Surname	Centre Number	Candidate Number
Other Names		0

WJEC CBAC

GCSE

4370/04

C D E F G

57 45 34 22 11

MATHEMATICS – LINEAR
PAPER 2
FOUNDATION TIER

A.M. TUESDAY, 17 June 2014

1 hour 45 minutes

ADDITIONAL MATERIALS

A calculator will be required for this paper.

A ruler, a protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

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

If you run out of space, use the continuation page at the back of the booklet, taking care to number the question(s) correctly.

Take π as 3·14 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

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

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question 3*(b)*.

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	6	6
2.	4	10
3.	7	17
4.	5	22
5.	4	26
6.	5	31
7.	5	36
8.	8	44
9.	7	51
10.	6	57
11.	6	63
12.	4	67
13.	5	72
14.	5	77
15.	4	81
16.	6	87
17.	13	100
Total	**100**	

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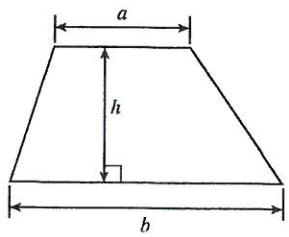
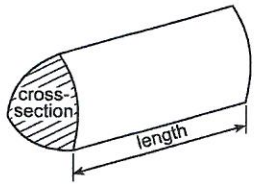
4 G F E D C

Formula List

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



Volume of prism = area of cross-section × length



Examiner only

1. *(a)* Ahmed buys some groceries.
Complete the **four** entries in the following table to show his bill for these items. [4]

Amount	Item	Cost (£)
6 packs	Butter @ £1.24 per pack	7.44
4 kg	Sugar @ 86p per kg	3.44
3 packs	Currants @ £1.54 per pack	4.62
Total		15.50

B
B1
B1
B1

(b) He gets a 20% discount.
How much is this discount? [2]

0.20 × 15.50 = £3.10

M1
A1

2. Circle the quantity that is the appropriate estimate for each of the following. [4]

Height of a man	170 km	170 m	170 mm	**170 cm**
Weight of a large dog	**28 kg**	28 g	28 mg	280 g
Capacity of a car's fuel tank	60 cm^3	600 ml	**60 litres**	6000 litres
Floor area of a room	**18 m^2**	18 cm^2	18 mm^2	18 cm^3

B1
B1
B1
B1

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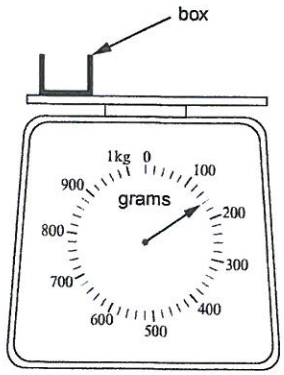
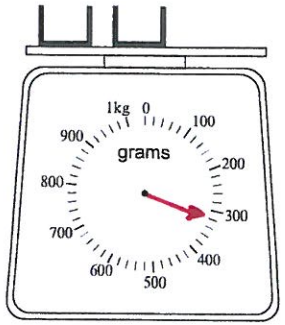
3. A box is placed on a scale.



(a) Two of these boxes are now placed on the scale.
Draw the pointer on the scale to show how much they weigh. [2]



B1

1 box = 160 g
2 box = 320 g

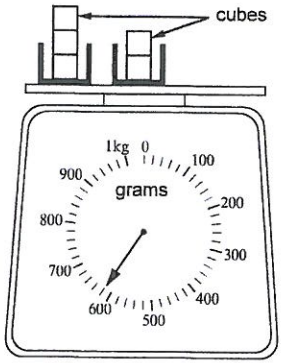
B1

12

Examiner only

(b) *You will be assessed on the quality of your written communication in this part of the question.*

Five identical cubes are now placed as shown.
Find how much one cube weighs. [5]



Total weight of 5 cubes + 2 boxes: 620g B1

Take off the weight of the two boxes

620 - 320 = 300g

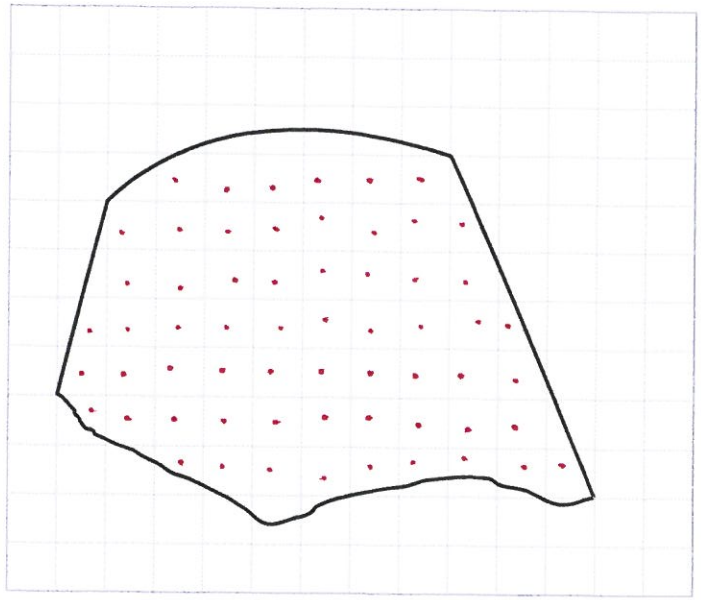
So 5 cubes weigh 300g. M1

So 1 cube will weigh 300 ÷ 5 = 60g A1

Q2

Examiner only

4. (a)



The above shape is the outline of a flowerbed in a park.
It is drawn on a square grid where each square represents an area of 8 m².
Estimate the area of the flowerbed. [3]

Count squares that cover more than half. M1

61 squares × 8 A1

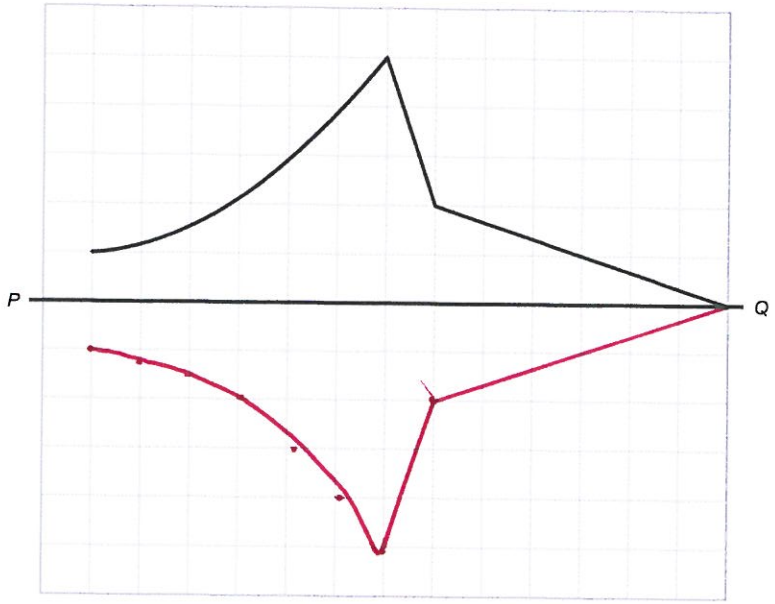
A1

Area of the flowerbed = 488 m²

8

Examiner only

(b) Complete the following figure so that it is symmetrical about the line PQ. [2]



B1

B1

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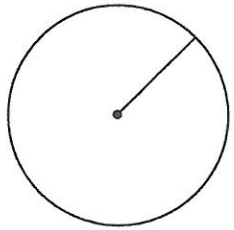
Turn over.

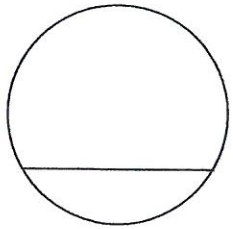
Examiner only

5. (a) Write down the special name of the straight line shown in each of the following diagrams. [2]



RADIUS

B1



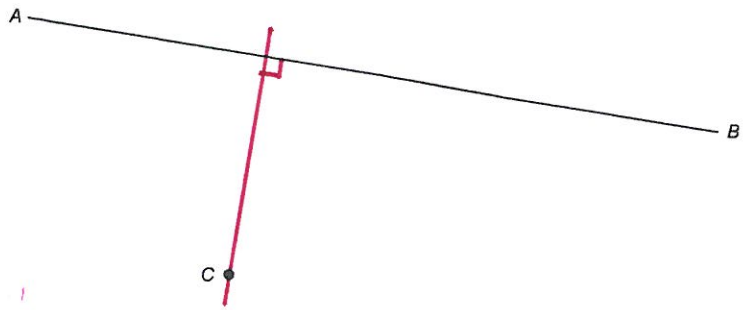
chord

B1

(b) (i) Measure, in millimetres, the length of the line AB. [1]

Length of AB = 83 mm

B1



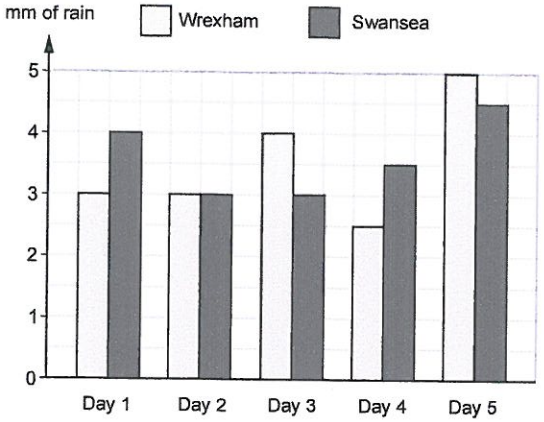
(ii) Draw the line through C that is perpendicular to AB. [1]

B1

6

Examiner only

6. The chart shows the number of millimetres of rainfall recorded in Wrexham and Swansea on five different days.



(a) On which day did Wrexham and Swansea have the same amount of rainfall? [1]

DAY 2 B1

(b) On how many days did Wrexham have less than 4 mm of rainfall? [1]

3 B1

(c) On how many days was there more rain in Swansea than in Wrexham? [1]

2 B1

(d) Find the total number of mm of rain that fell on Wrexham over these 5 days. [1]

3 + 3 + 4 + 2·5 + 5 = 17·5 mm B1

(e) What was the median number of mm of rain in Swansea over the 5 days? [1]

3 3 (3·5) 4 4·5 B1

median 3·5mm

4370 040009

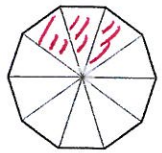
Turn over.

Examiner only

7. (a) Draw a circle around all of the following fractions that are equal to 40%. (0·4) [2]

$\frac{8}{20}$ $\frac{1}{4}$ $\frac{2}{5}$ $\frac{10}{40}$ $\frac{5}{20}$ B2

(b) Shade 30% of the following figure. [1]



B1

(c) Find, in its simplest form, $\frac{5}{6} - \frac{1}{3}$. [2]

$\frac{1}{2}$ M1 A1

10

Examiner only

8. *(a)* Find the value of

(i) $3 - (-4) + (-6)$, [1]

1. B1

(ii) $20 - 3(-2) + 5(-6)$. [1]

-4 B1

(b) Calculate 87% of 58. [2]

$0.87 \times 58 = 50.46$ M1 A1

(c) Find the value of each of the following, giving each answer correct to one decimal place.

(i) $\frac{75.61}{42.3 + 6.34}$ [2]

1.6 B1 B1

(ii) $3.4^2 + \sqrt{6.457}$ [2]

14.1 B1 B1

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Examiner only

9. *(a)* Describe **in words** the rule for continuing each of the following sequences.

(i) 2 9 16 23 30 ..... [1]

+7 +7 +7 +7

Rule:

add seven to the previous number B1

(ii) 4 −12 36 −108 324 ..... [1]

×-3 ×-3

Rule:

multiply previous number by minus three B1

(b) (i) A ticket costs t pounds (£). Write down, in terms of t, the cost of the ticket in pence. [1]

$t \times 100$ B1

(ii) Joan is h cm tall. Gill is 3 cm shorter than Joan.
Write down Gill's height in terms of h. [1]

$h - 3$ B1

(iii) A block weighs w kg.
Write down, in terms of w, the weight of 8 such blocks. [1]

$w \times 8$ B1

(c) Solve

(i) $3x = 15$, [1]

$x = \frac{15}{3} = 5$ B1

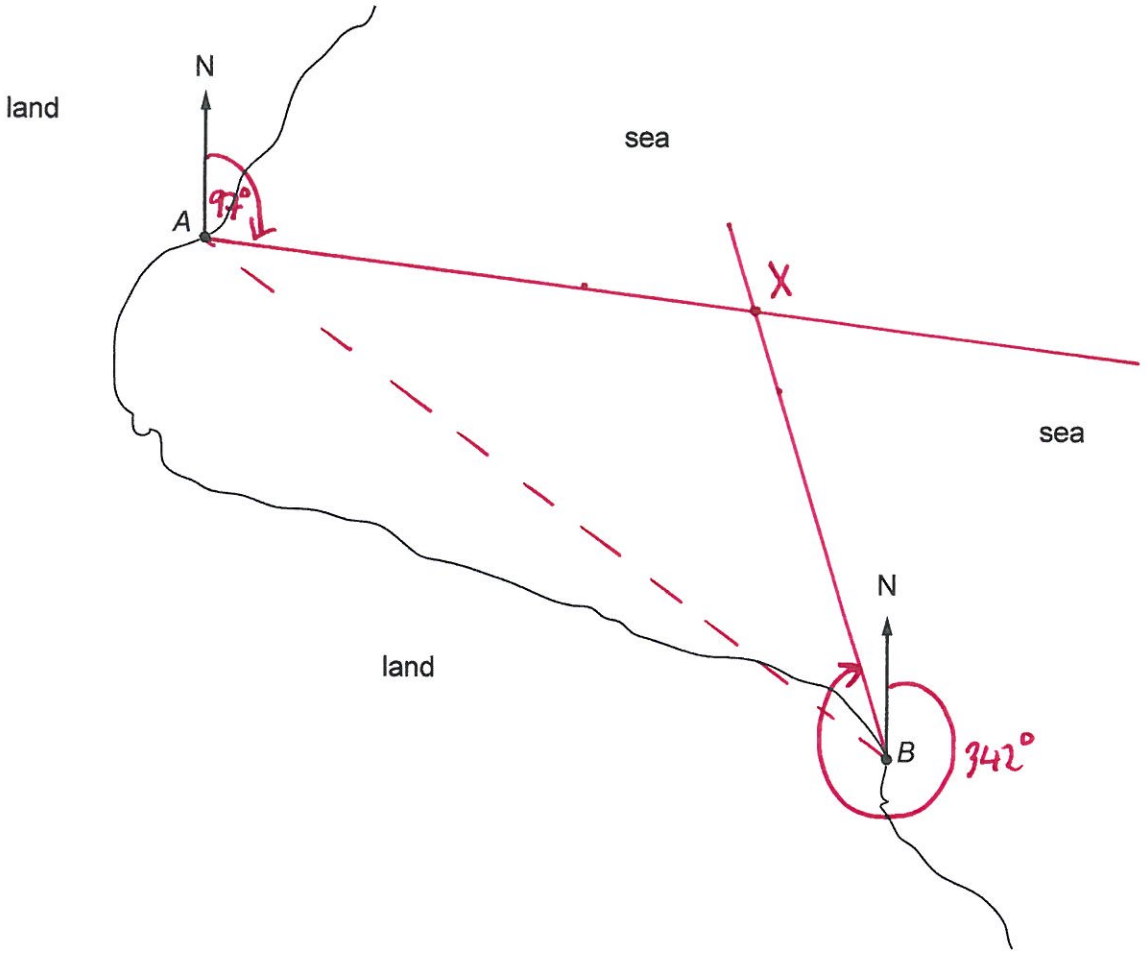
(ii) $x + 5 = 16$. [1]

$x = 16 - 5$
$= 11$ B1

11

Examiner only

11. *(a)* *A* and *B* are two ports shown on a map with scale 1 cm = 10 km.
Measure and find the straight line distance, in km, from *A* to *B*. [3]



M1
M1
A1

AB = 11.4 cm × 10 = 114 km

B1
M1
A1

(b) A ship is on a bearing of 097° from *A* and on a bearing of 342° from *B*.
Plot the position of the ship and mark it *X*. [3]

Examiner only

10. The ages (in years) of the 8 members of an evening class are as follows:

36 + 28 + 45 + 24 + 31 + 34 + 27 + 47 = 272

(a) (i) Find the range of the ages of the members of the class. [1]

47 - 24 = 23 years. B1

(ii) What was the range of their ages one year ago?
Give a reason for your answer. [2]

23 years B1

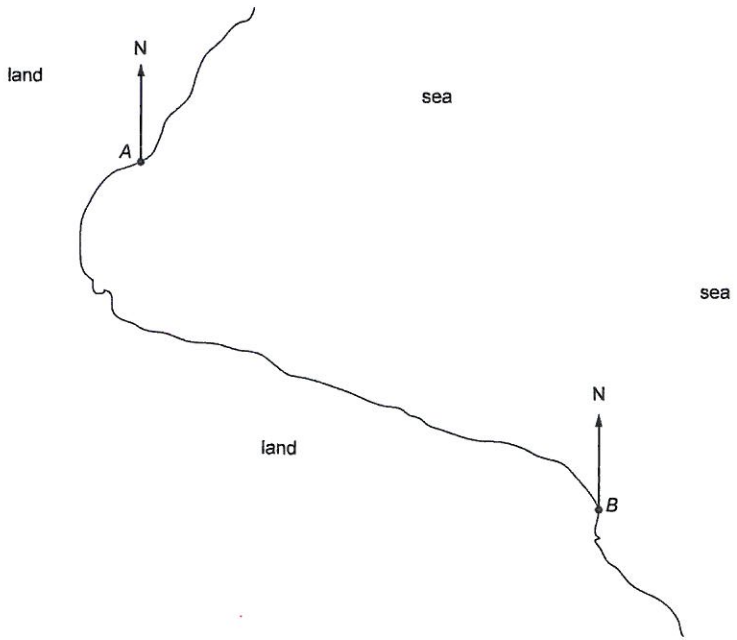
because 46 - 23 = the same E1

(b) Find the mean age of the members of the class. [3]

$\frac{272}{8}$ = 34 years M1 M1 A1

Examiner only

11. *(a)* *A* and *B* are two ports shown on a map with scale 1 cm = 10 km.
Measure and find the straight line distance, in km, from *A* to *B*. [3]



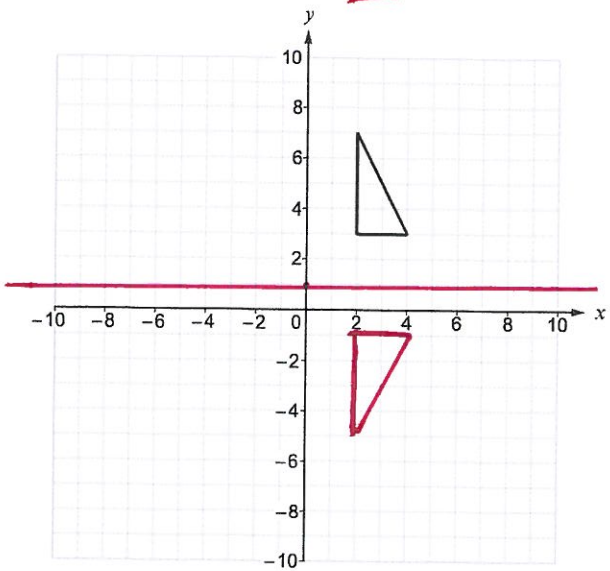
(b) A ship is on a bearing of 097° from *A* and on a bearing of 342° from *B*.
Plot the position of the ship and mark it *X*. [3]

6

12

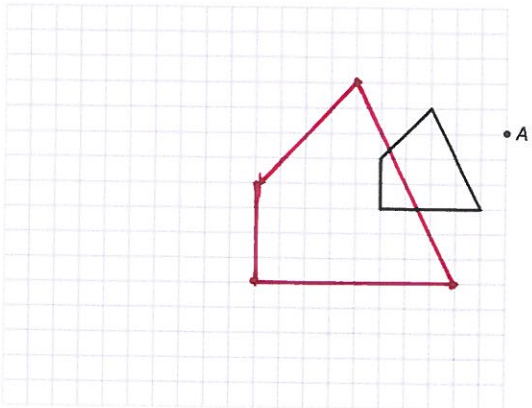
Examiner only

14. *(a)* Draw a reflection of the triangle in the line $y = 1$. [2]



y = 1 B1 B1

(b) Enlarge the shape shown on the grid by a scale factor of 2, using *A* as the centre of the enlargement. [3]



B3

Examiner only

15. The ruling body for international football has rules for the dimensions of rectangular football pitches.

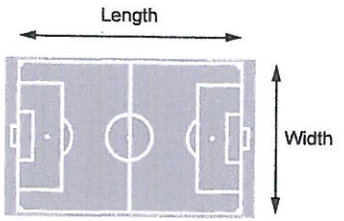


Diagram not drawn to scale

Football pitch dimension rules:

- the minimum width is 45 m
- the maximum width allowed is double the minimum width
- the maximum length is 120 m
- the minimum length allowed is three-quarters of the maximum length

Susan says

'The maximum area of a pitch is **at least 50%** greater than the minimum area of a pitch.'

Is Susan correct?
You must show all your working to justify your answer. [4]

Minimum dimension : width 45m

length $\frac{3}{4} \times 120 = 90$ m B1

Minimum Area : $45 \times 90 = 4050\ m^2$

Max dimensions: width 90m

length 120m B1

Max Area : $90 \times 120 = 10800\ m^2$ B1

Susan is correct as Max area is more than double min area and double would be 100% bigger E1

(9)

Examiner only

16. Claudia was given the following information.

UK Income Tax

April 2013 to April 2014

taxable income = gross income – personal allowance

- personal allowance is £9205
- basic rate of tax: 20% on the first £32 255 of taxable income
- higher rate tax: 40% is payable on all taxable income over £32 255

During the tax year 2013 to 2014, Claudia's gross income was £52 250.

Calculate the total amount of tax that Claudia should pay.
You must show all your working. [6]

taxable income : £52 250 − £9205 = £43 045 B1

basic tax = 0·20 × 32 255 = £6451 M1

higher tax paid on (43 045 − 32 255) = £10 790 B1

higher tax to pay = 0·40 × 10 790 = £4316 M1

So Claudi must pay: 6451 + 4316 = £10 767 A1 A1

Examiner only

17. *(a)* In 2013, there were 119 days on which there was rain or snowfall in Moscow.
For what fraction of the number of days in 2013 was there **no** rain and **no** snowfall in Moscow? [1]

DAYS WITH NO SNOW = 365 − 119 = 246

$\frac{246}{365}$ B1

(b) The mean temperature in Moscow for a 12 month period is 4°C.
It is warmest in July, typically 26°C.
What would be the estimate for the mean temperature in Moscow if the temperature for July was not included? [4]

Mean = $\frac{\text{total}}{12}$

4 = $\frac{\text{total}}{12}$ M1

total = 4 × 12 = 48°

Without July, total = 48 − 26 = 22 A1

So new mean = $\frac{22}{11}$ = 2°C B1 M1

(c) One year, during the 31 days in March, the temperature was recorded every day at midday.
The results are shown in the table below.

Midday temperature, t in °C	Number of days	MAT	Total
$-12 \leqslant t < -10$	1	× −11	= −11
$-10 \leqslant t < -8$	3	× −9	= −27
$-8 \leqslant t < -6$	5	× −7	= −35
$-6 \leqslant t < -4$	8	× −5	= −40
$-4 \leqslant t < -2$	4	× −3	= −12
$-2 \leqslant t < 0$	10	× −1	= −10

−135

Calculate an estimate for the mean midday March temperature in Moscow.
You must show all your working. [4]

B1

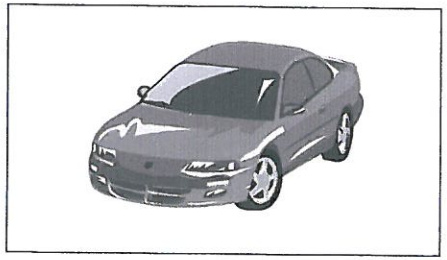
Mean = −135 ÷ 31 M1

= −4·4 M1 A1

15

Examiner only

(d) Boris bought a car in Moscow for 251 850 Russian roubles.



Each year, the value of Boris's car depreciates by 10% of its value at the start of the year. At the end of two years, by how much has the value of Boris's car depreciated? [4]

1st yr loss : $0.10 \times 251\,850 = 25185$ B1

end of 1st yr car worth $251\,850 - 25\,185 = 226\,665$

2nd yr loss : $0.10 \times 226\,665 = 22666.50$ M1

end of 2nd yr car worth $226\,665 - 22666.50$
$= 203\,998.50$ A1

So car has lost $251\,850 - 203\,998.50$

END OF PAPER

$= 47\,851.50$ roubles A1

Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

Examiner only

(4).

Summer 2014 Paper 2 (Calculator allowed) Foundation Tier	Marks	Comments
1. **Parts (a) & (b) marked at the same time** (a) 7.44 (butter) 3.44 (sugar) 3 (packs) (£4.62) (currants) 15.5(0) (b) (10% =) (£) 1.55 (20% =) (£) 1.55×2 (£) 3.1(0) ISW	 B1 B1 B1 B1 M1 A1	 For the 3 F.T. unless both 7.44 AND 3.44 are incorrect An answer of 15.5 only gets 4 only if ALL answers are correct F.T. their total Any complete correct method for finding 20%. If (£)3.1(0) not given then (£) 12.4(0) gains M1 A1 3.1% OR 3.1p OR £3.1p get M1,A0 but condone £3.1
2. 170 km 170 m 170 mm (170 cm) (28 kg) 28 g 28 mg 280 g 60 cm^3 600 ml (60 litres) 6000 litres (18 m^2) 18 cm^2 18 mm^2 18 cm^3	✓ B1 B1 B1 B1	Tick marked question
To be viewed with diagram **Parts (a) & (b) marked at the same time** 3. (a) Pointer showing 320g 3. (b) Reading 620 (g) One cube weighs (620–320)/5 = 60 (g) Look for • spelling • clarity of text explanations, • the use of notation (watch for the use of '=', g) QWC2: Candidates will be expected to • present work clearly, with words explaining process or steps AND • make few if any mistakes in mathematical form, spelling, punctuation and grammar and include units in their final answer QWC1: Candidates will be expected to • present work clearly, with words explaining process or steps OR • make few if any mistakes in mathematical form, spelling, punctuation and grammar and include units in their final answer	 B2 ✓ B1 M1 A1 QWC 2	 B1 if calculation shown and F.T. their pointer. OR **B1 for sight of 320 in the working but nothing on their diagram** OR 260 shown on their diagram. Pointer drawn takes precedence over written value(s) Pointer nearer correct mark than the ones each side of it Complete method, subtraction and division FT 'their 620 and 320' Allow B1, SC1 for 620/5 = 124 (g) **Unsupported 124 (g) gets M0,A0** QWC2 Presents relevant material in a coherent and logical manner, using acceptable mathematical form, and with few if any errors in spelling, punctuation and grammar. QWC1 Presents relevant material in a coherent and logical manner but with some errors in use of mathematical form, spelling, punctuation or grammar OR evident weaknesses in organisation of material but using acceptable mathematical form, with few if any errors in spelling, punctuation and grammar. QWC0 Evident weaknesses in organisation of material, and errors in use of mathematical form, spelling, punctuation or grammar.

Summer 2014 Paper 2 (Calculator allowed) Foundation Tier	Marks	Comments
To be viewed with diagram 4. (a) Evidence of square counting 57 – 63 inclusive 456 – 504 inclusive (m^2)	M1 A1 B1	Inside the shape. Condone answers like 60^2 here. F.T. 'their number of squares' × 8 Unsupported answers in the range 456 – 504 inclusive get all 3 marks, **Mark final answer** 57 456 58 464 59 472 60 480 61 488 62 496 63 504
To be viewed with diagram 4. (b) Lines Arc	B1 B1	F.T. correct curvature up to the start of 'their line' **Maximum of B1 if extra parts drawn**
5. (a) radius chord	B1 B1	
To be viewed with diagram 5. (b) (i) **141 (mm) to 145 (mm) inclusive**	B1	
To be viewed with diagram 5. (b) (ii) Perpendicular through C	B1	**Allow from the leftmost 'e' in 'millimetres' to the 'e' in 'the' in 'the length' inclusive.** **Welsh: from the first 'm' to the 'a' in milimetrau**
To be viewed with diagram **Parts (a) to (e) marked at the same time** 6. (a) (Day) 2 (b) 3 (days) (c) 2 (days) (d) 17.5 (mm) **OR 17½ (mm)** (e) 3·5 (mm)	 B1 B1 B1 B1 B1	 Allow 'on day 1, day 2 and day 4' Allow 'on day 1 and day' 4
7. (a) $\frac{8}{20}$ $\frac{1}{4}$ $\frac{2}{5}$ $\frac{10}{40}$ $\frac{5}{20}$	B2	B1 for either one correct AND none incorrect OR for both correct and 1 incorrect
7. (b) 3 shaded sectors	B1	
7. (c) $\frac{5}{6} - \frac{2}{6}$ (= 3/6) = 1/2	M1 A1	Or equivalent correct method Must be ½. Unsupported 3/6 gets M1, A0 M1, A1 for (0).5
8. (a) (i) 1	B1	
8. (a) (ii) –4	B1	
8. (b) 87/100 × 58 = 50.46	M1 A1	Any correct method for finding 87%. 50.46% gets M1, A0, but M1, A1 for £50.46 Unsupported 50.4 OR 50.5 gets M1, A0 **50.46 seen then with further rounding still gets M1,A1**
8. (c) (i) 1.6	B2	B1 for 1.55(44819 ...). All places given must be correct rounded or truncated. B1 for 1.5
8. (c) (ii) 14.1	B2	B1 for 14.10(10627 ...) All places given must be correct rounded or truncated.

Summer 2014 Paper 2 (Calculator allowed) Foundation Tier	Marks	Comments
9. (a) (i) Add 7 to the previous term	B1	Accept +7, 'goes up in 7s', 'a gap of 7' B0 for n+7 OR 7n–5
9. (a) (ii) Multiply the previous term by –3	B1	Accept ×–3. B0 for –3n OR n × –3 **B1 for 'multiply by 3 and change the sign'.**
9. (b) (i) 100t (p)	B1	Accept t×100, 100×t, t100, and e.g. t×100 =t Condone change of letters. Ignore £ or p. **B1 for 100*tp* but B0 for 100*p***
9. (b) (ii) $h-3$ (cm)	B1	Condone change of letters. Allow h = h–3 Ignore cm
9. (b) (iii) $8w$ (kg)	B1	Accept 8×w, w8, w×8, and e.g. 8w = w Condone change of letters. Ignore kg. B0 for 8000w, B1 for 8000w g
9. (c) (i) (x=) 5	B1	Accept embedded answers such as 3×5 = 15 but B0 for 3×5 only. **B0 for x = 3×5 = 15**
9. (c) (ii) (x=) 11	B1	Accept embedded answers such as 11 + 5 = 16. B0 for 11 + 5 = 16x OR 11x **OR B0 for only 11 + 5**
Parts (a) & (b) marked at the same time 10. (a) (i) 23 (years) (a) (ii) 23 (years) The 24 becomes 23 and the 47 becomes 46 O R Both ends are 1 less (b) Sum of the numbers (272) Sum/8 = 34 (years)	 B1 B1 E1 M1 M1 A1	 Comes from 47 – 24 F.T. 'their (a)(i)' 46 –23 = 23 gets the B1 and E1 B1, E1 for a list of the ages (each 1 less) and correct answer **E0 for 'they are the same people'** For attempt to add the numbers For dividing a number in the range 220 – 320 inclusive by 8. C.A.O.	Notes In part (a)(ii) accept For example, 23 because everyone would be 1 year younger OR 23 because the difference in their ages hasn't changed
11. **Parts (a) & (b) marked at the same time** (a) 11·8 (cm) 11·8 × 10 = 118 (km) **To be viewed with diagram** (b) **Use Overlay** Bearing 097° from A Bearing 342° from B Point (X)	 B1 M1 A1 M1 M1 A1	 Allow 11·6 – 12·0 inclusive (Ignore km here) FT 'their 11·8'×10 km not required but A0 for incorrect units Unsupported answers within 116–120 inc get B1,M1,A1. Unsupported answers outside 116–120 inclusive get 0. Allow ±2° Allow ±2° F.T. if at least M1 awarded. Unambiguous dots within the boundaries of the overlay can get the M1s. One unambiguous dot within the 'box' gets all 3 marks. Watch out for line segments. An unambiguous point of intersection does not require X.	
Parts (a) & (b) marked at the same time 12. (a) (Number of dollars =) 1200 × 1.52 = (\$) 1824 ISW (b) (1824 – 1649) ÷ 1.52 OR 175 ÷ 1.52 = (£)115.13 ISW	 M1 A1 M1 A1	 \$ not required but £ gets A0. F.T. 'their (\$)1824' £ not required but \$ gets A0. Accept (£)115 but A0 for (£)115.1	

Summer 2014 Paper 2 (Calculator allowed) Foundation Tier	Marks	Comments
Use Overlay 13. (a) Arcs to show 60° or 120° Arcs to bisect the 60° Line to show angle of 30°	M1 **m1** A1	We need to watch out for the case where there is no arc on the line. Candidates could have used the length of the line to set their compass length and placed the compass point at the end of the line. In this case there will only be arcs above the line. If not drawn at A – mark as if at A and penalise –1
Use Overlay 13. (b) Correct intersecting arcs Perpendicular line	M1 A1	There must be 2 pairs of intersecting arcs for M1. (Some candidates draw 1 pair of arcs and join up the intersection of these to the midpoint of the line (found by measurement?) which is incorrect M0,A0). 2 arcs drawn with radius 0.5PQ and centred at P and Q is incorrect and gets 0 marks.
14.(a) Correct reflection	B2	B1 for the sight of the line y = 1, or a reflection in any horizontal line B0 if more than one triangle drawn, unless all are reflections in a horizontal line
Use overlay 14.(b) Correct enlargement Correct position	B2 B1	B1 for any two adjacent lines correct Intention of correct placement, i.e. with appropriate rays seen, or correct positioning of at least two vertices *Penalise consistent incorrect scale factor -1*
To be viewed with diagram 15.(a) (maximum width is 2 × 45 =) 90 (m) **AND** (minimum length is ¾ × 120 =) 90 (m)	✓ B1	Sight of 90(m) TWICE if unlabelled (max width & min length)
(maximum area is 90 × 120 =) 10800 (m^2) **AND** (minimum area is 45 × 90 =) 4050 (m^2)	B1	Both areas correct FT 'their 2×45' × 120 correctly evaluated **AND** 45 × 'their ¾ ×120' correctly evaluated *If neither of the previous B1s awarded, then award SC1 for sight of 90(m) and one correct (FT) area*
4050 × 1.5 = 6075 (m^2 <10800 m^2) **OR** 100×10800/4050 = 266.6(6…% >150%) **OR** 100 ×(10800 – 4050)/4050 = 166.6(6..% >50%) **OR** similar appropriate check against Susan's statement, e.g. 2×4050 = 8100 (<10800m^2)	B1	The award of this mark requires a correct evaluation of the candidate's check. Must show **correct** evaluation FT 'their 4050'× 1.5 correctly evaluated, or 100× 'their max area' / 'their min area' correctly evaluated, or similar appropriate check. *Do not accept 50% of 10800 or 5400, B0, unless applied appropriately. Allow FT from this type of comparison. However, sight of 4050<5400 is an appropriate comparison, hence B1 (and may also gain E1)*
Conclusion that Susan **is correct** based on calculations, e.g. 'it is at least 50% greater, in fact it is (much) more' following from an appropriate calculation, or '6075 (m^2) <10800 (m^2)', or '100×(10800 – 4050)/4050 = 166.6(6..)% >50%, or '100×10800/4050 = 266.6(6…%) >150(%)', or 'Twice 4050 is less than 10800'	E1	Allow 'is correct' implied, do not accept 'not correct' Accept that there may be errors in calculations, but that it is a conclusion based on attempting to work with area *Watch for incorrect conclusion following correct working.* FT appropriate conclusion based on their working provided the candidate has attempted to work with **area.** No working shown, then E0 *Alternative:* *2×4/3* *B2* *= 8/3* *B1* *Appropriate conclusion* *E1* ***Allow responses that clearly engage with the concept that doubling the width will result is an area that is at least 50% greater.***

Summer 2014 Paper 2 (Calculator allowed) Foundation Tier	Marks	Comments
16. Taxable income (52250 – 9205=) (£)43045 40% tax to be paid on (£)10790 0.2 × 32255 (=6451) 0.4 × 10790 (=4316) (£) 6451 AND (£)4316 Claudia's tax should be (£)10767	B1 B1 M1 M1 A1 A1	 FT 'taxable income' – 32255, i.e. 'their 52250 -9205' – 32255 correctly evaluated FT 0.4 × ('their 43045' – 32255) provided 'their 43045' > 32255, also FT (52250 – 32255 =) giving 0.4 × 19995 (=7998) FT sum of 'their 6451' + 'their 4316' provided at least 1 of these values is correct and M2 awarded *(Note: 6451 + 7998 = 14449)*
17.(a) 246/365 ISW	B1	Allow 247/366
17.(b) Total for 12 months (= 12 × 4 =) 48(°C) 11 months 48 - 26 (=22) ÷ 11 = 2(°C)	B1 M1 m1 A1	 FT 'their 12×4' *Award B4 for an unsupported answer of 2(°C)* *Sight of 48 – 26/12 is B1 only,* *Sight of (48-26)/12 is B1, M1 only*
17.(c) Mid points -1, -3, -5, -7, -9, -11 -11×1 + -9×3 + -7×5 + -5×8 + -3×4 + -1×10 (Σfx = -135) their Σfx/31 -4.3548…(°C) rounded or truncated to 1 or more d.p.	B1 M1 m1 A1	Sight of any 3 correct values, with no incorrect values FT their mid points from within appropriate groups, or at bounds of the groups FT their Σfx/31 correctly evaluated. Must be negative. Accept -4, -4.4 or -4.3 only from correct working Award B4 unsupported -4.35 Omitted negative sign, penalise -1 only, then follow mark scheme as above.
17.(d) Any correct 10% of a value seen in working 251850 – 0.10 × 251850 (= 251850 – **25185**) 226665 – 0.10 × 226665 (= 226665 – **22666.5**) 47851.5(0 Russian roubles)	B1 M1 A2	OR **B1and M1 for 251850 × 0.90²** **B1 and M0 for 251850 × 0.90** Two different 10% OR sight of 0.10 × 251850 AND 0.10 × 226665 (25185 AND 22666.5) Accept 47851 or 47852 (roubles) A1 for 203998.5(0), 203998 or 203999 (roubles) *Appreciate: B1 and SC1 for 304738.5(0) and 52888.5(0)* *Simple interest, accept a correct 20% for B1 only (50370)*