MATHEMATICS FAMILIARISATION PRACTICE PAPER FOR FIRST USE FOR 2015 ENTRY

Name: _____

Candidate Number: _____

Primary School: _____

Boy or Girl: _____

Date of Birth: _____

Today's Date: _____

Test Taken At: _____

READ THE FOLLOWING CAREFULLY:

1. **Do not open this booklet until you are told to do so.**
2. You may work the questions out in your head, or by writing on the white area around the question.
3. **Work as quickly and as carefully as you can.**
4. Make any alterations to your answers **clearly.** You will not lose marks for crossing out.
5. You will have **60 minutes** to do the test. If you find you cannot do a question, **do not waste time on it but go on to the next one.**
6. **Once the test has begun, you should not ask about questions in the test.**
7. **The use of electronic calculators of any description (including calculator watches) is NOT permitted.**

NOT TO BE FILLED IN BY PUPIL		
PAGE	SCORE	
	R	W
1 (8)		
2 (6)		
3 (3)		
4 (3)		
5 (5)		
6 (3)		
7 (5)		
8 (5)		
9 (4)		
10 (5)		
11 (4)		
12 (3)		
13 (4)		
14 (2)		
TOTAL (60)		
INITIALS OF MARKER(S)		

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You have sixty minutes to complete this paper.
Do your working out in the spaces on the paper.

Question (and working space)	ANSWER	Please do not write in this space
1 (a) Calculate: 793 + 1321		
(b) Add 16·03 and 9·48		
2 (a) Calculate: 1572 – 829		
(b) Find the difference between 8·38 and 6·94		
3 (a) Calculate: 37 x 140		
(b) What is the result of 11 multiplied by 4·02?		
4 (a) Calculate: 195 ÷ 15		
(b) Divide 14 by 0·2		

R
W
(8)

Question (and working space)	ANSWER	Please do not write in this space
5 Each of the following calculations is incomplete.This is indicated by a question mark. For each part of the question, state the value of the missing digit.		
(a) 56 + 975 = 10?1	? =	
(b) 0·35 + 1·?7 = 2·22	? =	
(c) 9?5 – 128 = 777	? =	
(d) ? – 7 = –2	? =	
(e) 13 x 1?1 = 1703	? =	
(f) 1·1 ÷ 2 = 0·?5	? =	

R
W
(6)

Question (and working space)

Please do not write in this space

6 25 children were asked how many cousins they had.
The results are shown in the bar chart.



ANSWER

(a) How many children had no cousins?

(b) How many children had more than two cousins?

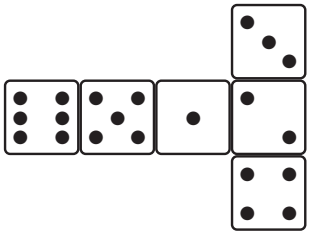
(c) How many cousins did all the children have in total?

R
W
(3)

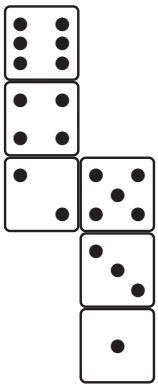
Question (and working space) | ANSWER | Please do not write in this space

7 This question includes diagrams showing the net of three different unfolded dice. In each part of the question, based on the net illustrated, indicate how many dots would appear on the face *opposite* the 5 (⚄).

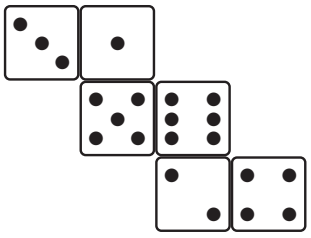
(a)



(b)



(c)



R
W

(3)

Question (and working space)	ANSWER	Please do not write in this space

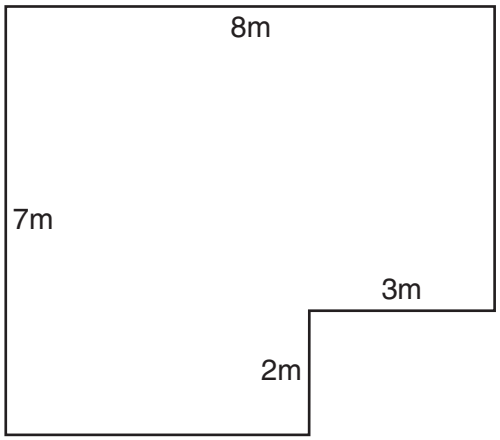
8 In each of the following calculations there is an error, which can be corrected by changing one digit **to the number 7**. In each case identify that digit.

(a) 98 – 65 = 32
Which digit needs to be replaced with a **7**?

(b) 39 + 48 + 50 = 167
Which digit needs to be replaced with a **7**?

(c) 734 + (8 x 26) = 950
Which digit needs to be replaced with a **7**?

9 This is a sketch drawing of Kirin's office, which needs new carpet.



(a) What is the total area of the floor of the office?

sq m

(b) How many carpet tiles, each 50cm x 50cm, would Kirin need to cover the floor?

R
W
(5)

Question (and working space)	ANSWER	Please do not write in this space

10 In this question letters of the alphabet are assigned number values:
A = 1, B = 2, C = 3, D = 4, ...

The **sum total** of a word is created by **adding** the value of the letters.

For example: the sum total of 'HAD' = 8 + 1 + 4 = 13

(a) What is the sum total of the word 'TANK'?

(b) List the following words in order of their sum total, starting with the lowest:

DOG CATS FISH BIRD

Lowest

.....

.....

.....

.....

Highest

(c) Which single letter has the same value as the result of dividing the sum total for 'JET' by the sum total of 'BAD'?

JET ÷ BAD = ...

R
W

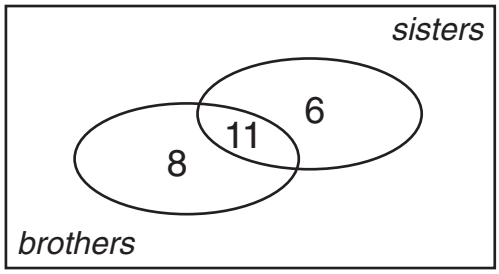
(3)

GO TO NEXT PAGE

Question (and working space)

Please do not write in this space

11 A class of thirty pupils were each asked about whether they had any brothers or any sisters.
The results are shown in the Venn diagram.



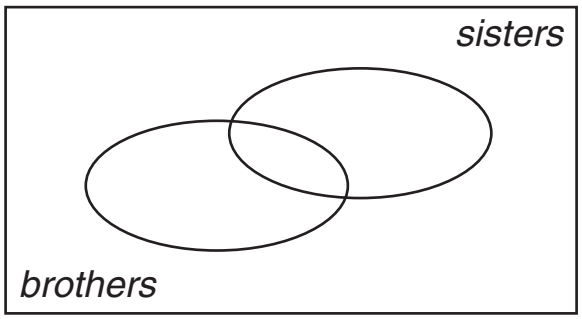
ANSWER

(a) How many pupils had *only* sisters?

(b) How many pupils had a brother?

(c) How many pupils had no brothers or sisters?

(d) Another class of thirty pupils were asked the same questions.
15 had a brother, 12 had a sister and 8 had no brothers or sisters.
Complete the Venn diagram below to show this information



(5)

Question (and working space)	ANSWER	Please do not write in this space

12 Refer to the following school canteen price list for this question:

Pasta Salad 95p
Baguette 85p
Apple.....40p
Fruit Crumble.....£1.15
Curry and Rice.....£2.30

Mr. Sanders wants to buy a class set of 25 packed lunches – each with a pasta salad, a baguette and an apple.
How much will he have to pay in total?

13 (a) How many grams are there in 2·5kg?

(b) Andy has 5m 35cm of tape. He uses 243cm for wrapping parcels. How many cm of tape does he have left over?

14 Sam is completing a table of values for the formula $2(n+1)$.
He has completed the first row of the table.

n	$2(n+1)$
5	12
19	
	80

Complete the table with the two missing values.

R
W
(5)

Question (and working space)	ANSWER	Please do not write in this space

15 The grid below is a magic square. Every row, column and diagonal must add to 1·5.

What value must be placed in the shaded box?

		0·2
	0·5	
	0·1	

16 This question concerns the number sequence that is formed starting at '0', then adding 1, subtracting 2, adding 3, subtracting 4, ...

The first four terms of the sequence are: **0, 1, -1, 2, ...**

(a) What is the sixth (6th) term in the sequence?

(b) What is the eleventh (11th) term in the sequence?

(c) What is the hundredth (100th) term in the sequence?

(4)

Question (and working space)

Please do not write in this space

17 This question involves five number cards:

1	4	5	7	9

(a) Use all five number cards to complete the following calculation.

☐ ☐ ☐ – ☐ ☐ = 654

(b) Use only three of the number cards to complete the following calculation.

☐ + ☐ x ☐ = 33

ANSWER

18 (a) Which whole number less than twenty is *both* an even number *and* a prime number?

(b) 4 is a square number and also an even number.
How many <u>other</u> whole numbers less than fifty are even square numbers?

(c) Which three prime numbers multiply together to make 154?

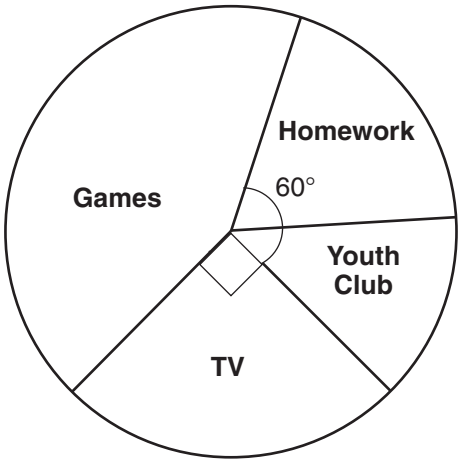
R
W

(5)

Question (and working space)

Please do not write in this space

19 The pie chart shows how 90 Year 7 pupils spent their time last night.



ANSWER

(a) How many pupils were doing homework?

(b) 10 pupils went to the youth club.
What is the size of the angle for that sector of the chart?

20 Four boys played in a cricket match. Their batting scores were 26, 13, 4 and 19.

(a) What was the average (mean) score?

(b) Another boy, Sam, batted next. The average (mean) score for the five boys is now 16. What was Sam's score?

R
W

(4)

Question (and working space)	ANSWER	Please do not write in this space

21 In this question letters of the alphabet are assigned number values:
A = 1, B = 2, C = 3, D = 4, ...

The **product value** of a word is created by **multiplying** the value of the letters.

For example: the product value of 'HEAD' = 8 x 5 x 1 x 4 = 160

(a) What is the product value of the word 'YES'?

(b) List the following words in order of their product value, starting with the lowest:

DOG CATS FISH BIRD

Lowest

.....

.....

.....

.....

Highest

(c) Which three letter English word can be inserted to complete the sum below (adding with the product value of 'BAG' to make the product value of 'GALA'?

BAG + ... = GALA

R
W

(3)

GO TO NEXT PAGE

Question (and working space)	ANSWER	Please do not write in this space

22 Four sided shapes are known as quadrilaterals. There are several types of quadrilateral including: square, oblong, parallelogram, kite, rhombus and trapezium.

Thinking about these different types, decide whether the following statements are true for **all, some** or **no** quadrilaterals.

(a) "All four sides are the same length."
Is this statement true for **all, some** or **no** quadrilaterals?

(b) "All four angles are acute."
Is this statement true for **all, some** or **no** quadrilaterals?

(c) "Two of the sides are parallel."
Is this statement true for **all, some** or **no** quadrilaterals?

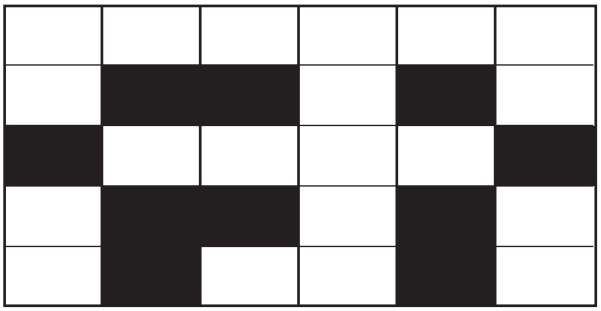
(d) "The four angles add together to make 360°."
Is this statement true for **all, some** or **no** quadrilaterals?

R
W
(4)

Question (and working space)

Please do not write in this space

23 Finish shading the diagram, colouring *only two* more squares, so that the image has one **vertical** line of symmetry.



ANSWER

24 In the grid below each number in the middle of a row or column is the average (mean) of the numbers on either side of it.

What value must be placed in the shaded box?

0·2		1·2
1·4		2·2

(2)

END OF TEST (You should have completed 24 questions.)



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