Surname ..... **Candidate number** .....

First name .....

Current school .....

mgs Founded 1515 | The Manchester Grammar School

Entrance Examination 2017

Arithmetic Section A

30 minutes

Do not open this booklet until told to do so

Calculators may not be used

Write your names, school and candidate number in the spaces provided at the top of this page.

You have 30 minutes for this paper which is worth 20 marks.
Each question is worth 1 mark.

Answer all the questions, attempting them in order and writing your answers clearly. If you find that you cannot answer a question straight away leave it blank and return to it later if you have time. Try not to leave blank answer spaces at the end, instead make the best attempt at an answer that you can.

If you need to change an answer cross it out neatly and write the new answer alongside the box. You may use rough paper for working out, this will not be marked.

Marker 1	Methods Q1-10	Problems Q11-20	**Marker 1 TOTAL**	**Marker 2 CHECK**	**AGREED MARK**
Number Correct					
Number Wrong					

1. Write in figures the number three hundred and eight thousand, five hundred and twenty.

1	

2. Work out 825 - 573

2	

3. Work out $2047 \div 23$

3	

4. Work out $5\frac{1}{3} \times 3\frac{3}{4}$, giving your answer in its simplest form.

4	

5. If the following numbers were put in order, which number would be in the middle?

0.67, 55%, $\frac{3}{5}$, $\frac{7}{10}$ and $\frac{2}{3}$

5	

6. Work out 0.03 x 3200

6	

7. Write 0.84 as a fraction in its simplest form

7	

8. Which sum has been set out correctly to give the answer 67?

A 8 + 4 x 6 - 5 **B** (8 + 4) x (6 - 5) **C** (8 + 4) x 6 - 5

8	

9. Add together the three lengths 1.4m, 33cm and 580mm giving your answer in cm.

9	cm

10. Work out 30% of £16.80

10	£

FOR MARKER USE ONLY

	Q1 - 10
Number Correct	

	Q1 - 10
Number Wrong	

11. The **average** weight of five parcels is 3.7kg. Four of the parcels are identical and each weigh 3.5kg. What is the weight of the fifth parcel?

11	kg

12. At a birthday party, 12 children said they liked orange juice and 10 children said they liked lemonade. If 7 of these children said they liked both and 3 others said they only liked water, how many children were at the party?

12	

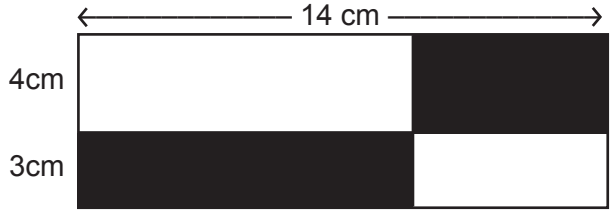
13. Aidan was told to divide a certain number by 17. Instead he divided the number by 7 and got the answer 68. What was the answer to the division he was supposed to do?

13	

14. A piece of string is 160cm long. It is formed into a rectangle whose length is three times its width. Work out the area of the rectangle in square centimetres (cm^2)

14	cm^2

15. In the following diagram the two shaded rectangles have equal areas. What is the **total** shaded area?



15	cm^2

16. Nancy bought five oranges and two apples and they cost £3.40. At the same shop, David bought three oranges and one apple and paid £2.00. What would Steve have paid if he bought four oranges and two apples from this shop?

16	£

17. St Hugh's School hall is in the shape of a large box or cuboid. The area of the floor is $200m^2$, the area of one of the side walls is $150m^2$ and the area of an end wall is $48m^2$. What is the **height,** in metres, of the hall?

17	m

18. A number is **"pro-added"** if I multiply the number by itself and then add the original number to that answer.
So, for example, **pro-add(8) = 8 x 8 + 8 = 72.**

What number gives the answer 210 when it is "pro-added"?

18	

19. How many whole numbers less than 100 **cannot** be divided exactly by 4 or by 5?

19	

20. Two crosses can be put in three squares in three different ways, as follows.

X	X	O

X	O	X

O	X	X

In how many different ways can you put three crosses in five squares?

20	

This is the end of the Examination

Use any remaining time to check your work or try any questions you have not answered.

FOR MARKER USE ONLY

	Q11 - 20
Number Correct	

	Q11 - 20
Number Wrong	