BENENDEN

Lower School Entrance 2019

MATHEMATICS

11+

1 Hour

Name:	……..…….……
School:	……..…….……
Date:	……..…….……

Equipment required: pen, pencil, ruler, eraser.

Instructions to Candidates:

1 Attempt all questions. Do not worry if you don't manage to do them all.
2 Calculators may NOT be used.
3 Show ALL working.
4 Check your answers for accuracy.
5 Total points for test: 100.

1 Calculate:

(a) 485 + 3069 (b) 2005 – 286

(a)…….. (b)…….. (2)

2 Calculate:

(a) 57 x 7 (b) 57 x 70 (c) 57 x 77

(a)…… (b)…… (c)…… (6)

3 Work out:

(a) £17 - £11.59 (b) 5.856 ÷ 8 (c) 13.5 x 0.25

(a)…… (b)…… (c)…… (6)

4 Complete the following by writing a number above the dotted line.

(a) 480 ÷ ..... = 4.8 (b) $\frac{2}{3}$ of ..... = 16

(c) $5 - 3\frac{2}{7} =$ ..... (d) 25 x ..... = 375 (8)

5 (a) 217 days = ...weeks (b) 3.22 litres = ...ml

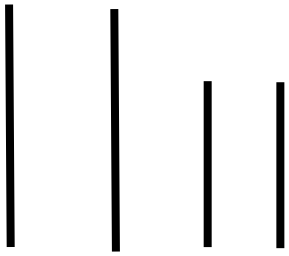
(c) 4.36 m = ...cm (d) 2060 m = ...km (4)

6 Write the following as decimal fractions:

(a) $\frac{9}{100}$ (b) $\frac{1}{20}$ (c) $\frac{3}{8}$

(a) ..... (b) ..... (c) ..... (6)

7 Below are two pairs of equal length rods. These can be arranged and joined together to form different quadrilaterals.



Write down the names of 3 different quadrilaterals that you can make using these rods

(a) …… (b) …… (c) …… (3)

8 Write down the next number in each of these number patterns and explain how each pattern works.

(a) 7, 11, 15, 19, ……, ……..

……

……

(b) 36, 25, 16, 9, ……., ……..

……

…… (8)

9 The Interschools Mini-Olympics is being held in a stadium near London.

It is quite a long journey for competitors from Benenden School, who must be there at 09.30. Allowing an extra 25 minutes in case of delays, find at what time the girls need to leave school given the following travel times:

School to station:	15 minutes
Train Journey:	1 hour 23 minutes
Station to Stadium	12 minutes

…… (4)

10 Suni makes a chain from these cards by matching the fractions,

Decimals and percentages which are equivalent.

$\frac{3}{4}$	40%	55%	$\frac{7}{10}$	$\frac{1}{2}$	20%
$\frac{1}{5}$	10%	60%	75%	$\frac{3}{10}$	0.55
0.4	1%	$\frac{1}{100}$	50%	$\frac{1}{10}$	0.3

She shades equivalent parts as she joins them

$\frac{1}{2}$	20%	$\frac{1}{5}$	10%

Which ends will be left unmatched when she has completed her chain?

.....			.....

(6)

11 Write down five factors of 180, two of which should be

prime numbers

.... (5)

12 Write down two multiples of 180

…… …… (2)

13 What is the difference between

(a) 117 and 28?

…… (2)

(b) 13 and -18?

…… (2)

(c) Write the next three numbers in this series.

-18 -13 -8 …….. ……. …….. (3)

(d) A diver is swimming at -20m. He goes down another 5m and then up 8m.

Where is he now?

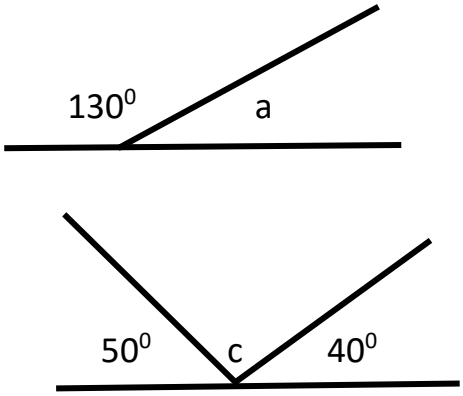
…… (2)

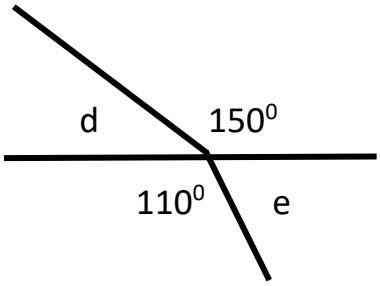
(e) Find the answer:

-2 + 6 x -3 - -7

…… (1)

14 Calculate the size of the missing angles





a =	b =
c =	d = e =

(10)

15 Six girls have prepared the table of data below

Name	Age (y:m)	Height (m)	Mass (kg)	Hand area (cm^2)
Sarah	10:04	1.40	37	90
Fatima	11:01	1.47	41	89
Louise	09:08	1.44	35	91
Jeannie	10:07	1.50	38	85
Min Lee	09:11	1.38	34	79
Gillian	10:02	1.41	39	83

(a) Who is the youngest?

…… (1)

(b) What is the range of masses?

…… (2)

(c) The girls arrange themselves in order of height.

Which two children will be next to Louise?

…… (2)

(d) How many children are older than Gillian?

…… (2)

(e) How many months older than Louise is Jeannie?

…… (2)

(f) What is the combined mass of all the children?

……kg (2)

(g) Another girl Lucy joins the group

She is a month older than Gillian

She is 4cm taller than Fatima

Her mass is 3kg less than that of Fatima

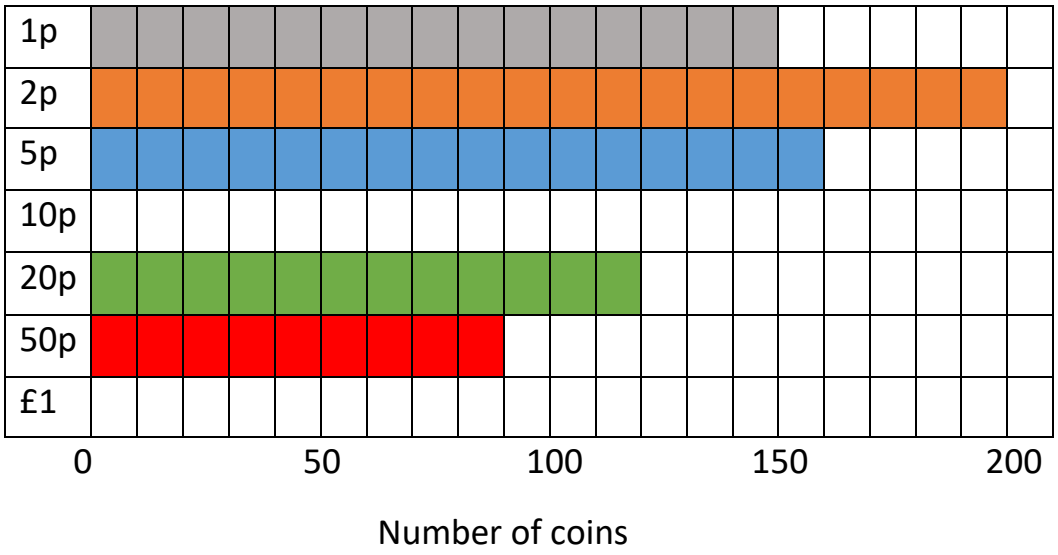
Her hand area is bigger than Gillian's but smaller than Jeannie's

Complete the data for Lucy

Name	Age (y:m)	Height (m)	Mass (kg)	Hand area (cm^2)
Lucy	……	……	……	……

(2)

16 The bar chart below shows the coins that were collected for charity at the school fete. The total amount taken was £156.50.



(a) Work out how much was taken in 2p coins? .....

(b) How much was taken in 1p and 5p coins?

.....

(b) How many 50p coins were taken?

.....

(c) Draw a bar to represent 55 one pound coins

(e) Work out how much was taken in 10p coins .....

(f) Draw a bar to show the number of 10p coins taken (7)

TOTAL MARKS : 100

When you have finished your test and checked your answers you can try to solve the following puzzles

Find the values of the letters A, B, C, D and E in these squares.

The sum of each row and column is given. Only the numbers 1, 2, 3, 4 and 5 have been used. Starting with the letter value given for each square and you will be able to work out the rest.

1

A	A	C	B	10
B	E	B	D	17
E	E	C	D	11
B	D	A	C	12
15	12	9	14	

A = 2

2	2			10
				17
				11
		2		12
15	12	9	14	

2

D	A	D	B	8
C	C	A	B	12
E	D	C	A	12
A	E	B	C	13
12	12	10	11	

C = 4

				8
4	4			12
		4		12
			4	13
12	12	10	11	

3

E	D	C	A	11
E	C	B	A	10
D	A	C	E	11
C	A	B	D	12
12	10	10	12	

E = 3

3				11
3				10
			3	11
				12
12	10	10	12	

4

B	B	D	C	15
D	D	A	C	13
E	A	C	E	9
E	C	B	D	14
15	12	12	12	

D = 5

		5		15
5	5			13
				9
			5	14
15	12	12	12	

4 The Happy family — Mr Happy, Mrs Happy, Marc, Jenny and Grandma Happy — were sitting at their round kitchen table, having dinner.

- Mrs Happy did not sit next to her husband.
- Jenny sat next to her father.
- Last night Jenny sat next to her brother and they had a fight.
- Marc did not like the vegetable soup and did not feel too happy, as his mother was sitting next to him and made him eat it.
- Grandma Happy sat next to her son and her grandson.
- Jenny loved the cake Grandma made.

Draw a diagram of the Happy family's seating arrangement.