Maths
Specimen Paper

Year 7

Time Allowed: 1 hour 15 minutes

You **must not** use a calculator to answer any questions in this exam

2018

Bradford Grammar School
MATHEMATICS
11+ Assessment

Surname:		**Total Marks:**
First Names:		
Current School:		*Maximum Mark for this Paper is:* ***100***

January 2018

Time allowed: 1 hour and 15 minutes

Instructions to Candidates

- In the boxes above, write your Surname, First Names and Current School.
- Answer all questions in the space provided
- Correct answers with insufficient working may be awarded no marks.
- ***Calculators may not be used***.

Information for Candidates

- The marks for each question are shown in brackets.
- The total of the marks is 100.
- There are 23 questions on this paper.

Advice for Candidates

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Calculators must NOT be used.
Remember to show all your working.
Write your answers in the spaces provided.
Answer all questions.

1.(a) Add

$$\begin{array}{rr} & 2018 \\ + & 1999 \\ \hline & \end{array}$$


.....

(b) Add

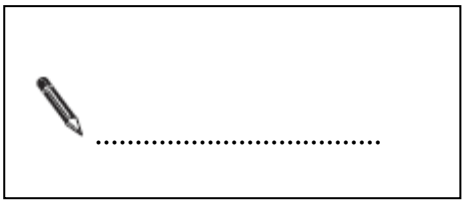
$$\begin{array}{rr} & 812018 \\ + & 181999 \\ \hline & \end{array}$$


.....

(3 marks)

2. Subtract

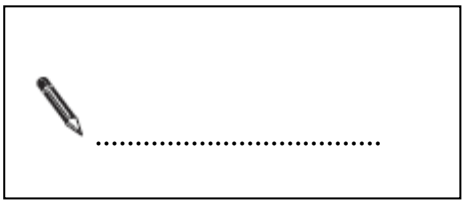
$$\begin{array}{r} 2018 \\ -\ 1899 \\ \hline \end{array}$$



(2 marks)

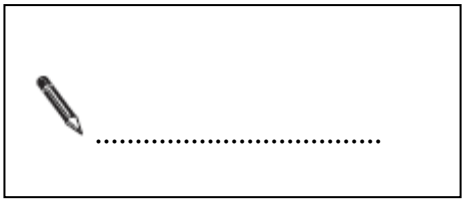
3.(a) Multiply

$$\begin{array}{r} 2018 \\ \times\ \ 9 \\ \hline \end{array}$$



(b) Multiply

$$\begin{array}{r} 2018 \\ \times\ \ 900 \\ \hline \end{array}$$



(3 **marks)**

4. (a) What is the remainder when we divide

$9\overline{)815674}$

 .....

(b) What is the remainder when we divide 815675 by 9?

 .....

(5 marks)

5. The table gives the distance, in kilometres, between some UK towns and cities.

Birmingham	Bradford	Coventry	Derby	Doncaster	Leeds	Manchester	Sheffield
177							
32	193						
67	117	66					
146	55	149	80				
172	16	186	111	419			
129	57	160	93	442	67		
119	59	126	57	376	54	63	

The distance between Bradford and Leeds is 16 km.

What is the distance between Manchester and Bradford?

..... km

What is the distance between Sheffield and Coventry?

..... km

Nicola travels from Birmingham to Leeds and then to Manchester.
How far does she travel?

..... km

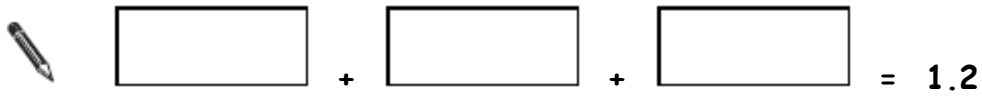
How much shorter would her journey be if she travelled to Manchester first and then to Leeds?

..... km

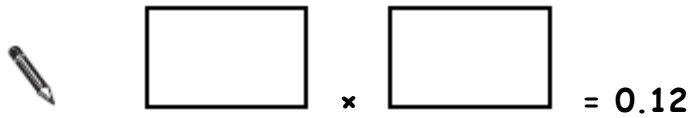
(8 marks)

6.

(a) Write three ***different*** decimals, **each greater than zero**, which add together to make a total of **1.2**



(b) Write **two decimals, each less than 1**, which multiply to make **0.12**



(5 marks)

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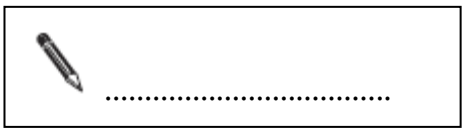
7. A letter is chosen at random from the word

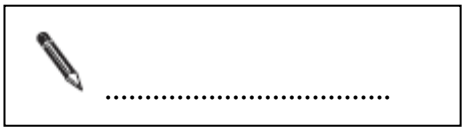
PARALLELOGRAM

What is the probability it is:

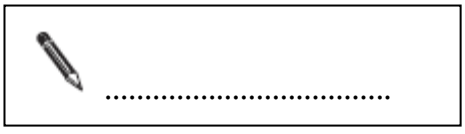
(a) The letter L



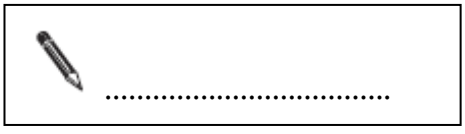
(b) A vowel



(c) It comes after L in the alphabet



(d) The letter T



(5 marks)

8. Eleanor wins £200 for first place in a maths competition. She decides to share her money with her brother and sister. She gives her brother, Eric, one quarter of the money, and she gives her sister, Emma, 3/8 of the money.

What fraction of the money does Eleanor get?

.....

How much money does Emma receive?

.....

(5 marks)

9.

The time on the clock is 3 o'clock.
How many degrees does the big hand
have to turn through to get to quarter past 3?

.....

How many degrees does the big hand turn between 3 o'clock and twenty past 3?

.....

How many degrees does the little hand turn in half an hour?

.....

(7 marks)

10. Sandwiches cost £1.20 each, apples cost 50p each, orange juice cost 70p and a cup of tea costs £2.10.
Laura and her mum buy a cup of tea, a glass of orange juice, two sandwiches and an apple.

They pay using a £10 note. How much change do they get?

.....

(5 marks)

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11. Write down the next two numbers in each of the following number patterns:

(a) 2, 8, 14, 20, 26, …, …,

..... and .....

(b) 3, 6, 12, 24, 48, …, …,

..... and .....

(c) 1, 4, 9, 16, 25, …, …,

..... and .....

(d) 1, 3, 4, 7, 11, 18, …, …,

..... and .....

(8 marks)

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12. Four children are revising for the entrance exam.
Becky does twice as many practice questions as Asif.
Charlie does twice as many practice questions as Becky.
Danyal does twice as many practice questions as Charlie.

They do thirty questions altogether.

How many questions does Danyal do ?

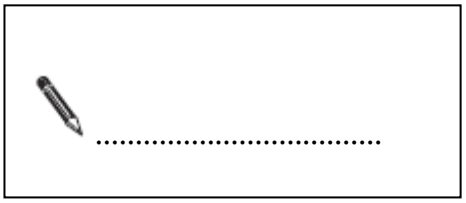
.....

A fifth child, Emily, does twice as many questions as the others put together.
She gets 20% of them wrong. How many questions does she get right?
(Give your answer as a number, not a percentage)

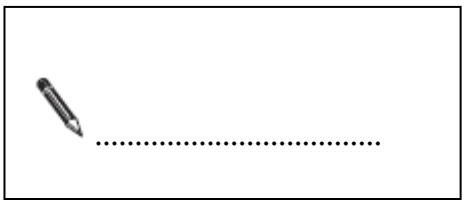
.....

(6 marks)

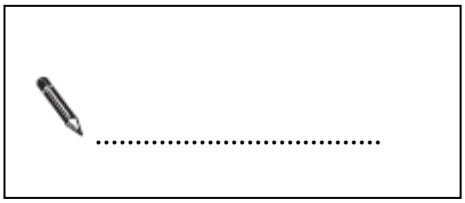
13. (a) How many odd numbers are there between 2 and 12?



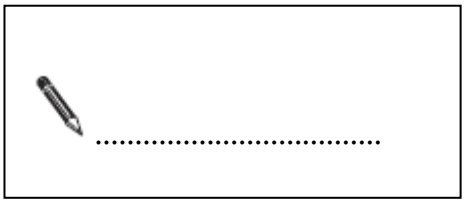
(b) How many odd numbers are there between 2 and 32?



(c) How many odd numbers are there between 12 and 32?



(d) How many odd numbers are there between 2 and 20002?



(7 marks)

14. (a)

I think of a number, add 7 and then I treble this answer. My final answer is 57.

What number did I start with?

.....

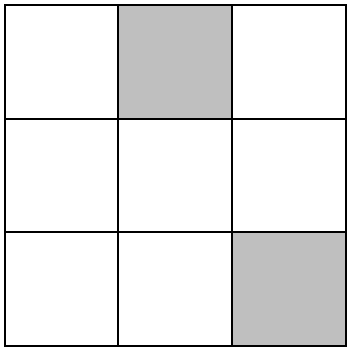
(b)

Now I think of a number, and then double it. I still have the number I started with. What was my original number?

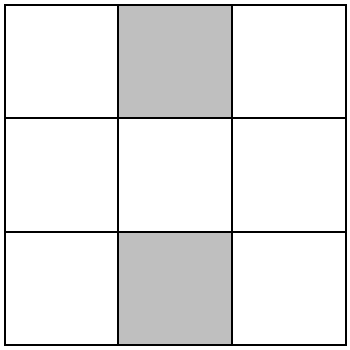
.....

(3 marks)

15. (a) The diagram below has no lines of symmetry. Shade two of the small squares so there is now at least one line of symmetry.



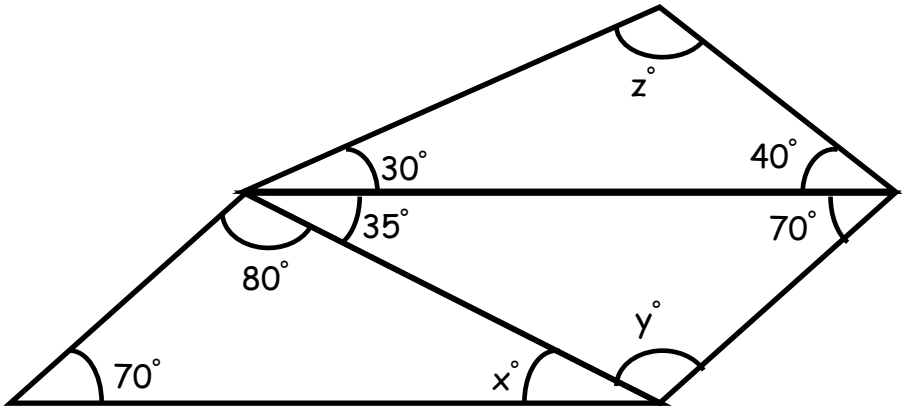
(b) The diagram below is symmetrical. Shade two of the small Squares so there is now no symmetry.



(2 marks)

16. (a) The angles in a triangle add up to 180°.

Find the values of x, y, and z in the following diagram.



x = ...

y = ...

z = ...

(b) A pentagon is a five sided shape. What do the angles inside a pentagon add up to?

= .....

(8 marks)

17. (a) The mean of two numbers is 12

One of the numbers is 10

What is the other number?

The other number is .....

(b) (i) What two numbers should be added to the list:

2 3 4 5 6 to make the mode 1

The numbers are .....

(ii) What will the median of the seven numbers now be?

The median is .....

(c) The range of a set of data is the difference between the largest number and the smallest number.
Write down three numbers which have a range of 50 and a median of 17

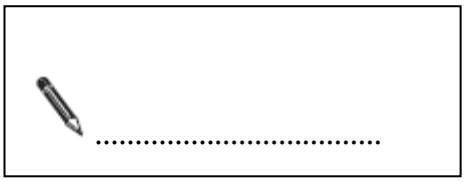
The numbers are .....

(7 marks)

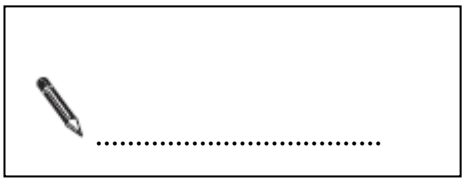
18. If we put the letter E in the missing spaces of S _ V _ N
We get the number 7.

Find the missing letter we need to put in the spaces of the following
So that we get other numbers.

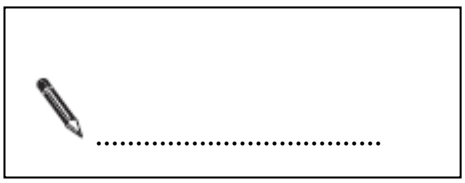
(a) _ WEN _ Y



(b) _ I _ E



(c) _ L _ V _ N



(3 marks)

19. Dolly starts doing her homework at 6 p.m.

She spends 40 minutes on maths then has a 5 minute break. Then she starts her English homework, finishing at 7.20 p.m.

How long did her English take?

.....

She then watches her favourite TV programme which starts at 7.30 p.m. It lasts three times as long as she took to do her maths homework.

What time does the program finish?

.....

(4 marks)

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20. In a certain code, $A = 1, B = 2, C = 3, D = 4, E = 5, \ldots$ etc. Words are encoded by multiplying together the values of their letters, so the code for TEN is: $20 \times 5 \times 14 = 1400$. Similarly, the code for NINE is: $14 \times 9 \times 14 \times 5 = 8820$. What is the code for TWO?

.....

(4 marks)

END OF EXAM