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

**First name** .....

**Current school** .....

mgs Founded 1515 | The Manchester Grammar School

# Entrance Examination 2012
# Arithmetic Paper 1

## 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 the 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. Do not leave blank answer spaces, 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.

| | Marker 1 | Marker 2 | **Agreed mark** |
|---|---|---|---|
| Number correct | | | |
| Number wrong | | | |

1. Work out 379 + 485

| 1 | |
|---|---|

2. Work out 274 x 70

| 2 | |
|---|---|

3. Work out $2\frac{2}{5} + 3\frac{3}{10}$

| 3 | |
|---|---|

4. Write in figures the number one million forty thousand and four

| 4 | |
|---|---|

5. What is the missing number in this list
75, 66, ……, 48, 39

| 5 | |
|---|---|

6. Ger has £2 made up of 20p and 10p coins. He has twice as many 20p coins as 10p ones. How many 10p coins does he have?

| 6 | |
|---|---|

7. "Comfyclothes" in the Arndale Centre reduces its prices by 20% in its winter sale. Ian bought a coat for £60 in the sale. How much would it have cost before the sale started?

| 7 | £ |
|---|---|

8. Alison has 8 more pencils than rulers. If she has a total of 52 pencils and rulers, how many rulers does she have?

| 8 | |
|---|---|

9. Work out 35% of £4

| 9 | £ |
|---|---|

10. Two rectangles have the same area. One rectangle is 28cm long and 12cm wide. The second rectangle has width 7cm. What is the length of this rectangle?

| 10 | cms |
|---|---|

11. Write 0.28 as a fraction in its simplest form.

| 11 | |
|---|---|

12. Neil is allowed to watch three hours of TV each day in the holidays. He watches cartoons from 6.20pm to 7.10pm and a sports programme from 7.25pm to 9.00pm. For how much longer could he have watched TV without breaking his rule?

| 12 | mi |
|---|---|

13. If the following numbers were put in order which number would be in the middle?
0.66, $\frac{3}{4}$, 70%, $\frac{2}{3}$, $\frac{6}{10}$

| 13 | |
|---|---|

14. Tim puts bricks which are all 2cm by 3cm by 4cm into a box which is 15cm by 20cm by 16cm. What is the greatest number of bricks he can put in the box?

| 14 | |
|---|---|

15. For the first 12 months after I bought my new phone I downloaded 4 apps to it each month. Over the next 7 months I only downloaded 1 app each month, but this month I downloaded 5 new apps. What is the average number of apps I have downloaded each month while I have had the phone?

| 15 | |
|---|---|

16. A red light flashes four times a minute and a green light flashes six times a minute. If both lights start flashing at the same instant, how many times do they flash at the same instant in one hour including the first and the last time?

| 16 | |
|---|---|

17. What is the smaller angle between the hands of a clock at 2:30?

| 17 | ° |
|---|---|

18. Andy works out the sums of numbers as follows 1+2, 1+2+3, 1+2+3+4 and so on. What is the first of these sums of numbers that is greater than 80?

| 18 | |
|---|---|

19. How many different positive whole numbers are factors of 72? (remember to include 1 and 72 as factors)

| 19 | |
|---|---|

20. Jo writes down a two digit number. When she reverses the digits and subtracts the smaller number from the larger number the answer she gets is 36. What is the difference between the two digits in her original number?

| 20 | |
|---|---|

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