OCR
Oxford Cambridge and RSA

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS 09865

TASK AND ANSWER BOOKLET PRACTICE PAPER 5

TIME: 1 HOUR 30 MINUTES

INSTRUCTIONS

Fill in all the boxes below. Make sure your personal details are entered correctly. Use **BLOCK LETTERS**.

Your surname or family name

Your first forename (if any)

Your second forename (if any)

Date of birth

Centre name

Centre number

Your OCR candidate number

At the beginning of this booklet you will find tear off Resource Documents. You will need to refer to these documents to complete the tasks.

You will also need:

- a pen with black ink
- a calculator
- a ruler

YOU HAVE 1 HOUR AND 30 MINUTES TO COMPLETE THE THREE TASKS

For each task, make sure that you:

- read the questions carefully before starting
- write your answers in this booklet
- clearly show how your working leads to your answers

2 marks are available in each task when you show you have checked your work.

When you have finished, hand this booklet and all the Resource Documents to the supervisor.

Ofqual Qualification Reference Number: 500/8910/9

FOR EXAMINER USE ONLY		
Question No	**Mark**	**Total**
TASK A		
	/	
	/	
	/	
	/	
	/	**/20**
TASK B		
	/	
	/	
	/	
	/	
	/	**/20**
TASK C		
	/	
	/	
	/	
	/	
	/	**/20**
Total	**/60**	

This document consists of 28 pages. Any blank pages are indicated.

  Registered Company Number: 3484466 **[Turn over**

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RESOURCE DOCUMENTS

The Resource Documents on pages 5, 7, 9 and 11 contain information to help you to answer the tasks in this booklet.

- The resource documents are perforated along the left hand side, so they can be removed from the task and answer booklet.
- Your supervisor will instruct you when to remove the resource documents, before you start the assessment.
- Please fold pages 5, 7, 9 and 11 along the perforated strip before removing from the task and answer booklet.

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TASK A – IRONING

RESOURCE DOCUMENT 1

Janine's Ironing Shop

Open Monday to Saturday 9:00am to 5:30pm

These are the prices Janine charges for each item she irons.

Shirts		**Linen**	
Single cuff	£1.21	Sheet: single	£1.79
Double cuff	£1.36	Sheet: double	£2.77
Silk	£2.64	Sheet: king-size	£3.23
T-shirts	£0.80	Sheet: super-king	£3.58
Sweatshirts	£1.00	Duvet-cover: single	£2.50
Jumpers	£1.00	Duvet-cover: double	£3.18
Polo necks	£1.00	Duvet-cover: king-size	£3.90
		Duvet-cover: super-king	£4.72
Trousers		Pillowcase: plain	£0.72
Smart chinos	£2.13	Pillowcase: frilled	£0.87
Jeans	£1.82	Handkerchief	£0.36
Shorts	£1.41	Tablecloth	£2.05
Ladies Fashion		**Other**	
Dresses	£3.20	Pyjamas	£2.56
Jackets	£3.70	Nightie	£1.54
Skirts	£2.15	Dressing gown	£3.08
Scarves	£1.05	Boxer shorts	£0.56

These are the times it takes Janine to iron each item.

Item	Time in minutes
Shirt	2 to 4
Dress	5 to 8
Sweat shirt, T-shirt etc	1 to 2
Trousers	2 to 4
Sheet	3 to 5
Duvet-cover	4 to 8
Pillowcase	1 to 2
Other items	1 to 4

A change of bedding is 1 sheet, 1 duvet-cover and 2 pillow cases.

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TASK B – CAR EMISSIONS

RESOURCE DOCUMENT 1

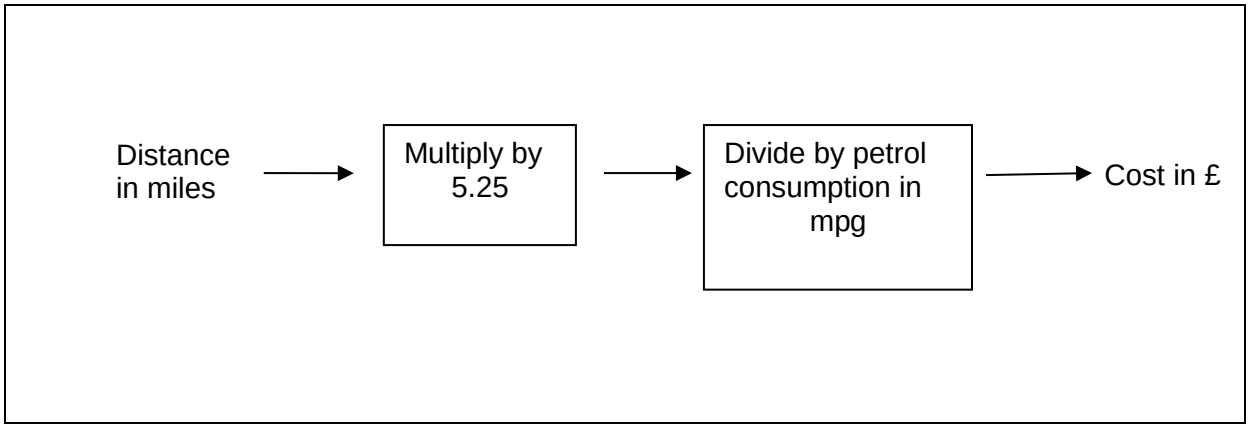
Information about new cars which Liam found on the internet

Make of car	Car tax band	CO_2 emissions in g/km	Engine size in cc	Petrol consumption in mpg
Audi A4	G	164	1798	39.8
Daihatsu Sirion	C	118	998	56.5
Fiat Punto	E	132	1368	49.6
Ford Fiesta	D	127	1242	51.4
Honda Jazz	D	125	1198	53.3
Kia Picanta	C	114	1086	58.8
Porsche Cayenne	M	263	3598	25.2
Renault Clio	E	139	1149	47.9
Skoda Yoti	F	149	1197	44.1
Smart Car	B	104	999	62.8
Toyota Yaris	C	118	998	56.5
VW Golf	F	149	1390	44.1

Car tax for twelve months

Car tax band	Cost for twelve months in £
A	0
B	20
C	30
D	90
E	110
F	125
G	155
M	435

How to find the petrol costs of using a car



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TASK C – GOLD LEAGUE

RESOURCE DOCUMENT 1

There are twelve races each year in the Gold League. All are 100 metres.
Runners who finish in the first 6 positions in each race are awarded points.
Runners who finish lower than sixth place get no points.

The points awarded for each position are shown in this table.

Position in Race	Points scored
1	6
2	5
3	4
4	3
5	2
6	1

Results of the first eight 100 metre races

Stadium	Shanghai	Oslo	Rome	Lisbon	Doha	Paris	Monaco	Lausanne
Position								
1	Oban	Ball	Cowell	Daley	Ball	Drake	Preece	Painter
2	Ball	Cowell	Lemar	Simmons	Cowell	Ball	Oban	Ball
3	Cowell	Oban	Colt	Ball	Colt	Cowell	Cowell	Cowell
4	Colt	Calder	Ball	Lewis	Calder	Simmons	Ball	Calder
5	Simmons	Drake	Painter	Grater	Oban	Oban	Colt	Grater
6	Calder	Simmons	Oban	Cowell	Daley	Lemar	Simmons	Oban

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TASK C – GOLD LEAGUE

This table shows the total points gained so far after ten races by the top eight runners.

Name	**Points so far**
Cowell	42
Ball	39
Oban	29
Drake	18
Simmons	17
Grater	12
Daley	10
Painter	8

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TASK AND ANSWER PAGES

Do not turn over this page until you are told to do so by your supervisor.

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TASK A – IRONING

You will need Task A Resource Document 1

Q1 **(a)** For how many hours each day is Janine's Ironing Shop open?

_____

_____

(1 mark)

(b) **(i)** Each week, Mr Poirot sends 7 single cuff shirts to be ironed.

How much does this cost Mr Poirot?

_____

_____

_____

_____

(2 marks)

(ii) How many minutes could Janine spend ironing Mr Poirot's shirts each week?

_____

_____

_____

_____

(2 marks)

(c) On Monday morning Janine has a large pile of duvet-covers to iron.

What is the most Janine could earn in 1 hour?
Explain your answer.

(5 marks)

(d) A typical customer sends Janine a bag containing a change of bedding, some shirts and 3 other items to iron.

(i) How many bags of ironing could Janine do in a day?

(5 marks)

(ii) How much in total would her customers pay her in a day?

Examiner use only (Q1)

(3 marks)

Examiner use only (Checking)

Checking (2 marks)

Examiner use only (Total)

Total marks

END OF TASK A

TASK B – CAR EMISSIONS

You will need Task B Resource Document 1

Amy and Liam are talking about car CO_2 emissions. This is the amount of carbon dioxide emitted by a car for every kilometre travelled.

Q2 (a) (i) Which car in the table has the highest CO_2 emissions?

_____

_____

(1 mark)

(ii) What is the range of the CO_2 emissions from these cars?

_____

_____

_____

_____

(2 marks)

Amy and Liam disagree.

(b) (i) Complete the tables using the information from the Resource Booklet.

Cars with engine size smaller than 1200cc	**CO_2 emissions in g/km**
Daihatsu	118
Mean value	

Cars with engine size between 1200cc and 1800cc	**CO_2 emissions in g/km**
Fiat	132
Mean value	

(4 marks)

(ii) Use your completed tables to decide who is correct.

_____

_____

_____

_____

_____

_____

(3 marks)

Amy and Liam want to change their car.
They drive about 10 000 miles each year.

(c) Produce some evidence for Liam to show to Amy.

Examiner use only (Q3)

(8 marks)

Checking (2 marks)

Examiner use only (Checking)

Total marks

Examiner use only (Total)

END OF TASK B

TASK C – GOLD LEAGUE

You will need Task C Resource Document 3

The Gold League is an International Athletics League consisting of twelve 100 metre races.

Q3 (a) (i) How many points would a runner have if he came second in the first two races, and fourth in the next two races?

_____

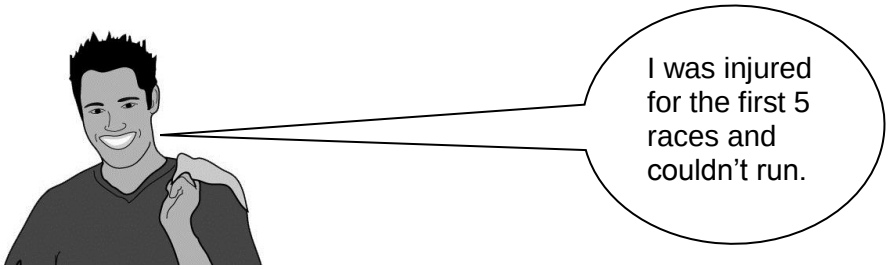
_____

_____

_____

(2 marks)

(ii) Christie says



What is the maximum number of points he could have scored in the season?

_____

_____

_____

_____

(2 marks)

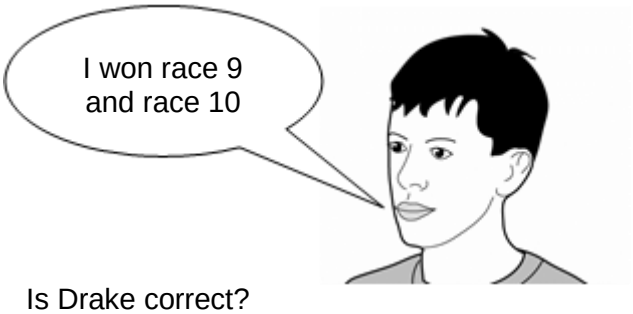
This headline appears in a newspaper:

‘Ball now 15 points ahead of Oban after eight races’.

(b) Is this true? Show how you decide.

(4 marks)

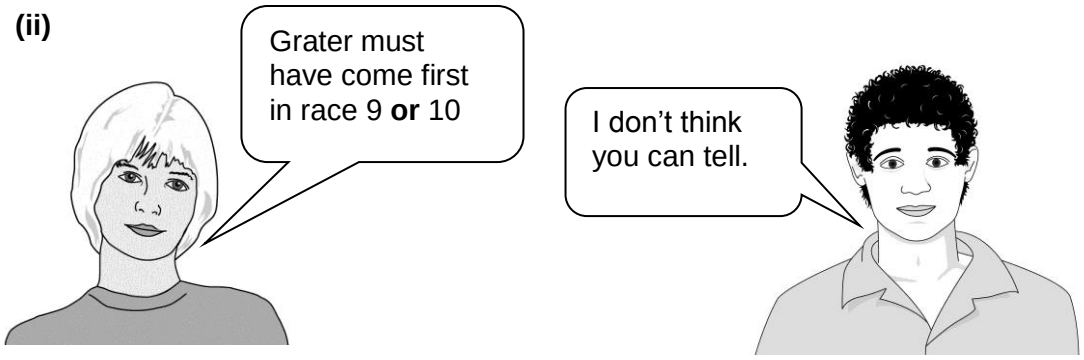
(c) **(i)** Drake says



Is Drake correct?
You must use numbers to justify your answer.

(2 marks)

(ii)



Who is right, Jane or Gary?
Support your answer with evidence.

_____

_____

_____

_____

_____

_____

(3 marks)

(d) In the twelfth race, double points will be awarded.
The eleventh and twelfth race have not been run yet.

Is Oban correct?
Support your answer with evidence.

(5 marks)

Examiner use only (Q3)

Checking (2 marks)

Examiner use only (Checking)

Total marks

Examiner use only (Total)

END OF TASK C

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OCR
Oxford Cambridge and RSA

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

LEVEL 1 FUNCTIONAL SKILLS MATHEMATICS

PRACTICE PAPER 5

Mark Scheme

The maximum mark is 60

OCR Level 1 Functional Skills Maths
Mark Scheme Referencing

Our ref	Coverage and Range
N1	Understand and use whole numbers and understand negative numbers in practical contexts
N2	Add, subtract, multiply and divide whole numbers using a range of strategies
N3	Understand and use equivalences between common fractions, decimals and percentages
N4	Add and subtract decimals up to two decimal places
N5	Solve simple problems involving ratio, where one number is a multiple of the other
N6	Use simple formulae expressed in words for one-or-two-step operations
G1	Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature
G2	Convert units of measure in the same system
G3	Work out areas and perimeters in practical situations
G4	Construct geometric diagrams, models and shapes
S1	Extract and interpret information from tables, diagrams, charts and graphs
S2	Collect and record discrete data and organise and represent information in different ways
S3	Find mean and range
S4	Use data to assess the likelihood of an outcome

Process Skills/Skill Standards
R = Representing
A = Analysing
I = Interpreting

Representing	**Our Ref**
Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine.	R1
Identify and obtain necessary information to tackle the problem	R2
Select mathematics in an organised way to find solutions	R3
Analysing	
Apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes.	A1
Use appropriate checking procedures at each stage.	A2
Interpreting	
Interpret and communicate solutions to practical problems, drawing simple conclusions and giving explanations.	I1

FS Maths L1 July 2012 Marking Guidance

Task 1 – Ironing

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
a	Open hours	**1**	**1** 8.5 (hours) oe	8 hours 30 minutes etc Condone 8.3(0)	**R2**
b(i)	Cost of 7 shirts	**2**	**2** £8.47 oe **or** **1** 8.47 or 847 (no units) or £8.47p or (£)1.21 seen	847p Penalise money convention of £….p **once** throughout task	**R3 A1**
(ii)	Minutes ironing	**2**	**2** Any time from 14 to 28 (minutes) **or** **1** 2 to 4 seen	If units must be minutes	**R1 I1**
c	Earnings from ironing duvet-covers	**5**	**1** Use of any time from 4 to 8 to iron a duvet **1** Correct method to find number ironed per hour or 15, 12, 10, 8.5(714…), 8 or 7.5 **1** One duvet cost x *their* number ironed **1** Correct answer from *their* figures **or** A correct total price for an **identified** duvet type x 15, 12,….) **1** Correct units including money conventions or Some annotation or Comment about most/average/minimum consistent with their assumptions	60 ÷ *their* time oe. 15… implies first mark Accept rounded costs throughout Check using calculator and award 4 marks if correct. Penalise money convention of £….p **once** throughout task	**R1 A1 I1** **R3 I1**

Part	Process	Award	On evidence of	Notes	Skill Standards R	A	I
d(i)	Number of bags in a day	**5**	**2** Correct times (or range of times) for one of each of Duvet, sheet, two pillowcases, some shirts, and each "other" **or** **1** Correct times for THREE of Duvet, sheet, pillowcase, shirt, other **and** **1** Attempt total of *their* times T **1** A correct **method** for number of bags in a day using T (answer may be seen in part (ii)) **1** Round DOWN number of bags or Well ordered working or Justify less time than 510 or Any sensible comment related to time taken to iron, taking breaks, supply of laundry	If "bedding" stated then time must be between 9 and 17 minutes and counts as 3 times. Treat 8 to 8½ hours as a day	**R2**	**A1** **A1**	**I1** **I1**
(ii)	Daily earnings	**3**	**1** **Three** correct costs for items on *their* list **1** Total of *their* costs for one bag correct (B) **1** B x *their* number of bags from **d(i)** correct condone truncated If **0** scored for second or third marks **1** for Attempt total cost of one bag of ironing	Allow rounded figures Use spreadsheet Penalise money convention of £….p **once** throughout task	**R2**	**A1**	**I1**

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
	Checking	**2**	**2** A clear check of a calculation **or** **1** Statement that an answer is reasonable, or 3 correct calculations throughout task **or** **0** Fewer than 3 correct calculations or answers and no checks		**A2** **A2**
	Total	**20**		**Totals**	**7 7 6**

Possible evidence

(c)

Time	Number in hour *n* = (60 / time)	Single Earnings *n* x 2.50	Double Earnings *n* x 3.23	King Earnings *n* x 3.58	Super-king Earnings *n* x 4.72	Average Earnings *n* x 3.58
4	15.0	£37.50	£48.45	£53.70	£70.80	£53.70
5	12.0	£30.00	£38.76	£42.96	£56.64	£42.96
6	10.0	£25.00	£32.30	£35.80	£47.20	£35.80
7	8.6	£21.43	£27.69	£30.69	£40.59	£30.69
8	7.5	£18.75	£24.23	£26.85	£35.40	£26.85

(d)

	Individual time					**Total time**	
Items	**Minimum**					**Minimum**	**Maximum**
Sheet	3	4	5			14	33
Duvet	4	5	6	7	8		
Pillow case x 2	1	2					
Shirts	2	3	4				
Others x 3	1	2	3	4			

Task 2 – Car Emissions

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
a(i)	Identify highest emission car	**1**	**1** Porsche or Cayenne oe	**1** for 263 or any other unequivocal indication	**R2**
a(ii)	Range of emissions	**2**	**2** 159 **or** **1** 263 **and** 104 seen	Ignore wrong or confused units	**R3 A1**
b(i)	Complete tables with car emission values and calculate means	**5**	**1200 cc table** **1** 5 from Jazz , Picanta , Clio , Yoti, Smart, Yaris **1** **1200cc to 1800cc table** A4, Fiesta , Golf **Means** **3** Both of *their* means correct or 123 to 124 **and** 143 or 167 **or** **2** One of *their* means correct or 123 to 124 or 143 or 167 **or** **1** Two correct totals	In both tables, count a wrong inclusion as an error so 4 right and 1 wrong inclusion = 3 right. (-1 for each wrong inclusion) Check means using their figures in table	**R1** **R2 A1 1I1** **R3**

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
b(ii)	Make sensible comparisons between two groups	**2**	**Award up to 2 marks from…** Identify Amy **and** **1** **Mean** for smaller cars less than **mean** for larger cars **or** **Bigger** cars produce, on average, **19** or **42** (g/km) **more** or converse. **1** **Most** cars in the first table have lower emissions than those in second table. **1** **Porsche Cayenne** (much) **larger engine** and (much) **higher emissions.** **1** Identify Liam **and** **VW Golf and Skoda Yoti** both have emissions of **149** but are in **different size groups** (tables)	Interpret their comments sensitively. Values do not need to be quoted. Follow through from their means and tabulated values. Do not reward same statement twice. Reward any other sensible comment **but not** reiterating given ones.	**2I1**
c	Calculations to show that driving a Ford (Fiesta) will cost less than an Audi (A4) Use function generator for cost of driving 10,000 miles and compare road tax.	**8**	**Audi** **3** (£)1474(.10) or (£)1319(.10) **and** (£)155 **or** **2** (£)1319(.10) **or** **1** (£)155 or 39.8 **Fiesta** **3** (£)1111.(40) or (£)1021.(40) **and (**£)90 **or** **2** (£)1021.40 **or** **1** (£)90 or 51.4 **and** **1** Clear calculations, set out so that processes may be seen **Ford is cheaper because… (Award 1 from)** Car tax is (£)65 cheaper or **1** Fuel saving around *their* (£)298 or Total saving around *their* (£)363 per year.	Condone any truncation Award marks for any other mileage used. (Check) Award marks for any other mileage used. (Check) Ft *their* cheapest car ft *their* fuel calculations	**R1 R3** **2A1** **3I1**

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
	Checking	**2**	**2** A clear check of a calculation **or** **1** Statement that an answer is reasonable, or 3 correct calculations throughout task **or** **0** Fewer than 3 correct calculations or answers and no checks		**2A2**
	TOTAL	**20**		Totals	**7 6 7**

Expected solution and evidence

(c)

Tables to be completed

Cars with engines below 1200cc	Emission of CO_2 in g/km
Daihatsu Sirion	118
Honda Jazz	125
Kia Picanta	114
Renault Clio	139
Smart Car	104
Skoda Yoti	149
Toyota Yaris	118
Mean	867 ÷ 7 = 123.9

Cars with engines between 1200-1800cc	Emission of CO_2 in g/km
Fiat Punto	132
Audi A4	164
Ford Fiesta	127
VW Golf	149
Mean	572÷4 = 143

Mean with Porsche may be used
=835 ÷ 5 = 167

Task 3 –Gold League

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
a(i)	Find the correct number of points for given positions	**2**	**2** 16 or 10 and 6 **or** **1** 5 + 5 or 10 or 3 + 3 or 6 or 3 + 5 or 8 seen		**R2** **A1**
a(ii)	Find maximum number of points for last 7 races	**2**	**2** 42 **or** **1** 7 or 6 seen		**R1** **A1**
b	Determine whether statement is true that Ball is 15 points ahead of Oban	**4**	**3** 37 AND 21 seen or 16 (difference) **or** **2** 37 OR 21 seen or 19 (Ball) AND 28 (Oban) or 9 (difference) **or** **1** Indication of finding some places or points scored **And** **1** "Correct" and quantified comparison with statement (15 points) based on *their* evidence	Ball 37 Oban 21 **0** for Ball 39, Oban 29 etc 9 is from PLACES 9 and 28 are sums of PLACES Eg (Wrong,) it is 16, not 15 or "Ball is further ahead than that" **0** for "Ball is ahead"	**R1** **A1** **I1** **I1**
c(i)	Determines if Drake scored any points in races 9 or 10	**2**	**2** Drake is wrong and includes 8 or 12 or 18 or 20, as required **or** **1** Comment that may include 8 or 12 or 18 or 20 but is inconclusive or 8 points (only in the first 8 races) or (gain of) 12 points	Eg. Drake can't have won both races as he would have.. .. 20 points and he only has 18. .. gained 12 points and this would put him on 20 Must be 8 **points** and not 8 races	**R2** **I1**
c(ii)	Interprets how Grater may have scored 6 points	**3**	**2** (Grater scores) 8 (points in races) 9 and 10 **or** **1** (Grater scores) 4 (points in the) first 8 races or (Grater scores) 12 – *their* 4 (points in races) 9 and 10 **And** **1** Gary AND one example of how Grater may have scored *their* 8 points that does not include first place.	Or "last two" (races) Accept 2 + 2 Or "last two" (races) Eg 2nd = 5 AND 4th = 3 Must be clear it is points they are considering NOT places.	**I1** **A1** **I1**

Part	Process	Award	On evidence of	Notes	Skill Standards R A I
(d)	Determine whether Oban can still win the Gold League.	**5**	**3** (Oban) 47 to 43 points AND he can win or EXTRA points total 14 to 18 AND he can win **or** **2** (Oban) 47 to 43 points or EXTRA points total 14 to 18 OR Attempt (EXTRA) points total for Oban based on 4, 5, 6 or 8, 10, 12 points AND "correct" statement based on *their* total **or** **1** Attempt (EXTRA) points total for Oban based on 4, 5 or 6 and 8, 10 and 12 points or an inconclusive statement based on finishing first **And** **1** State clearly the POSITIONS that Oban must finish in to win the Gold League. (May be implied by points added) **And** **1** State correctly ONE condition on Cowell or Ball that will allow Oban to win with *their* points for Oban. (Need not be a maximum case.)	He can score 18 points and have more than Cowell Eg 29 + 6 + 6 = 41 or 12 + 12 = 24 He could finish first and win 1 and 1 OR 1 and 2 OR 1 and 3 OR 2 and 1 OR 2 and 1 OR 3 and 1 Eg Cowell must not come 1st to 6th (NB Cowell must not win is wrong) or Ball can only come 5th and 6th Condone loose but true statements such as "Cowell must come last".	**R2 A1 I1** **R3 I1**
	Checking	**2**	**2** A clear check of a calculation **or** **1** Statement that an answer is reasonable, or 3 correct calculations throughout task **or** **0** Fewer than 3 correct calculations or answers and no checks		**A2** **A2**
	Total	**20**		**Total**	**6 7 7**

Results of the first eight 100 metre races

Stadium	Shanghai		Oslo		Rome		Lisbon		Doha		Paris		Monaco		Lausanne	
Position																
1	Oban	6	Ball	6	Cowell	6	Daley	6	Ball	6	Drake	6	Preece	6	Painter	6
2	Ball	5	Cowell	5	Lemar	5	Simmons	5	Cowell	5	Ball	5	Oban	5	Ball	5
3	Cowell	4	Oban	4	Colt	4	Ball	4	Colt	4	Cowell	4	Cowell	4	Cowell	4
4	Colt	3	Calder	3	Ball	3	Lewis	3	Calder	3	Simmons	3	Ball	3	Calder	3
5	Simmons	2	Drake	2	Painter	2	Grater	2	Oban	2	Oban	2	Colt	2	Grater	2
6	Calder	1	Simmons	1	Oban	1	Cowell	1	Daley	1	Lemar	1	Simmons	1	Oban	1

Points after 8 races

Ball	5 + 6 + 3 + 4 + 6 + 5 + 3 + 5	37
Cowell		33
Oban	6 + 4 + 1 + 0 + 2 + 2 + 5 + 1	21
Drake	0 + 2 + 0 + 0 + 0 + 6 + 0 + 0	8
Grater	0 + 0 + 0 + 2 + 0 + 0 + 0 + 2	4

	Race 11			Race 12		Possible points totals after 12 races					
Points 1 - 8	Place	Points	Total	Place	Points	Win in 1st	2nd in 1st	3rd in 1st	4th in 1st	5th in 1st	6th in 1st
29	1	6	35	1	12	47	46	45	44	43	42
	2	5	34	2	10	45	44	43	42	41	40
	3	4	33	3	8	43	42	41	40	39	38
	4	3	32	4	6	41	40	39	38	37	36
	5	2	31	5	4	39	38	37	36	35	34
	6	1	30	6	2	37	36	35	34	33	32