

Foundation Mathematics - Practice Examination E

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. Carry out the following calculations.

(a) $£6.45 \times 5$

(1)

(b) $\frac{1}{8}$ of 576

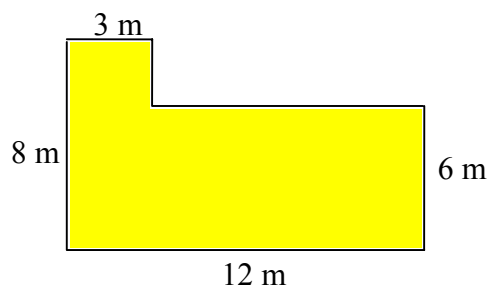
(1)

(c) $43.8 + 71.4$

(1)

2. (a) Calculate the perimeter of this garden.

(4)



(b) Calculate the area of the garden .

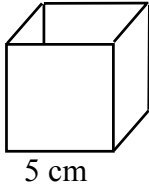
(4)

3. Katie is going on holiday. The weight of each suitcase is shown below. The maximum weight allowed is 60kg.

Can she take the suitcases on the plane? **Give a reason for your answer.**

(4)



		K	U	R	E
4.	Kevin buys cube -shaped glasses for juice.				
(a)	Calculate the volume of each glass, in cm^3 .	(3)			
					
(b)	How many full glasses can be filled from a 2.5 litre bottle of orange juice? (1 litre = 1000 cm^3).	(3)			
<hr/>					
5.	Josh is flying to Belfast.				
	His flight leaves Glasgow at 1620 and arrives in Belfast at 1710.				
(a)	How long does his journey take?	(1)			
(b)	He has to check-in 1 hour before departure and takes 45 minutes to travel to the airport.				
	What is the latest time Josh can leave his house in order to check-in on time ?	(2)			
<hr/>					
6.	Amanda collects music magazines which are printed monthly . Each magazine is 5 millimetres thick. A shelf, 0.3 metres long, is filled with these magazines.				
(a)	Calculate the length of the shelf in millimetres .	(2)			
(b)	How many magazines does Amanda have?	(2)			
(c)	For how many years has Amanda collected her magazines?	(3)			

	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"> • £32.25
1(b)	<ul style="list-style-type: none"> • carry out calculation correctly 	<ul style="list-style-type: none"> • 72
1(c)	<ul style="list-style-type: none"> • carry out calculation correctly 	<ul style="list-style-type: none"> • 115.2 <p style="text-align: right;">3 marks KU</p>
2(a)	<ul style="list-style-type: none"> • find missing length • find missing length • know to add lengths • adding correctly 	<ul style="list-style-type: none"> • 2 m • 9 m • $8 + 3 + 2 + 9 + 6 + 12$ • 40 m <p style="text-align: right;">4 marks KU</p>
2(b)	<ul style="list-style-type: none"> • know to divide shape into rectangles • calculate area of first rectangle • calculate area of second rectangle • add areas together <p><i>(Accept any legitimate method here)</i></p>	<ul style="list-style-type: none"> • • $8 \times 3 = 24 \text{ m}^2$ • $9 \times 6 = 54 \text{ m}^2$ • $24 + 54 = 78 \text{ m}^2$ <p style="text-align: right;">4 marks RE</p>
3.	<ul style="list-style-type: none"> • know to change grammes into kilogrammes • converting correctly • adding weights correctly • conclusion + reason 	<ul style="list-style-type: none"> • $2500 \text{ g} = \underline{\hspace{2cm}} \text{ kg}$ • 2.5 kg • $33 + 24 + 2.5 = 59.5 \text{ kg}$ • Yes, m as 59.5 is less than 60 <p style="text-align: right;">4 marks RE</p>
4(a)	<ul style="list-style-type: none"> • know to calculate $l \times b \times h$ • know length, breadth & height = 5 cm • calculate volume correctly 	<ul style="list-style-type: none"> • • • $5 \times 5 \times 5 = 125 \text{ cm}^3$ <p style="text-align: right;">3 marks KU</p>
4(b)	<ul style="list-style-type: none"> • changing litres into cm^3 • knowing to divide • dividing correctly 	<ul style="list-style-type: none"> • 2.5 litres = 2500 cm^3 • $2500 \div 125$ • 20 glasses <p style="text-align: right;">3 marks KU</p>
5(a)	<ul style="list-style-type: none"> • subtracting time correctly 	<ul style="list-style-type: none"> • 50 minutes <p style="text-align: right;">1 mark KU</p>
5(b)	<ul style="list-style-type: none"> • knowing to subtract from 1620 • subtracting time correctly 	<ul style="list-style-type: none"> • $1620 - 1\text{hr } 45 \text{ mins}$ • 1435 or 2:35pm <p style="text-align: right;">2 marks KU</p>
6(a)	<ul style="list-style-type: none"> • change to centimetres correctly • change to millimetres correctly 	<ul style="list-style-type: none"> • $0.3 \text{ m} = 30 \text{ cm}$ • $30 \text{ cm} = 300 \text{ mm}$ <p style="text-align: right;">2 marks KU</p>
6(b)	<ul style="list-style-type: none"> • knowing to divide • dividing correctly 	<ul style="list-style-type: none"> • $300 \div 5$ • 60 magazines <p style="text-align: right;">2 marks KU</p>
6(c)	<ul style="list-style-type: none"> • changing years to months • knowing to divide • dividing correctly 	<ul style="list-style-type: none"> • 1 year = 12 months • $60 \div 12$ • 5 years <p style="text-align: right;">3 marks RE</p>

Foundation Mathematics - Practice Examination E

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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

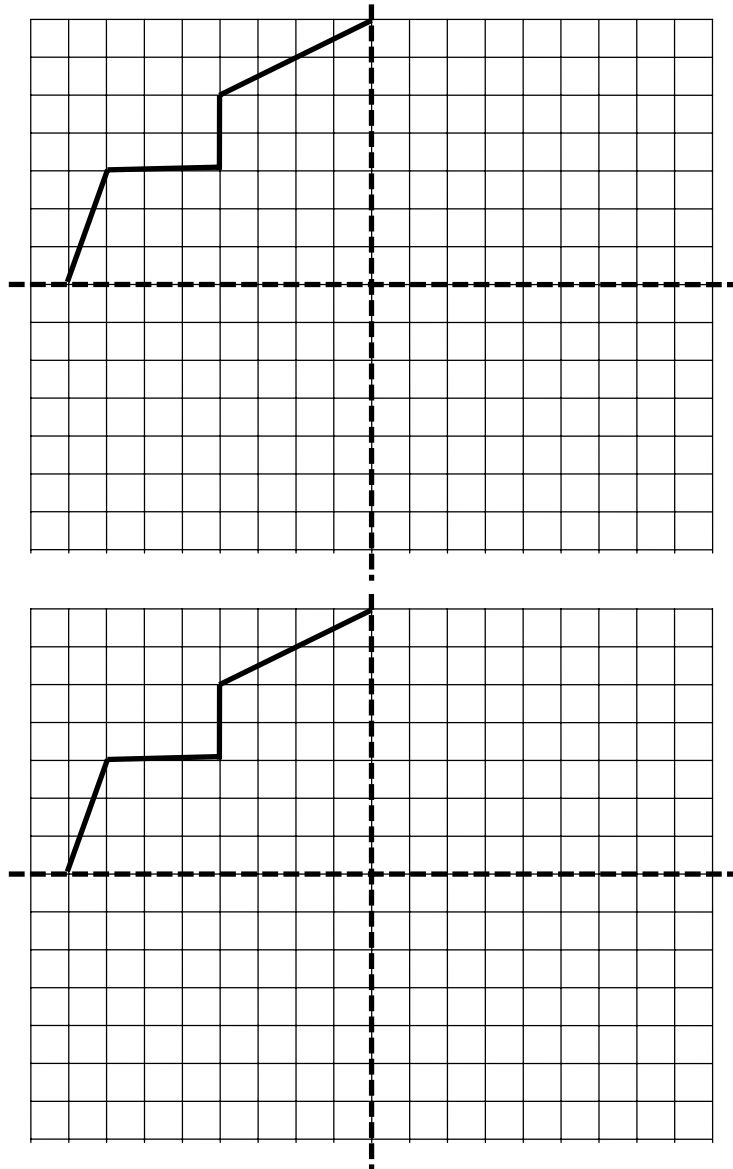
Teacher

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 symmetric pattern below:

(4)



Spare Grid

2. Daniel travels from Motherwell to Cumbernauld on a training course. The course lasts for 4 days and he travels home each day. He receives 12.6 pence per mile travelling expenses.

If the distance between Motherwell and Cumbernauld is 19 miles, how much does he claim for, in **pounds**?

(4)

3. The call charges **per minute** for John's phone are shown in the table.

John **never** uses his phone before 6 pm on weekdays.

John buys a new £5 call card.

He spends 56 minutes, in total, on his phone during the week.

From the money left on his phone, what is the maximum amount of time John can spend on his phone at the weekend?

Weekdays		Weekends
Before 6 pm	After 6 pm	2 p
30 p	7 p	

(5)

4. Jessica's briefcase has a 4-digit security code.

- All of the digits are different
- All of the digits are less than 9
- The digits add up to 18
- The first digit is a 2
- The second and last digits are odd numbers

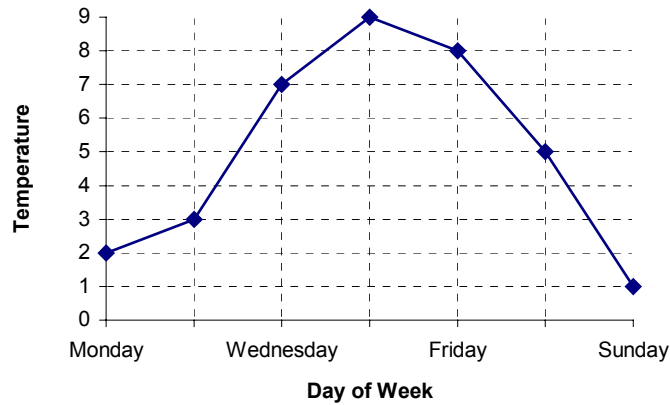
Complete the table to show all possible codes for Jessica's briefcase.

The first one is done for you.

2	1	8	7

(3)

5. The line graph below shows the temperature ($^{\circ}\text{C}$) each day for a week in April.

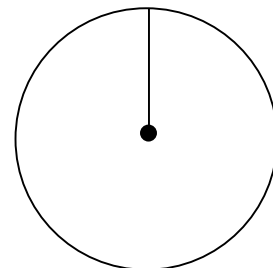


- (a) Which was the coldest day? (1)
- (b) Between which two days did the temperature fall the most? (1)
- (c) Calculate the average (mean) temperature for the week. (3)

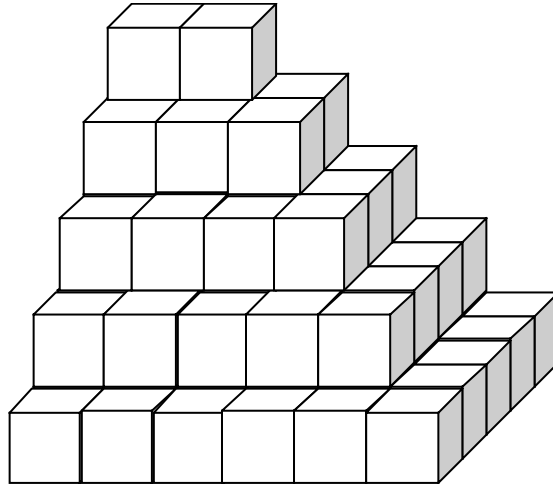
6. **Eighty** people were asked their favourite country for going on holiday. The results are shown in the table.

Spain	10
Italy	40
France	10
America	20

- (a) What fraction of the people preferred America? (2)
- (b) Complete the pie chart to show the above information. (3)

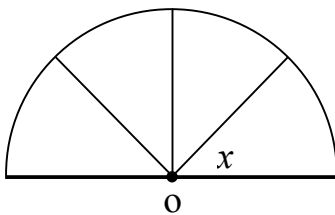


7. Janine noticed an interesting arrangement of blocks in her young brother's playroom. It consisted of layers of cubes, each layer laid out in the shape of a rectangle. How many cubes are there altogether?



(4)

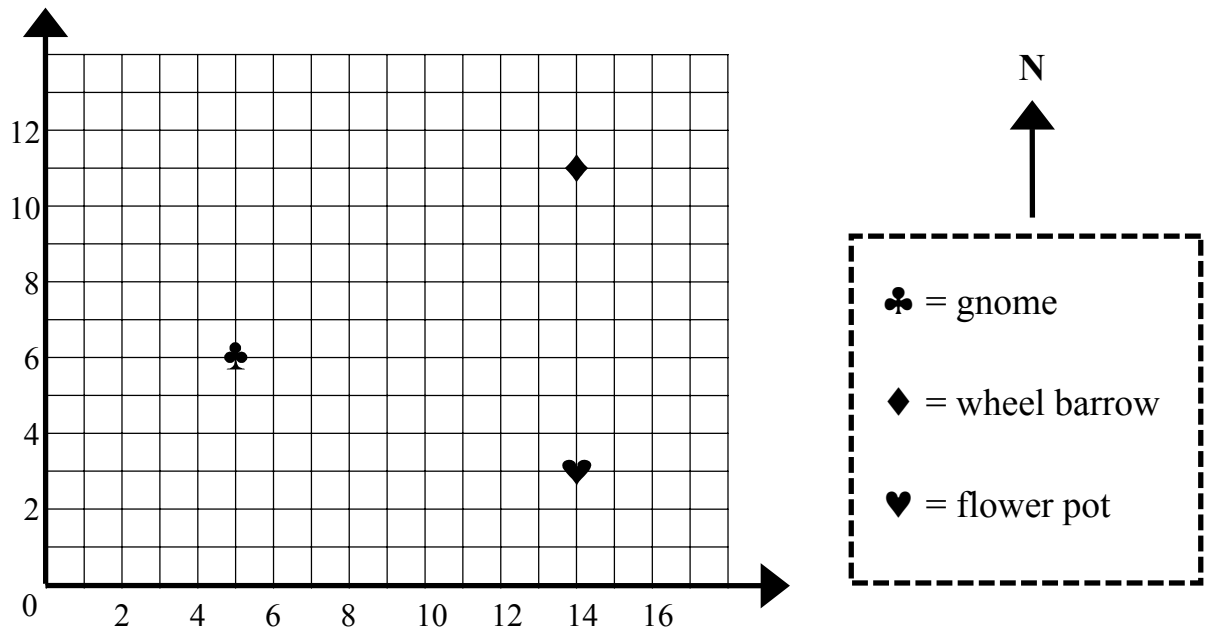
8. The Sunshine Breakfast Company have designed a new logo. The angles at the centre, o , are all equal.



Calculate the size of the angle marked x .

(3)

9. Elizabeth has buried treasure in her garden near some of her favourite objects.



(a) Write down the coordinates of the wheel barrow. (,) (1)

(b) The treasure is south-east of the gnome and west of the flower pot.

Mark the treasure on the grid with an X and write down its coordinates.

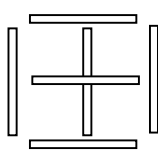
(,) (3)

10. Tracy's wages are spent in the following ways:

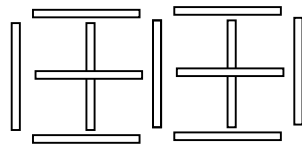
- Rent 30%
- Food 20%
- Car 20%
- Bills 15%

If Tracy earns £1200 each month, calculate the amount of money she has left over. (5)

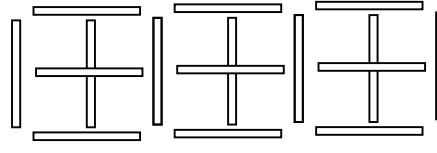
11. Elise likes making square patterns with matches. She puts a cross in the middle of each square, as shown below.



1 square



2 squares



3 squares

(a) Complete the table below:

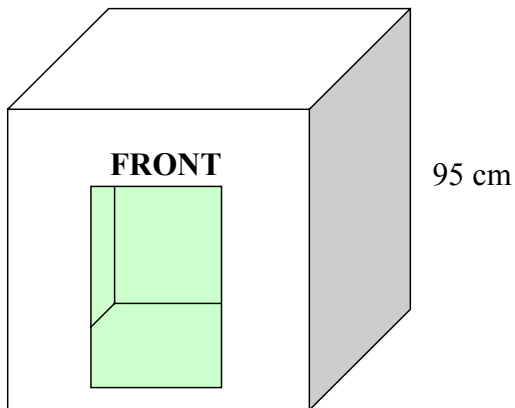
(4)

No. of Squares (S)	1	2	3	4		12
No. of Matches (M)	6	11				

(b) Find a rule connecting the number of squares and the number of matches.

(2)

12. John has made a play-cube for his children.



The cube has sides 95 centimetres long.

The door is a rectangle of length 70 cm and breadth 40 cm.

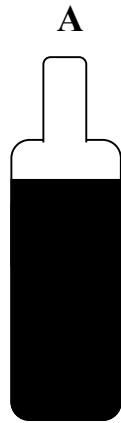
(a) Calculate the area of the door. (2)

(b) Calculate the area of the front of the play-cube, not including the door. (3)

13. Jean's neighbour wants to borrow some cooking oil.

There are two bottles in the cupboard with different amounts of oil in each.

How much should Jean pour from bottle A into bottle B so that Jean and her neighbour each have the same amount of oil?



1.2 litres



750 millilitres

(4)

(END OF QUESTION PAPER)

	Give 1 mark for each •	Illustrations for awarding each mark
1.	<ul style="list-style-type: none"> • knows how to reflect horizontal lines • knows how to reflect vertical lines • knows how to reflect diagonal lines • knows how to reflect diagonal lines 	<ul style="list-style-type: none"> • 3 out of 4 horizontal lines correct • 3 out of 4 vertical lines correct • 3 out of 4 (4×2) diagonal lines correct • 3 out of 4 (3×1) diagonal lines correct <p style="text-align: right;">4 marks KU</p>
2.	<ul style="list-style-type: none"> • knows to calculate no. of journeys • knows to calculate no. of miles • knows to multiply by 12.6 p • knows how to change into £ 	<ul style="list-style-type: none"> • $4 \text{ days} \times 2 = 8 \text{ journeys}$ • $8 \times 19 = 152 \text{ miles}$ • $152 \times 12.6 = 1915.2 \text{ p}$ • £19.15 <p style="text-align: right;">4 marks KU</p>
3.	<ul style="list-style-type: none"> • knowing to multiply 56 by 7p • change into £ correctly • knowing to subtract from £5 • knowing to divide £1.08 by 2 p • dividing correctly 	<ul style="list-style-type: none"> • $56 \times 7 = 392\text{p}$ • £3.92 • $£5 - £3.92 = £1.08$ • $£1.08 \div 2\text{p}$ • 54 minutes <p style="text-align: right;">5 marks RE</p>
4(a)	<ul style="list-style-type: none"> • • • as follows 3 marks for 6 or 7 correct 2 marks for 4 or 5 correct 1 mark for 2 or 3 correct 0 marks for only 1 correct 	<ul style="list-style-type: none"> • • • choose from: 2 3 6 7 2 3 8 5 2 5 4 7 2 5 8 3 2 7 4 5 2 7 6 3 2 7 8 1 <p style="text-align: right;">3 marks RE</p>
5(a)	<ul style="list-style-type: none"> • correct answer 	<ul style="list-style-type: none"> • Sunday <p style="text-align: right;">1 mark KU</p>
5(b)	<ul style="list-style-type: none"> • correct answer 	<ul style="list-style-type: none"> • Saturday and Sunday <p style="text-align: right;">1 mark KU</p>
5(c)	<ul style="list-style-type: none"> • knowing to add and divide by 7 • adding correctly • dividing correctly 	<ul style="list-style-type: none"> • $(2 + 3 + 7 + 9 + 8 + 5 + 1) \div 7$ • 35 • 5°C <p style="text-align: right;">3 marks KU</p>
6(a)	<ul style="list-style-type: none"> • correct fraction • simplifying 	<ul style="list-style-type: none"> • $\frac{20}{80}$ • $\frac{1}{4}$ <p style="text-align: right;">2 marks KU</p>
6(b)	<ul style="list-style-type: none"> • correct fraction for Spain & France in pie chart • correct fraction for America in pie chart • correct fraction for Italy in pie chart 	<ul style="list-style-type: none"> • $\frac{1}{8}$ • $\frac{1}{4}$ • $\frac{1}{2}$ <p style="text-align: right;">3 marks RE</p>

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

	Give 1 mark for each •	Illustrations for awarding each mark
7.	<ul style="list-style-type: none"> attempting to calculate no. of cubes in each layer calculating each layer correctly knowing to add no. in each layer adding correctly 	<ul style="list-style-type: none"> • • 2, 6, 12, 20, 30 • $2 + 6 + 12 + 20 + 30$ • 70 <p style="text-align: right;">4 marks RE</p>
8.	<ul style="list-style-type: none"> knowing straight angle = 180° knowing to divide by 4 dividing correctly 	<ul style="list-style-type: none"> • • $180 \div 4$ • 45° <p style="text-align: right;">3 marks KU</p>
9(a)	<ul style="list-style-type: none"> write down coordinates 	<ul style="list-style-type: none"> • (14, 11) <p style="text-align: right;">1 mark KU</p>
9(b)	<ul style="list-style-type: none"> any point south-east of gnome any point west of flower pot correct point written or on grid 	<ul style="list-style-type: none"> • e.g. (6, 6), (7, 5) etc. • e.g. (13, 3), (12, 3) etc. • (9, 3) <p style="text-align: right;">3 marks RE</p>
10.	<ul style="list-style-type: none"> knowing to add percentages and subtract from 100% adding and subtracting correctly knows to calculate 15% of £1200 knows to multiply by 15 and divide by 100 multiplies and divides correctly 	<ul style="list-style-type: none"> • $100 - (30 + 20 + 20 + 15)$ • $100 - 85 = 15\%$ • • $15 \div 100 \times 1200$ • £180 <p style="text-align: right;">5 marks RE</p>
11(a)	<ul style="list-style-type: none"> finds missing entry in table finds missing entry in table evidence of extended pattern correct entry in table 	<ul style="list-style-type: none"> • 3 squares = 16 matches • 4 squares = 21 matches • • 12 squares = 61 matches (award 1 mark for evidence of extended pattern with one mistake) <p style="text-align: right;">4 marks RE</p>
11(b)	<ul style="list-style-type: none"> • • correct rule 	<ul style="list-style-type: none"> • • multiply by 5 and add 1 (rule must be correct to obtain these 2 marks i.e. 2 or 0 marks only) <p style="text-align: right;">2 marks RE</p>
12(a)	<ul style="list-style-type: none"> knows how to calculate area of rectangle calculates area of door correctly 	<ul style="list-style-type: none"> • $l \times b$ • $70 \times 40 = 2800 \text{ cm}^2$
12(b)	<ul style="list-style-type: none"> calculates area of square front knows to subtract answers all calculations correct 	<ul style="list-style-type: none"> • $95 \times 95 = 9025 \text{ cm}^2$ • $9025 - 2800$ • 6225 cm^2 <p style="text-align: right;">5 marks KU</p>
13.	<ul style="list-style-type: none"> knows to change litres to millilitres calculates difference between amounts knows to half difference knows to pour this amount into bottle B 	<ul style="list-style-type: none"> • 1.2 litres = 1200 ml • $1200 - 750 = 450\text{ml}$ • $450 \div 2 = 225 \text{ ml}$ • pour 225 ml into bottle B <p style="text-align: right;">4 marks RE</p>

Total for Papers I and II : KU 44 RE 44