jamie left his friend's house at 11 10 to return home.

(c) Work out the time in minutes Jamie spent at his friend's house.

..... minutes
(1)

Jamie returned home at a steady speed.
He arrived home at 11 50.

(d) Complete the travel graph.

(1)

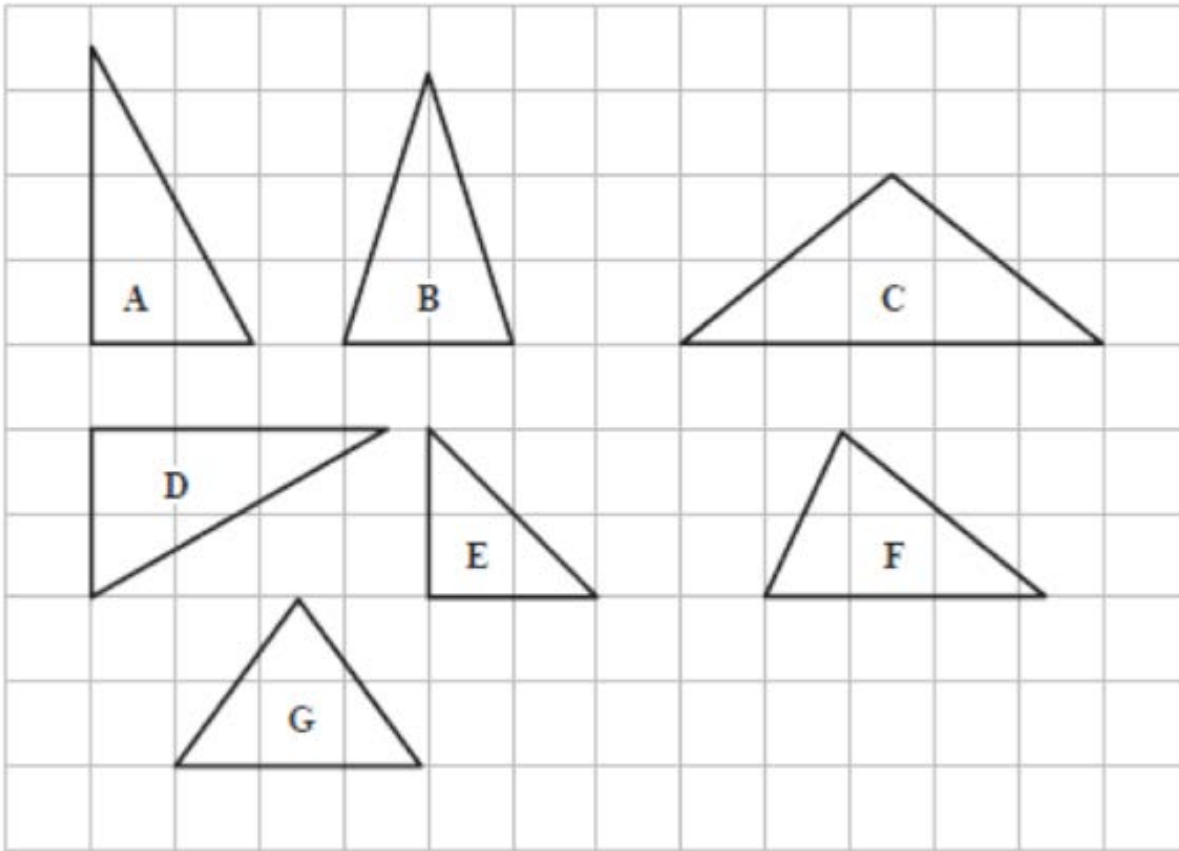
(e) Work out Jamie's average speed on his journey from his home to his friend's house.
Give your answer in kilometres per hour.

..... km/hour
(2)

(Total 6 marks)

Question 23

Here are some triangles on a grid.



Two of these triangles are congruent.

- (a) Write down the letters of these two triangles.

.....
(1)

One of these triangles is both right-angled and isosceles.

- (b) Write down the letter of this triangle.

.....
(1)

(Total 2 marks)

Question 24

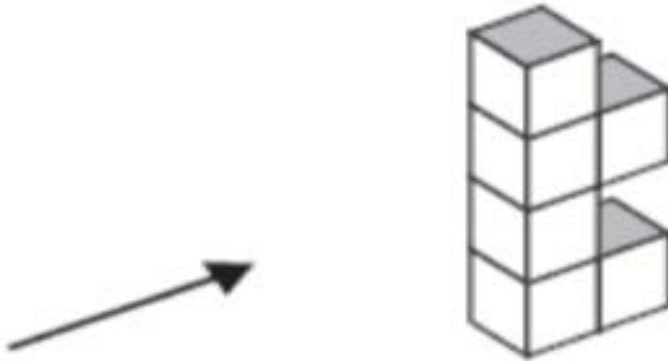
Calculate 36% of £4500.

£

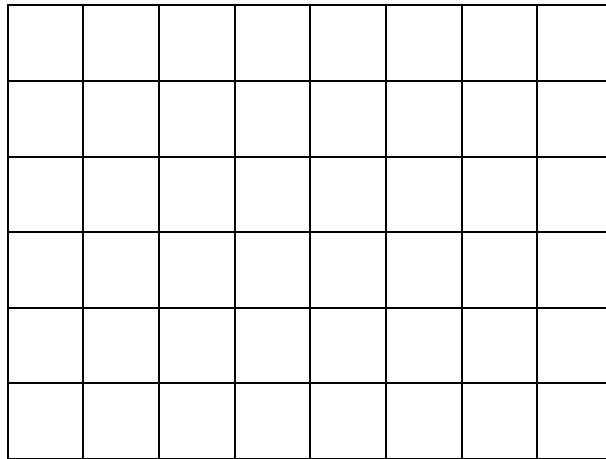
(Total 2 marks)

Question 25

The diagram shows a solid object made of 6 identical cubes.

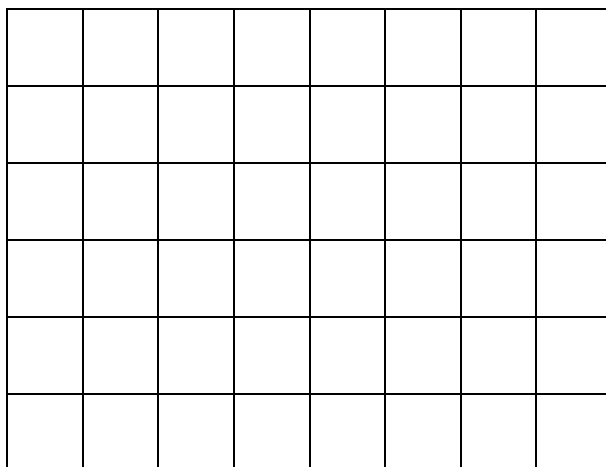


(a) On the grid below, draw the side elevation of the solid object from the direction of the arrow.



(2)

(b) On the grid below, draw the plan of the solid object.



(2)

(Total 4 marks)

Question 26

Here is a list of the ingredients needed to make scones for 4 people.

<p>Scones</p> <p>Ingredients for 4 people</p> <p>200 g of flour</p> <p>2 eggs</p> <p>50 g of currants</p> <p>100 ml of milk</p>

Work out how much of each ingredient is needed to make scones for 6 people.

..... g of flour

..... eggs

..... g of currants

..... ml of milk

(Total 3 marks)

Question 27

The diameter of a wheel on Harry's bicycle is 0.65 m.

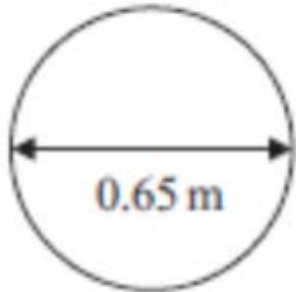


Diagram **NOT**
accurately drawn

Calculate the circumference of the wheel.
Give your answer correct to 2 decimal places.

..... m

(Total 2 marks)

Question 28

The number of driving lessons taking by fifteen people before passing their driving test are shown.

22	15	9	18	29
38	18	19	48	16
13	21	58	23	13

Complete an ordered stem-and-leaf diagram to represent this data.
Remember to complete the key.

.....

.....

.....

.....

.....

.....

0	
1	
2	
3	
4	
5	

Key ... | ... represents lessons

(Total 3 marks)

Question 29

Expand and simplify $(x + 3)(x + 4)$

.....

(Total 2 marks)

Question 30

- (a) $-3 \leq n < 2]$
 n is an integer.
Write down all the possible values of n .

.....

(2)

- (b) Solve the inequality

$$5x < 2x - 6$$

.....

(3)

(Total 5 marks)

Question 31

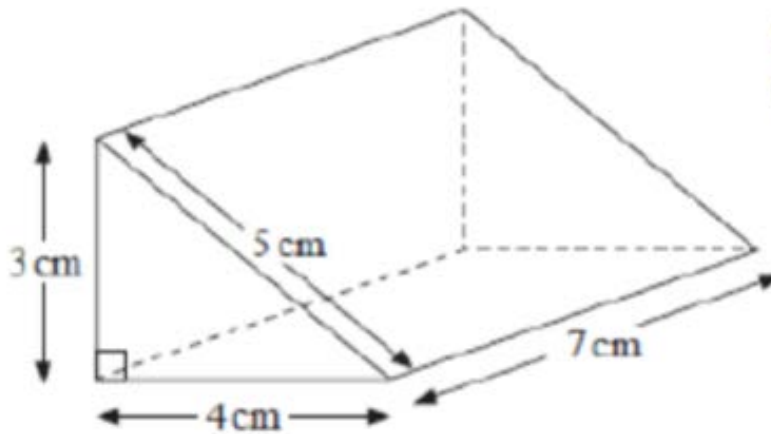


Diagram NOT
accurately drawn

Work out the total surface area of the triangular prism.

..... cm²

(Total 3 marks)

END OF PAPER