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

First name .....

Current school .....

mgs Founded 1515 | The Manchester Grammar School

Entrance Examination 2014

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.

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 as 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 thousand, four hundred and seven

1	

2. Work out 569 + 372

2	

3. Work out 418 x 70

3	

4. Work out $17\frac{1}{2} \div 5$

4	

5. What is the missing number in this list 33, 44, 56, ..., 83, 98

5	

6. Work out 2.42 x 1.6

6	

7. Write 0.64 as a fraction in its simplest form

7	

8. If the following numbers were written in order from highest to lowest, which number would be in the middle
$\frac{3}{10}$, $\frac{1}{3}$, $\frac{1}{4}$, 0.35, 33%

8	

9. Alison watches two quiz programmes on TV. The first is on from 6.35pm until 7.15pm, the second lasts for half an hour. Later on, she watches a film from 9.30pm until 11.25pm. In hours and minutes, how long has she spent watching TV?

9	hrs mins

10. Ollie is making some small snacks for a party. He cuts 1.2 kg of cheese into a number of 15g pieces. How many pieces does he have?

10	

FOR MARKER USE ONLY

	Q1 - 10
Number Correct	

	Q1 - 10
Number Wrong	

11. On a large weighing balance at Chester Zoo, the zookeepers find that 5 rhinos on one side will balance 6 zebras and 3 rhinos on the other side. How many zebras would be needed to balance 9 rhinos?

11	

12. A rectangle is 4 cm longer than it is wide. The distance all the way round the rectangle (its perimeter) is 32 cm. What is the area of the rectangle?

12	cm^2

13. The mean length of a crocodile is 7.5 m and the mean length of an alligator is 4 m. If I have 4 crocodiles and 6 alligators what would be the mean length of all 10 creatures together?

13	m

14. In the summer sales, prices of items are reduced by 15%. What would be the sale price of a coat that originally cost £30?

14	£

15. A cow eats 8 kg of food per day and a pig eats 6 kg of food per day. A farmer has 30 cows and some pigs. If the animals eat a total of 360 kg of food each day, work out how many pigs the farmer has.

15	

16. Tim has a box containing 9 red, 6 blue and 5 yellow counters. He picks one counter at random without looking in the box. What is the probability that he will NOT select a red counter? Give your answer as a fraction.

16	

17. David cuts a 6 metre long pole into three different pieces. The largest piece is 40 cm longer than the middle piece and the middle piece is 70 cm longer than the shortest piece. What is the size of the largest piece?

17	cm

18. Two bags of crisps and five chocolate biscuits cost £1.76.
If each bag of crisps costs 4p more than a chocolate biscuit, what is the cost of a biscuit?

18	p

19. How many ODD three digit numbers is it possible to make using the numbers 4, 5 and 7 if you are allowed to use each of the numbers more than once in a particular three digit number?

19	

20. The number 3 can be split in three different ways by adding positive whole numbers together as follows

1 + 2, 2 + 1 and 1 + 1 + 1.

Using the same method, in how many different ways can the number 5 be split?

20	

END OF PAPER

FOR MARKER USE ONLY

	Q11 - 20
Number Correct	

	Q11 - 20
Number Wrong	