

Foundation Mathematics - Practice Examination G

Please note ... the format of this practice examination is the same as the current format. The paper timings are the same, as are the marks allocated.

Calculators may only be used in Paper 2.

MATHEMATICS Standard Grade - Foundation Level

Paper I

Time Allowed - 20 minutes

First name and initials

Surname

Class

Teacher

Read Carefully

1. Answer as many questions as you can.
2. Write your answers in the spaces provided .
3. Full credit will be given only where the solution contains appropriate working.
4. **You may not use a calculator**

1. Work out the answers to the following:

(a) $14.6 + 7.8$

(1)

(b) $165.4 \div 100$

(1)


(c) 4.53×6

(1)

2. Ink was spilled on the *Cornpops* box.

Calculate the amount of breakfast cereal in the special offer box.

(3)

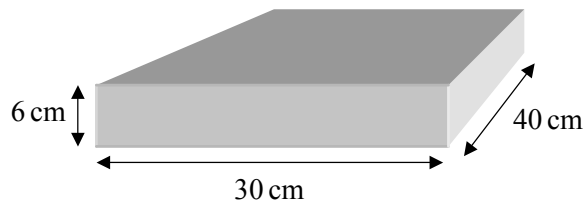
<p>Cornpops</p> <p>Special Offer 25% extra free</p> <p> g for the price of 500g</p>
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3. Shown is part of a bus timetable. How long, in hours and minutes, does it take for the bus to travel from Glasgow to Perth, if you **don't include** the stops?

(3)

Glasgow	0600
Stirling (arrive)	0700
Stirling (depart)	0725
Perth	0850

4. The water container in a tumble dryer collects 1 litre of water from each wash load. The container is in the shape of a cuboid with dimensions shown.



(a) Calculate the volume of the container, in litres.

(3)

(b) How many complete wash loads can be done before the container has to be emptied?

(1)

5. A man travels in his car for 4 hours at an average speed of 50 mph.

He has to travel a total distance of 260 miles.

How far has he still to travel?



(3)

6. In a magic square the totals of each row, column and diagonal are the same.

(a) In the magic square below what is this total?

(2)

(b) Using the numbers from 3 to 11 complete the magic square.

(3)

6		10
	7	
4		

Spare Diagrams

6		10
	7	
4		

6		10
	7	
4		

7. Shown are the marks Janet scored in her Maths test.

Question	Score
1	48
2	35
3	40
4	
Total	160

(a) Work out Janet's mark for Question 4.

(3)

(b) Work out her average mark per question.

(2)

	Give 1 mark for each •	Illustrations for awarding each mark									
1(a)	<ul style="list-style-type: none"> • carry out calculation correctly 	<ul style="list-style-type: none"> • 22.4 									
1(b)	<ul style="list-style-type: none"> • carry out calculation correctly 	<ul style="list-style-type: none"> • 1.654 									
1(c)	<ul style="list-style-type: none"> • carry out calculation correctly 	<ul style="list-style-type: none"> • 27.18 <p style="text-align: right;">3 marks KU</p>									
2(a)	<ul style="list-style-type: none"> • knows to calculate 25% of 500 • calculates percentage correctly • knows to add answer on to 500 	<ul style="list-style-type: none"> • by multiplying by 0.25 or calculating $\frac{1}{4}$ • 125 g • $500 + 125 = 625$ g <p style="text-align: right;">3 marks KU</p>									
3.	<ul style="list-style-type: none"> • knows to subtract times • knows to subtract stoppage time • subtracts correctly 	<ul style="list-style-type: none"> • 0600 to 0850 = 2hrs 50min • 0700 to 0725 = 25min • $2\text{hrs } 50\text{min} - 25\text{min} = 2\text{hrs } 25\text{min}$ <p style="text-align: right;">3 marks RE</p>									
4(a)	<ul style="list-style-type: none"> • knows to calculate $l \times b \times h$ • multiplies correctly • changes to litres correctly 	<ul style="list-style-type: none"> • • $30 \times 40 \times 6 = 7200 \text{ cm}^3$ • 7.2 litres <p style="text-align: right;">3 marks KU</p>									
4(b)	<ul style="list-style-type: none"> • correct conclusion 	<ul style="list-style-type: none"> • 7 wash loads <p style="text-align: right;">1 mark KU</p>									
5.	<ul style="list-style-type: none"> • knows how to calculate distance • calculates correctly • subtracts correctly from 260 	<ul style="list-style-type: none"> • $D = S \times T$ • $4 \times 50 = 200$ miles • $260 - 200 = 60$ miles still to travel <p style="text-align: right;">3 marks RE</p>									
6(a)	<ul style="list-style-type: none"> • knows to add up numbers in diagonal • adds correctly 	<ul style="list-style-type: none"> • $10 + 7 + 4$ • 21 <p style="text-align: right;">2 marks KU</p>									
6(b)	<ul style="list-style-type: none"> • 1 or 2 correct entries • 3 or 4 correct entries • all five correct entries 	<table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td style="padding: 5px;">6</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">11</td> <td style="padding: 5px;">7</td> <td style="padding: 5px;">3</td> </tr> <tr> <td style="padding: 5px;">4</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">8</td> </tr> </tbody> </table> <p style="text-align: right;">3 marks RE</p>	6	5	10	11	7	3	4	9	8
6	5	10									
11	7	3									
4	9	8									
7(a)	<ul style="list-style-type: none"> • knows to add numbers and subtract from 160 • adds correctly • subtracts correctly 	<ul style="list-style-type: none"> • $160 - (48 + 35 + 40)$ • $160 - 123$ • 37 <p style="text-align: right;">3 marks RE</p>									
7(b)	<ul style="list-style-type: none"> • knows to divide 160 by 4 • divides correctly <p><i>(adding the 4 marks and dividing is also acceptable)</i></p>	<ul style="list-style-type: none"> • $160 \div 4$ • 40 marks <p style="text-align: right;">2 marks KU</p>									

Total Marks for Paper I :

KU 14
RE 12

Foundation Mathematics - Practice Examination G

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Calculators may only be used in this paper.

MATHEMATICS Standard Grade - Foundation Level

Paper II

Time Allowed - 40 minutes

First name and initials

Surname

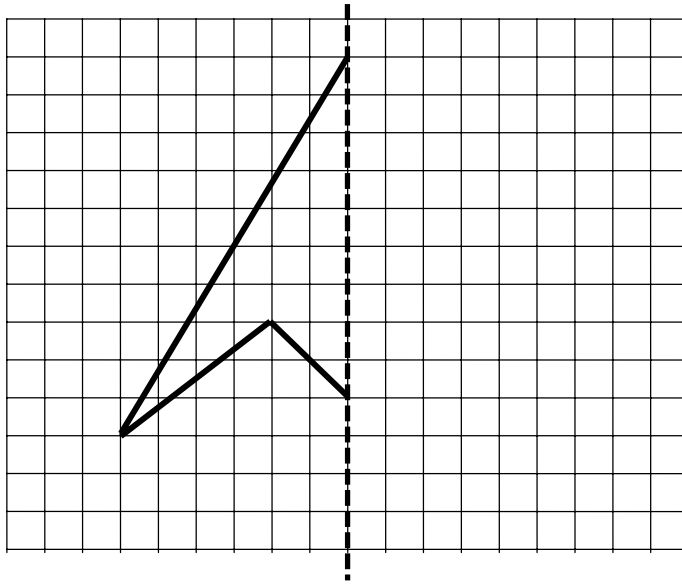
Class

Teacher

Read Carefully

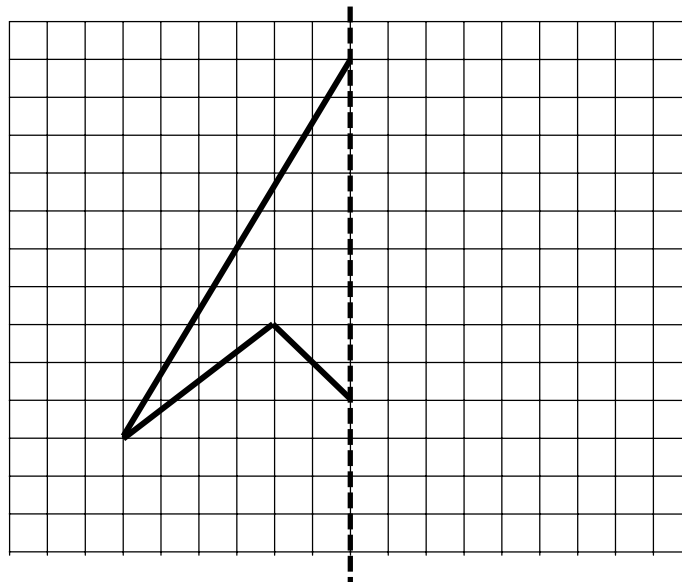
1. Answer as many questions as you can.
2. Write your answers in the spaces provided .
3. Full credit will be given only where the solution contains appropriate working.
4. **You may use a calculator**

1. Complete the symmetry pattern below:

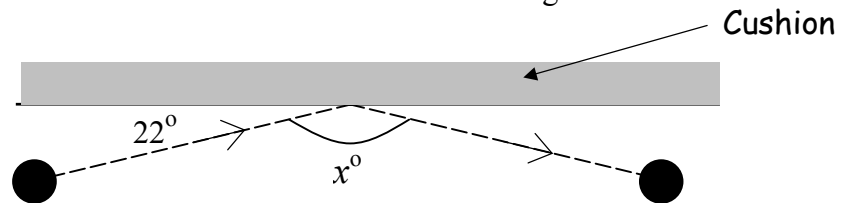


(3)

Spare Grid



2. A snooker ball bounces off the cushion at the exact same angle as it hits it.



Calculate the size of the angle marked x .

(3)

3. (a) Darren received his water bill.

The total number of litres used was 66000.
Water is charged at 60 pence per 1000 litres.



Calculate Darren's total water bill, in £.

(3)

(b) Shane's bill came to £43.20.
How many litres of water did Shane use?

(3)

4. Sara puts money into her savings account every week.

She **increases** her savings by the same amount each week, as shown in the table.

Week Number (n)	1	2	3	4	5		12
Amount saved (£'s)	8	11	14				

(a) Complete the table.

(3)

(b) Write down a rule for calculating the amount of money Sara saves for any given week.

(2)

(c) One week in the future she knows she will save £65.
Which week number would this be?

(2)

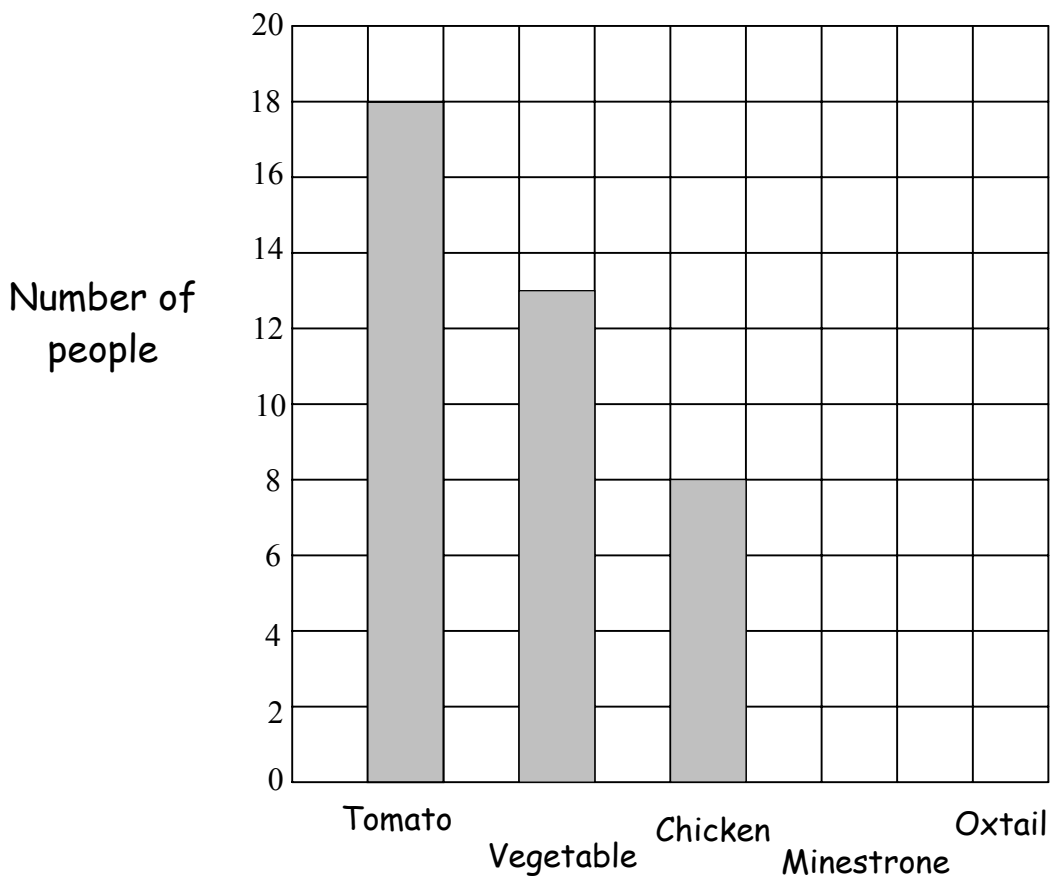
5. Customers in a café were asked their favourite kind of soup.
The results are shown in the table.



Soup	No. of People
Tomato	18
Vegetable	13
Chicken	8
Minestrone	15
Oxtail	4

Use the table to complete the bar graph below.

(2)



6. The Smith family are booking a holiday.
They see this special offer poster in a shop window.

Adults: £224 each All children $\frac{1}{2}$ price

- (a) Mr & Mrs Smith have 3 children.

How much will their holiday cost with this offer?

(3)

- (b) Ms Jones is a single parent.

Her holiday cost £672 in total for herself and her children.

How many children does she have?

(3)

7. A handball court is rectangular in shape and can be built in two sizes:

20 ft by 40 ft **or** 30 ft by 60 ft.

Calculate the **difference** in area between the two courts.



(4)

8. Use the information in the table to put the motorbikes in order according to their **top speed**, starting with the fastest.

(3)

Make	Model	Engine size (cc)	Top Speed (mph)	Power (bhp)
Suzuki	GSX-R 1000	988	180	160
Aprilia	RS 250	249	137	67
Honda	CBR 900	954	174	151
Kawasaki	ZX 6R	636	162	111
BMW	R1150	1130	121	95

Order	Make of motorbike
1	
2	
3	
4	
5	

9. Tanya's hairdryer has 3 heat settings (1, 2 and 3) and 2 speed settings (High and Low).
List all the possible combinations that Tanya can use when drying her hair.

(3)

Heat Setting	Speed Setting

10. Ryan earns £8 per hour in his part-time job.

His hours worked for one week are shown.

Friday	1900 - 2200
Saturday	0900 - 1600
Sunday	1200 - 1700

(a) How many hours did Ryan work in total?

(2)

(b) Ryan pays National Insurance at 10% and no income tax.

Calculate his net pay.

(4)

11. Show **one possible way** of placing 8 crosses (X) in the grid so that every row and column has the same number of crosses.

(3)

Spare Grids

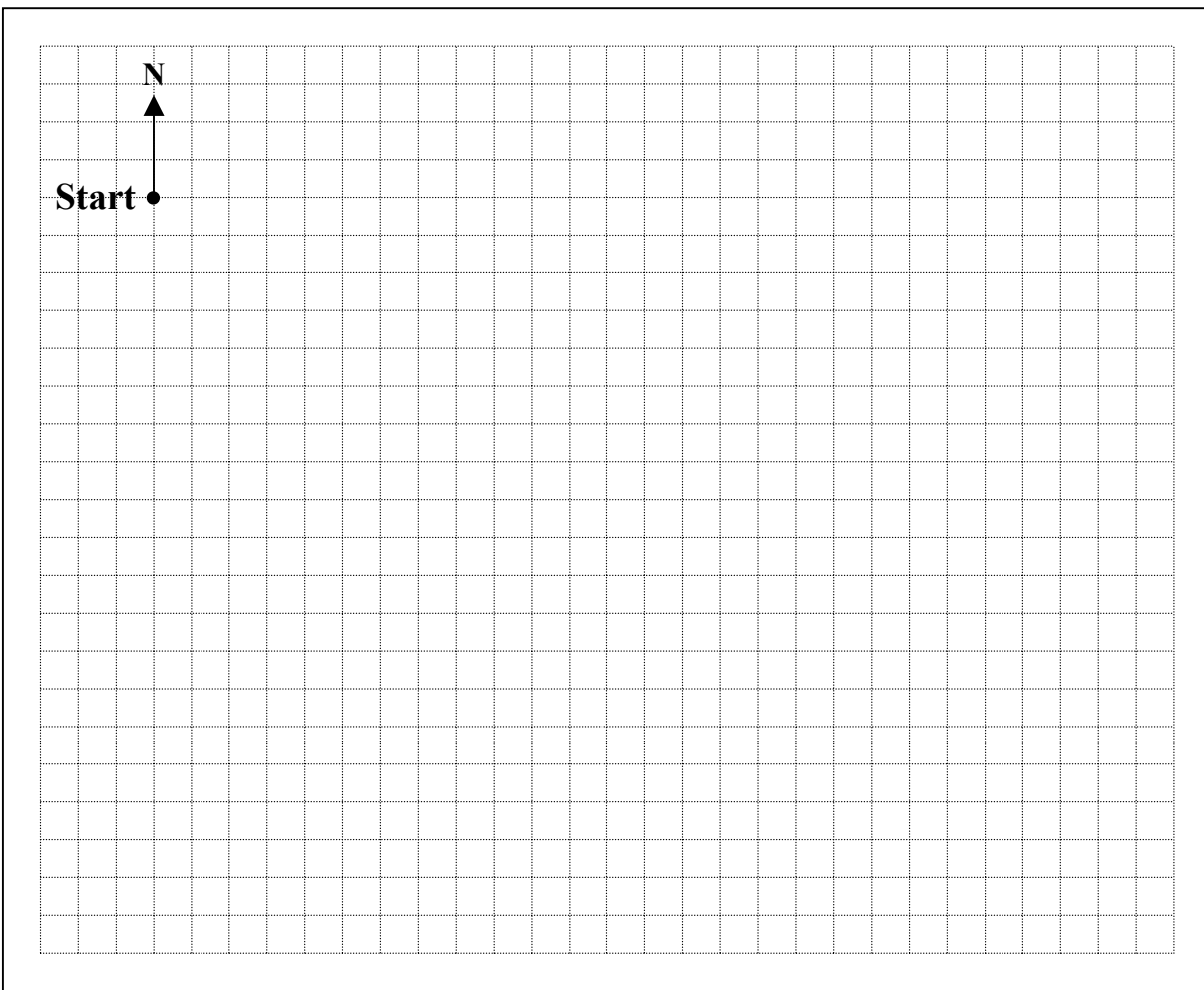
12. Jack designed a treasure hunt in his garden. He marked a starting point in the ground along with a set of instructions.



Direction	Distance
East	24 m
South	18 m
West	10 m
North	4 m

- (a) Make a scale drawing of the route to find the treasure, starting at the dot (•).
Use a scale of 1 cm to 2 m.
Mark the treasure with a cross (X).

(3)



- (b) Using your diagram measure the distance of the treasure from the starting point and state how far this is in metres.
- (c) If you found the treasure what direction would you have to walk in to return directly to the start?

(2)

(1)

	Give 1 mark for each •	Illustrations for awarding each mark
1.	<ul style="list-style-type: none"> • one correct line • two correct lines • completed diagram 	<ul style="list-style-type: none"> • • • completed diagram <p style="text-align: right;">3 marks KU</p>
2.	<ul style="list-style-type: none"> • marks in or implies angle at cushion = 22° • knows to subtract angles from 180° • answer 	<ul style="list-style-type: none"> • • $180 - (22 + 22)$ • $x = 180 - 44 = 136$ <p style="text-align: right;">3 marks KU</p>
3(a)	<ul style="list-style-type: none"> • knowing to multiply 60 by 66 and not 66000 • multiplying correctly • knowing to change to £ 	<ul style="list-style-type: none"> • 60×66 • 3960 p • £39.60 <p style="text-align: right;">3 marks KU</p>
3(b)	<ul style="list-style-type: none"> • knowing to divide 43.20 by 0.60 or $4320 \div 60$ • dividing correctly • knowing to multiply by 1000 	<ul style="list-style-type: none"> • • 72 • 72000 litres <p style="text-align: right;">3 marks RE</p>
4(a)	<ul style="list-style-type: none"> • entries at 4 and 5 correct • evidence of continuing pattern to 12 • correct answer at 12. 	<ul style="list-style-type: none"> • $4 - 17, 5 - 20$ • add 3 each time • $12 - 41$ <p style="text-align: right;">3 marks RE</p>
4(b)	<ul style="list-style-type: none"> • two marks for correct answer • 	<ul style="list-style-type: none"> • $\times 3$ and $+ 5$ • <p style="text-align: right;">2 marks RE</p>
4(c)	<ul style="list-style-type: none"> • attempts to continue pattern up to 65 (or uses formula – subtract 5 and $\div 3$, or equivalent) • correct answer 	<ul style="list-style-type: none"> • 41, 44, etc to 65 • week 20 <p style="text-align: right;">2 marks RE</p>
5.	<ul style="list-style-type: none"> • correct height for Minestrone • correct height for Oxtail 	<ul style="list-style-type: none"> • height at 15 • height at 4 <p style="text-align: right;">2 marks KU</p>
6(a)	<ul style="list-style-type: none"> • knows to find cost for 2 adults • finds cost for 1 child • finds total cost of holiday 	<ul style="list-style-type: none"> • $2 \times 224 = \text{£}448$ • $224 \div 2 = \text{£}112$ • $(112 \times 3) + 448 = \text{£}784$ <p style="text-align: right;">3 marks KU</p>
6(b)	<ul style="list-style-type: none"> • knows to subtract • knows to divide by cost of one child • answer 	<ul style="list-style-type: none"> • $672 - 224 = \text{£}448$ • $448 \div 112$ • 4 children <p style="text-align: right;">3 marks RE</p>
7.	<ul style="list-style-type: none"> • knows to calculate areas of two courts • calculates areas correctly • knows to subtract areas • subtracts correctly 	<ul style="list-style-type: none"> • $20 \times 40; 30 \times 60$ • $800 \text{ ft}^2; 1800 \text{ ft}^2$ • $1800 - 800$ • 1000 ft^2 <p style="text-align: right;">4 marks KU</p>

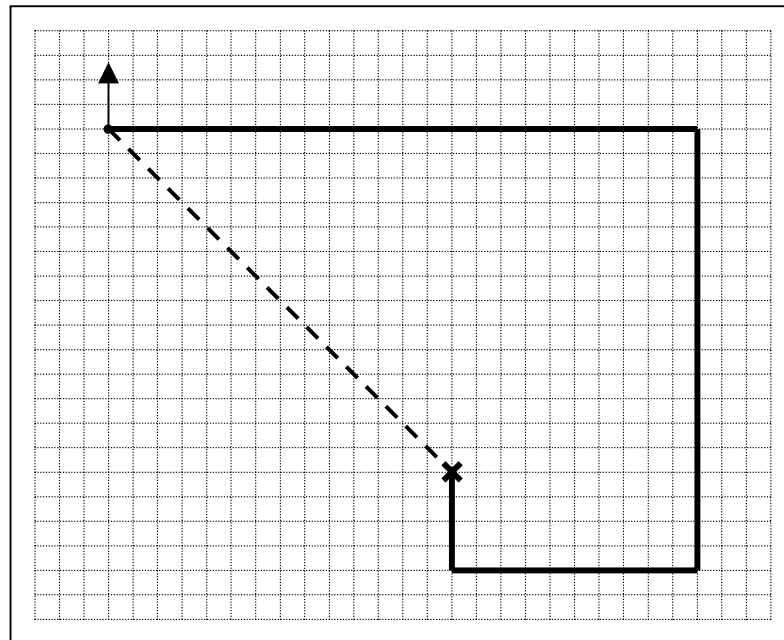
Marking Instructions for Foundation Level - Paper 2 (cont.)

	Give 1 mark for each •	Illustrations for awarding each mark																																
8.	<ul style="list-style-type: none"> • identifies fastest motorbike • identifies slowest motorbike • all ordered correctly 	<ul style="list-style-type: none"> • Suzuki • BMW • Suzuki, Honda, Kawasaki, Aprilia, BMW <p style="text-align: right;">3 marks RE</p>																																
9.	<ul style="list-style-type: none"> • 2 or 3 correct combinations • 4 or 5 correct combinations • 6 correct combinations 	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 2px;">Heat</th> <th style="padding: 2px;">Speed</th> </tr> </thead> <tbody> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">High</td></tr> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Low</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">High</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Low</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">High</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Low</td></tr> </tbody> </table> <p style="text-align: right;">3 marks RE</p>	Heat	Speed	1	High	1	Low	2	High	2	Low	3	High	3	Low																		
Heat	Speed																																	
1	High																																	
1	Low																																	
2	High																																	
2	Low																																	
3	High																																	
3	Low																																	
10(a)	<ul style="list-style-type: none"> • identifies number of hours worked for 3 days • adding correctly 	<ul style="list-style-type: none"> • Friday – 3 hrs, Saturday – 7 hrs, Sunday – 5 hrs • $3 + 7 + 5 = 15$ hrs <p style="text-align: right;">2 marks KU</p>																																
10(b)	<ul style="list-style-type: none"> • calculates gross pay correctly • knows to calculate 10% of £120 • calculates correctly • subtracts from gross pay 	<ul style="list-style-type: none"> • $15 \times 8 = \text{£}120$ • $10 \div 100 \times 120$ or $\frac{1}{10} \times 120$ etc. • £12 • $120 - 12 = \text{£}108$ <p style="text-align: right;">4 marks KU</p>																																
11.	<ul style="list-style-type: none"> • all rows have same number of crosses • all columns have same number of crosses • rows and columns have same number of crosses 	<p>Possible solutions:</p> <table style="display: inline-table; border-collapse: collapse; margin-right: 20px;"> <tr><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;">×</td></tr> <tr><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td></tr> </table> <table style="display: inline-table; border-collapse: collapse;"> <tr><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td></tr> <tr><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td></tr> <tr><td style="border: 1px solid black; padding: 2px;">×</td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;"></td><td style="border: 1px solid black; padding: 2px;">×</td></tr> </table> <p style="text-align: right;">3 marks RE</p>	×	×				×	×				×	×	×			×	×			×		×	×			×	×		×			×
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Marking Instructions for Foundation Level - Paper 2 (cont.)

	Give 1 mark for each •	Illustrations for awarding each mark	
12(a)	<ul style="list-style-type: none"> • divides lengths by 2 • lengths correct ($\pm 2\text{mm}$) • directions correct 	<ul style="list-style-type: none"> • see diagram below • • 	3 marks KU
12(b)	<ul style="list-style-type: none"> • measures distance correctly ($\pm 3\text{mm}$) • converts to metres correctly 	<ul style="list-style-type: none"> • 10 cm • 20 m 	2 marks RE
12(c)	<ul style="list-style-type: none"> • for answer 	<ul style="list-style-type: none"> • NW 	1 mark RE

Question 12(a):



Total Marks for Paper II : **KU 27**
 RE 25

Total for Papers I and II : KU 41 RE 37
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