

Please write clearly in block capitals.

Centre number

--	--	--	--	--

Candidate number

--	--	--	--

Surname

Forename(s)

Candidate signature

GCSE MATHEMATICS (LINEAR)

F

Foundation Tier Paper 2

Friday 6 November 2015

Morning

Time allowed: 1 hour 45 minutes

Materials

For this paper you must have:

- a calculator
- mathematical instruments.



Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 105.
- The quality of your written communication is specifically assessed in Questions 8, 11 and 18. These questions are indicated with an asterisk (*).
- You may ask for more answer paper, tracing paper and graph paper. These must be tagged securely to this answer book.

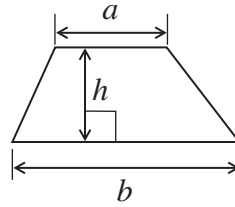
Advice

- In all calculations, show clearly how you work out your answer.

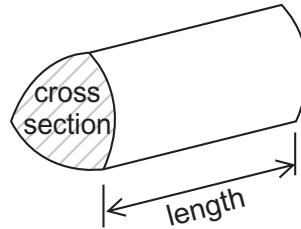


Formulae Sheet: Foundation Tier

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section \times length



Answer **all** questions in the spaces provided.

- 1 (a)** A woman is facing North.
She turns clockwise to face West.
- What angle does she turn through?
Circle your answer.

[1 mark]

45° 90° 180° 270°

- 1 (b)** A man is facing North-East.
He turns 180°
- In which direction is he facing now?
Circle your answer.

[1 mark]

North South-West West North-West

Turn over for the next question



- 2 (a)** Which **two** units are sensible to measure the distance between two towns?
Circle your answers.

[2 marks]

centimetres metres kilometres inches miles

- 2 (b)** Which **two** units are sensible to measure the mass of a mobile phone?
Circle your answers.

[2 marks]

grams ounces pounds kilograms tonnes

- 2 (c)** Which **two** of these are sensible for the amount of juice in a full bottle?
Circle your answers.

[2 marks]

2000 ml 5000 litres 4 ml 1.5 litres 300 litres



3 (a) This formula is used to work out the cost, in £, of delivering packs of dog food.

$$\text{Cost} = \text{number of packs} \times 4 + 8$$

Work out the cost of delivering 12 packs of dog food.

[2 marks]

.....
.....

Answer £

3 (b) This formula is used to work out the cost, in £, of packs of cat food.

$$\text{Cost} = \text{number of packs} \times 3.5$$

Tom has £20 to buy cat food.

Work out the **maximum** number of these packs he can buy.

[2 marks]

.....
.....

Answer

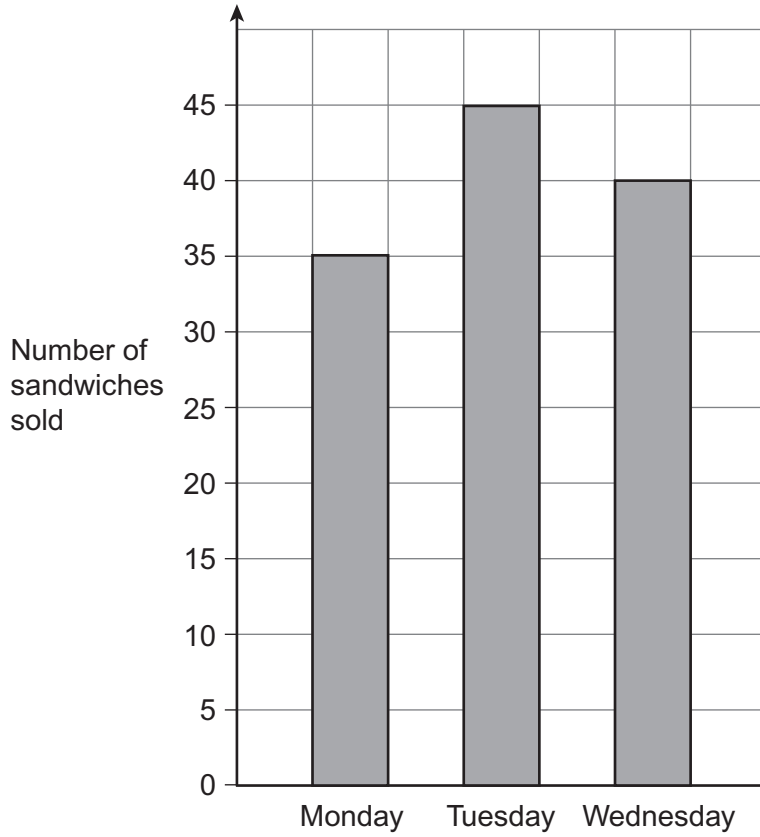
Turn over for the next question

10

Turn over ►



4 The bar chart shows the number of sandwiches sold on Monday, Tuesday and Wednesday.



4 (a) A profit of £2 is made from each sandwich sold.

Work out the total profit made from sandwiches sold on the **three** days.

[4 marks]

.....
.....
.....

Answer £




4 (b) Altogether 65 sandwiches were sold on Thursday and Friday.

A profit of £2 is made from each sandwich sold.

The total profit from sandwiches sold on Thursday is £80

Draw a pictogram for the number of sandwiches sold on Thursday and Friday.
Use the key given.

[4 marks]

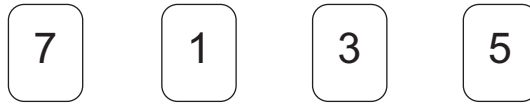
Key:  represents **10** sandwiches sold

Thursday	
Friday	

Turn over for the next question



5 Here are four number cards.



5 (a) Use all four cards to make the **smallest** possible number.

[1 mark]

5 (b) Choose three of the cards to make this calculation correct.

[1 mark]

$$\square \square \div \square = 14.6$$

5 (c) Choose three of the cards to make the **largest** possible answer.
Work out the answer.

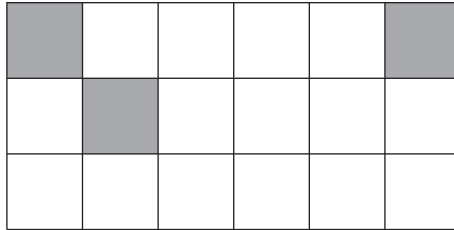
[2 marks]

$$\square \square \times \square = \dots\dots\dots$$



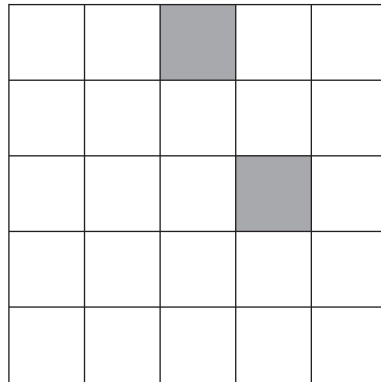
6 (a) Shade **one** more square so that this grid has one line of symmetry.

[1 mark]



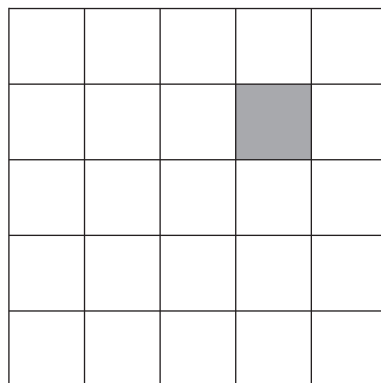
6 (b) Shade **three** more squares so that this grid has two lines of symmetry.

[2 marks]

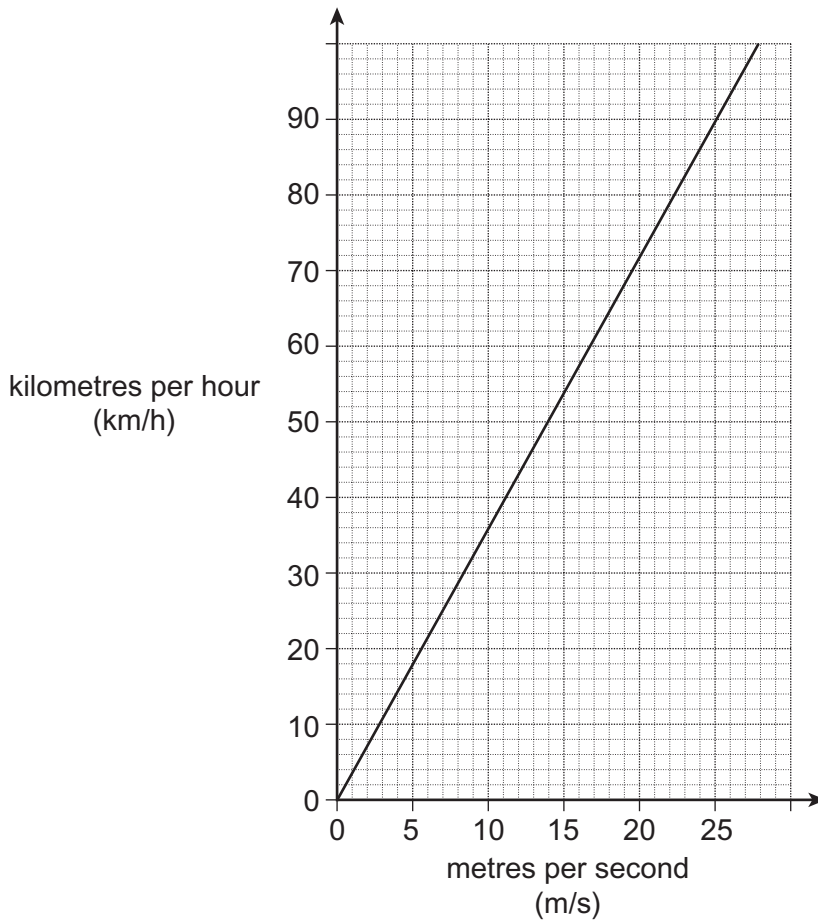


6 (c) Shade **four** more squares so that this grid has rotational symmetry of order 4

[2 marks]



7 Here is a conversion graph.



7 (a) Use the graph to convert 30 km/h to m/s

[1 mark]

Answer m/s

7 (b) Use the graph to convert 60 m/s to km/h

[3 marks]

.....

.....

.....

Answer km/h



8 Andy has a job for 5 days.
The table shows his pay for the first 4 days.

Day	Mon	Tue	Wed	Thu	Fri
Pay	£31.50	£40.50	£27	£18	

***8 (a)** Work out the range of his pay for the first 4 days.

[2 marks]

.....

.....

Answer £

8 (b) His mean pay for the 5 days is £28 per day.

How much was his pay on Friday?

[3 marks]

.....

.....

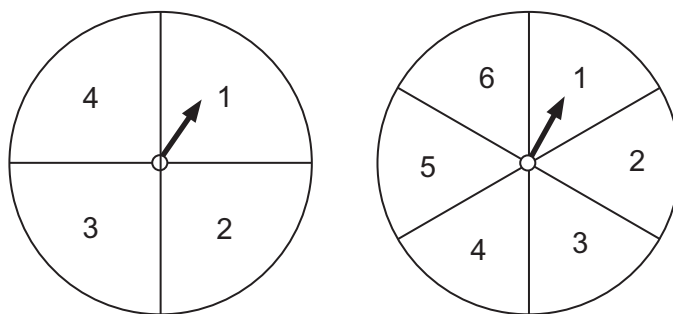
.....

.....

Answer £



9 The arrows on these two fair spinners are spun.



The numbers shown by the arrows are added to get the score.

9 (a) Complete this table to show all the possible scores.

[2 marks]

+	1	2	3	4	5	6
1	2	3				
2	3					
3						
4						

9 (b) Work out the probability of scoring less than 4
Give your answer as a fraction in its simplest form.

[3 marks]

.....

Answer

9 (c) Work out the probability of scoring a prime number.

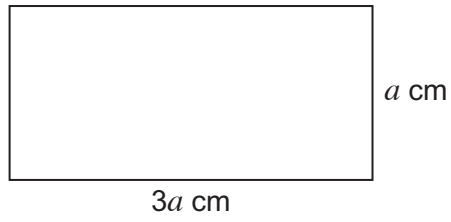
[2 marks]

.....

Answer



10 The diagram shows a rectangle.



Not drawn
accurately

The perimeter of the rectangle is 28 cm

Work out the area of the rectangle.

[3 marks]

.....

.....

.....

.....

.....

.....

Answer cm^2

Turn over for the next question

10

Turn over ►



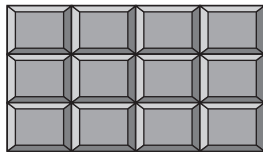
***11** Show that 68 grams is approximately 10% more than 62 grams.

[2 marks]

.....
.....

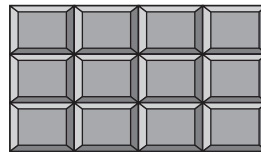
12 Gill has £3

Choco bar



72p

Toffee bar



49p

She wants to buy five bars.
She wants as many Choco bars as possible.

How many Choco bars can she buy?

[3 marks]

.....
.....
.....
.....

Answer



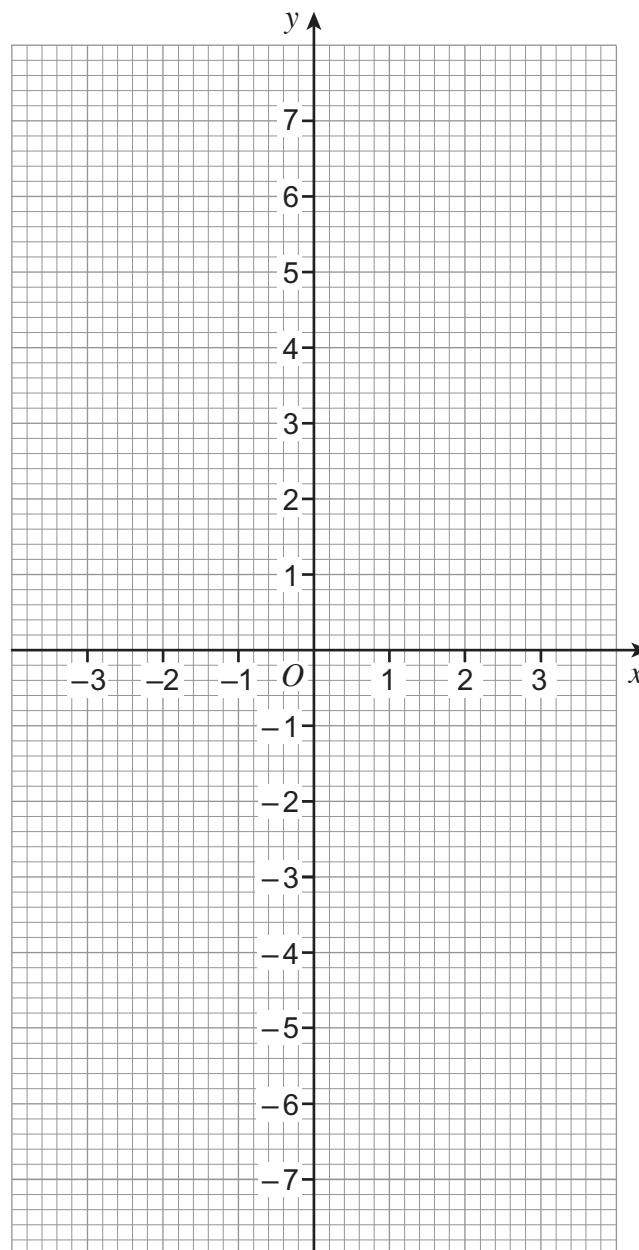
13 (a) Complete the table of values for $y = 3 - 2x$

[2 marks]

x	-2	0	2
y	7		

13 (b) On the grid, draw the graph of $y = 3 - 2x$ for values of x from -2 to 2

[2 marks]



14 Toni makes 40 dolls.

She sells $\frac{4}{5}$ of them at one price for a total of £96

She then reduces the price and sells the rest for a total of £20

By how much did she reduce the price?

[5 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

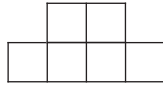
Answer



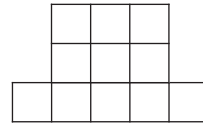
15 Here is a sequence of patterns made with squares.



Pattern 1



Pattern 2



Pattern 3

The rule for working out the number of squares in each pattern is

Square the pattern number and then add 2

15 (a) How many squares are in pattern 7?

[1 mark]

.....
.....

Answer

15 (b) Which pattern has 123 squares?

[2 marks]

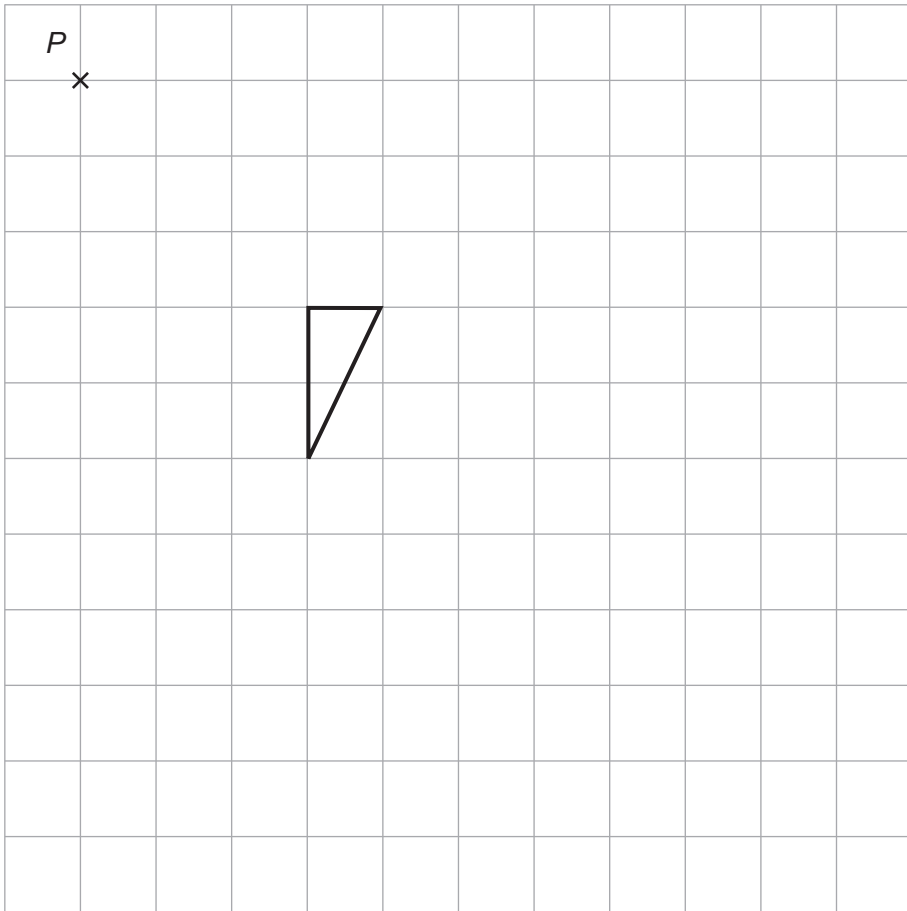
.....
.....

Answer



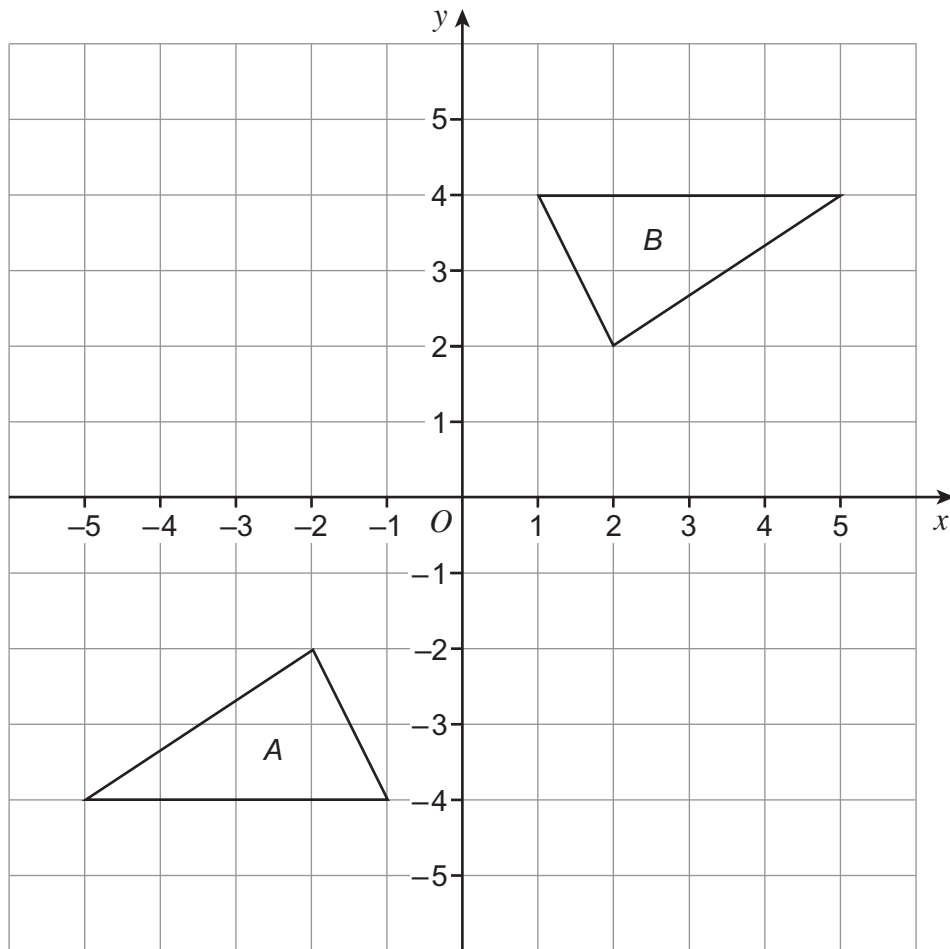
16 (a) Enlarge the triangle by scale factor 2, using point P as the centre of enlargement.

[3 marks]



16 (b) Describe fully the **single** transformation that maps shape *A* onto shape *B*.

[3 marks]



.....

.....



17 A family uses 300 units of gas.

Each unit of gas costs 19p without VAT.
VAT of 5% is added to the bill.

Work out the total gas bill.

[4 marks]

.....

.....

.....

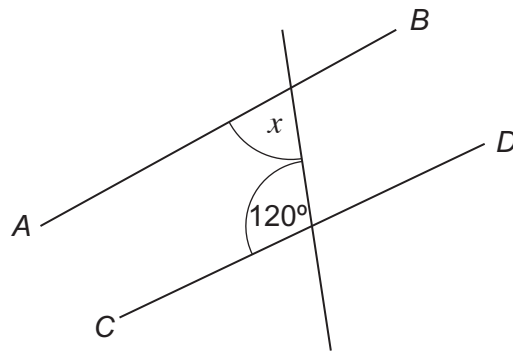
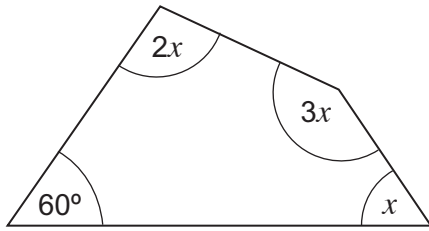
.....

.....

.....

Answer £



***18**Not drawn
accurately

Show that AB is **not** parallel to CD .

[4 marks]

.....

.....

.....

.....

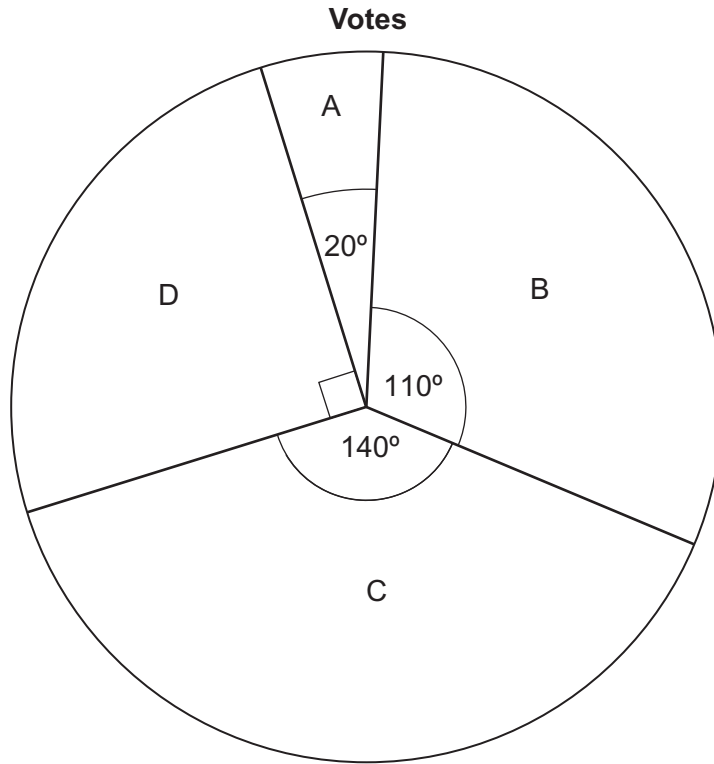
.....

.....

Turn over for the next question



19 The pie chart shows information about how people voted in an election.



1800 people voted for D.

How many **more** people voted for C than B?

[3 marks]

.....

.....

.....

.....

.....

Answer



20 (a) Solve $6x + 4 = 2(2x - 5)$

[3 marks]

.....
.....
.....

$x =$

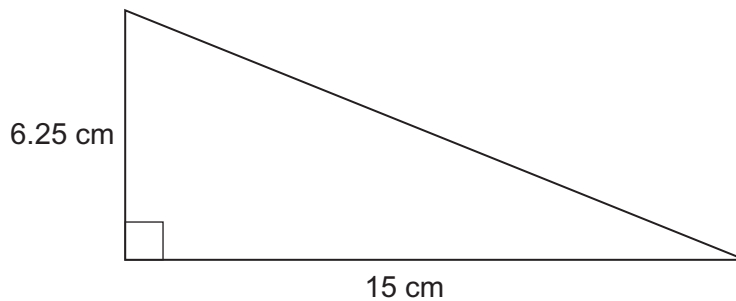
20 (b) Multiply out $y(2 - y^3)$

[2 marks]

.....

Answer

21 Work out the length of the hypotenuse.



Not drawn accurately

[3 marks]

.....
.....
.....

Answer cm



22 Abby and Judy share some money.
Abby gets 25%

22 (a) Write Abby's share : Judy's share as a ratio.
Give your answer in its simplest form.

[2 marks]

.....
.....

Answer :

22 (b) Judy gets £19.50

How much does Abby get?

[2 marks]

.....
.....
.....

Answer £



23 Here is information about the scores, t , of class A in a test.

Score	Frequency		
$0 < t \leq 10$	4		
$10 < t \leq 20$	8		
$20 < t \leq 30$	9		
$30 < t \leq 40$	3		
$40 < t \leq 50$	1		

The mean score for class B in the same test is 22

Dan says, "On average, class A did better than class B."

Is he correct?
You **must** show your working.

[4 marks]

.....

.....

.....

.....

.....

.....

Answer

8

Turn over ►



24 a and b are different prime numbers with $a > b$

24 (a) Give an example to show that $a^2 + b^2$ could be even.

[1 mark]

.....

.....

.....

24 (b) Give an example to show that $a^2 + b^2$ could be odd.

[1 mark]

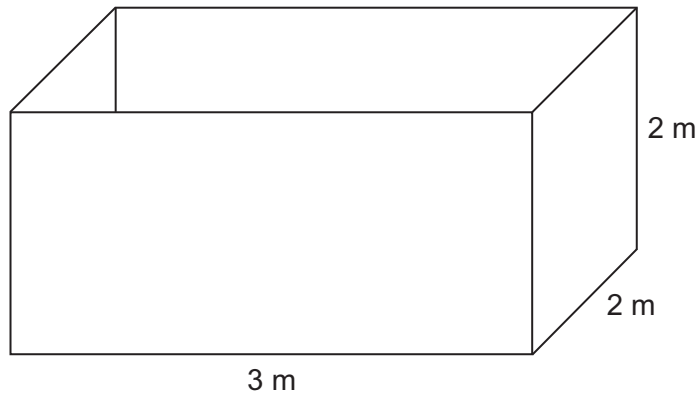
.....

.....

.....



25 An empty tank is in the shape of a cuboid as shown.



The tank is to be filled with water at 1.25 litres per second.

$1 \text{ m}^3 = 1000 \text{ litres}$

Work out the time taken to fill the tank.
Give your answer in hours and minutes.

[5 marks]

.....

.....

.....

.....

.....

.....

.....

Answer hours minutes

END OF QUESTIONS



There are no questions printed on this page

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

Copyright Information

For confidentiality purposes, from the November 2015 examination series, acknowledgements of third party copyright material will be published in a separate booklet rather than including them on the examination paper or support materials. This booklet is published after each examination series and is available for free download from www.aqa.org.uk after the live examination series.

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and AQA will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team, AQA, Stag Hill House, Guildford, GU2 7XJ.

Copyright © 2015 AQA and its licensors. All rights reserved.

