mgs Founded 1515 | The Manchester Grammar School

Candidate no.: .....

# ENTRANCE EXAMINATION 2009

## PART 1 ARITHMETIC EXAMINATION

**Time available: 30 minutes**

**Surname: .....**

**First Name(s): .....**

**School: .....**

**There are 20 questions in this paper and each question is worth one mark. Work through the questions in the order in which they appear. The questions toward the end of the paper are not necessarily the most difficult. Do attempt the questions on both pages.**

**All answers must be written clearly in the answer-spaces provided. If an answer cannot be read easily it may be marked wrong.**

**Instead of leaving blank answer-spaces, you should use any available time at the end of the examination to make the best attempt you can at questions you have not done.**

**You may use rough paper; this will not be marked.**

**Calculators must not be used.**

---

| | Marker 1 | Marker 2 |
|---|---|---|
| Total number of ticks | | |
| Total number of crosses | | |
| | Check total is 20 and initial here | Check total is 20 and initial here |

1. Write in figures the number which is eight less than ten thousand.

**1** _____

2. How many quarters are there in $7\frac{1}{2}$?

**2** _____

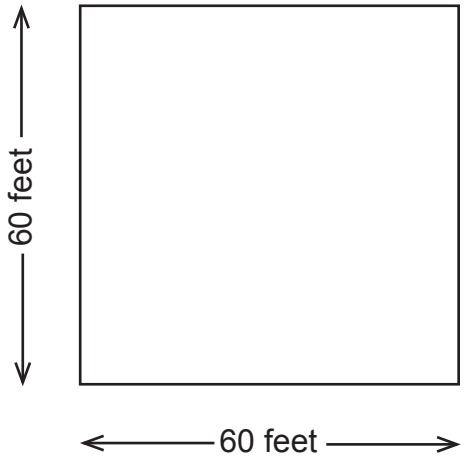
3. Find $\frac{1}{4}$ of $\frac{2}{3}$ of 72.

**3** _____

4. In the sequence 1, 3, 7, 13, 21, … what is the largest two digit number?

**4** _____

5. Paving stones 3 feet by 5 feet are used to cover a yard which is 60 feet square. How many stones are needed?




**5** _____

6. If Holland beat France 3-1 in a hockey match, how many different half time scores are possible?

**6** _____

7. What number between 400 and 500 divides exactly by 2, 3 and 11?

**7** _____

8. I think of a number, double it and add 7. If the answer is 49, what was the number?

**8** _____

9. What is the sum of all the prime numbers between 30 and 40?

**9** _____

10. Add together all the factors of 24.

**10** _____

11. Two pieces of string, one 54 millimetres long and the other 15 centimetres long, are cut from a piece of string 2·5 metres long. What is the remaining length in millimetres?

**11** ____ mm

12. The area of a square is 81 square kilometres. What is the perimeter of the square?

**12** ____ km

13. Dunkit Basketball team won 80% of their games last season and had no tied games. They lost 5 games. How many games did they play altogether?

**13** ____

14. A motorist travels 110 km at 40 kilometres per hour. How long will this take him in hours and minutes?

**14** ____ hr ____ min

15. The instructions for roasting a chicken are “Roast for 40 minutes per kilogram plus 15 minutes extra”. Mrs Beaton follows these instructions and cooks her chicken for one hour and fifty five minutes. How heavy is her chicken?

**15** ____ kg ____ g

16. The difference of two numbers is 5 and their product is 84. What is the larger number?

**16** ____

17. Nigel buys some CDs costing £7 each and some costing £9 each. He spends £50 altogether. How many CDs did he buy?

**17** ____

18. In a right angled triangle one angle is 62 degrees. What is the smallest angle of the triangle?

**18** ____ o

19. Two blocks of wood have the same volume. One is 18 cm long, 15 cm wide and 24 cm high. The other is 9 cm long and 12 cm wide. How high is the second block?

**19** ____ cm

20. Each letter of the alphabet is replaced by a number in a code. If A + P + P + L + E = 56 and P + E + A + L = 38, find A + L + E.

**20** ____