

**ENTRANCE EXAMINATION 2007
PART 1 ARITHMETIC EXAMINATION**

Time available: 50 minutes

Surname:

First Name(s):

Home address:

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School:

There are 40 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 every page.

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.

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Total number of ticks	<input type="text"/>	<input type="text"/>
Total number of crosses	<input type="text"/>	<input type="text"/>
	Check total is 40 and initial here	Check total is 40 and initial here

1 Write out in figures the number ten thousand and eighty.

1	
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2 Work out $678 + 789$.

2	
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3 Work out three-quarters of 80.

3	
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4 Find the lowest number which is a multiple of both 12 and 16.

4	
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5 What is the largest **even** six-digit number that can be made by using all of the digits 1, 2, 3, 4, 5 and 6 once?

5	
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6 Work out 20% of 30.

6	
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7 Write down a prime number between 90 and 100.

7	
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8 Andrew and Geraint have £30 in total. When Andrew gives £5 to Geraint he finds that he now has twice as much money as Geraint. What was the difference in their amounts at the start?

8	£
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9 David arrived at Manchester Airport at 22:43. His flight departed at 03:15. How many minutes did he have to wait?

9		mins
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10 Neil bought 4 full price tickets and 3 half price tickets to see 'The History Boys'. The total cost was £44. What is the cost of a full price ticket?

10	£
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PLEASE TURN OVER

11 Find the difference between 1 067 and 883.

11	
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12 Work out $12.09 + 3.862$.

12	
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13 Work out $5.9 - 2.01$.

13	
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14 Multiply 7.6 by 4.

14	
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15 Divide 30.2 by 5.

15	
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16 A cuboid has a volume of 3 000 cubic centimetres. It is 20 centimetres long and 10 centimetres wide. How high is it?

16		cm
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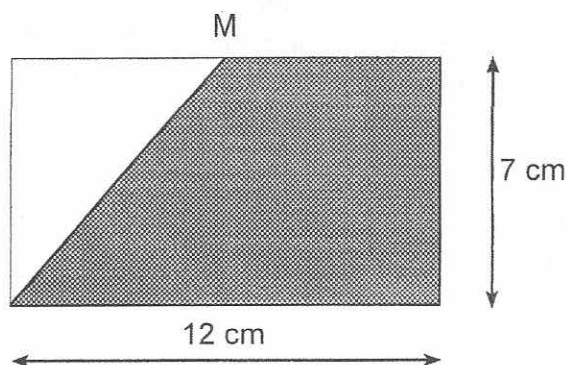
17 How many single-digit numbers are factors of 72?
(Note that 1 is a factor of 72.)

17	
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18 Sara travels 30 kilometres in 45 minutes. What is her speed in kilometres per hour?

18		km per hr
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19 The point labelled M is the midpoint of the top edge of the rectangle. Work out the area of the shaded region.



19		cm ²
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20 In last year's Arithmetic Part 1 paper, there were ten questions on each of four pages, as usual. Aidan got twice as many questions correct on Page 2 as he did on Page 1, twice as many on Page 3 as Page 2, and twice as many on Page 4 as Page 3. How many questions did he answer correctly?

20	
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PLEASE TURN OVER

Answers to questions 21 to 23 must be written as fractions in their simplest form. For example, $\frac{2}{3}$ is simpler than $\frac{4}{6}$, $1\frac{3}{7}$ is simpler than $\frac{10}{7}$ and 6 is simpler than $\frac{6}{1}$.

21 Work out $1\frac{3}{4} + 2\frac{1}{2}$.

21

22 Work out $5 - 1\frac{2}{3}$.

22

23 Work out $3\frac{1}{6} \times 7$.

23

24 Six pencils cost 78 pence. What will be the cost of fifteen pencils?

24 £

25 The reading on the milometer on Nigel's bike was 826.9 miles on Saturday morning. He cycled from Poynton to Pott Shrigley, a distance of 5.3 miles. He then returned to Poynton by a different route, and noticed that the final reading on the mileometer was 841.1 miles. How many miles was the return journey?

25 miles

26 Stephen writes down the numbers from 1 to 20. He then crosses out all the odd numbers and also all the numbers which are factors of 24. How many numbers remain?

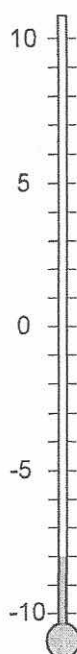
26

27 Rodger has a square piece of card of side 5 centimetres. From it, he cuts out a square of side 3 centimetres. What is the area of the remaining shape?

27 cm²

28 These two thermometers show the Celsius temperatures in Moscow and New York last Friday. What was the difference in temperature?

MOSCOW



NEW YORK



28 °C

29 Write down the largest of the numbers $\frac{1}{3}$, 0.3, $\frac{5}{12}$, 0.375, $\frac{4}{11}$.

29

30. Lynda has forgotten the Personal Identification Number on her credit card. She knows that it is a four-digit number, and that the digits are 4, 5, 6 and 7. However, she has forgotten the order of the digits. She writes down all the possible arrangements. How many are there?

30

PLEASE TURN OVER

- 31 Work out the remainder when 387 is divided by 7.

31	
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- 32 One angle of an isosceles triangle is 100° . Write down the size of one of the other angles.

32		°
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- 33 Two numbers have a sum of 22 and a product of 72. Work out their difference.

33	
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- 34 A convoy of army jeeps is driving down the M6 motorway. Each jeep is 3 metres long and the front of each jeep is 12 metres behind the back of the one in front of it. If the total length of the convoy is 108 metres, how many jeeps are there?

34	
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- 35 Irfan scores marks of 8, 6, 7 and 12 on four tests. After the fifth test, his average mark is 8. What mark did he get on the fifth test?

35	
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- 36 Work out
 $36-34+32-30+28-26+24-22+20-18+16-14+12-10+8-6+4-2$.

36	
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- 37 When I **dib** two numbers, I add twice the first number to three times the second. For example,

$$3\text{dib}5 = 2 \times 3 + 3 \times 5 = 21.$$

When I **dib** 7 with a second number, I get an answer of 50. What is the second number?

37	
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- 38 The money in Tim's wallet consists entirely of 2p and 5p coins. Sam asked him if he could change a £1 coin, but he was not able to do it exactly. What is the greatest amount of money that Tim could have in his wallet?

38	£
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- 39 A marathon runner's stride is 1 yard. How many strides will he take in running the marathon?

(The distance of the marathon is 26 miles and 365 yards. A mile is the same distance as 1 760 yards).

39	
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- 40 Paul spends $\frac{5}{6}$ of his money and then gives $\frac{3}{4}$ of the remainder to his sister. He is left with 10 pence.
How much did he start with?

40	£
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END OF EXAMINATION
USE ANY REMAINING TIME TO CHECK YOUR WORK
OR TRY ANY QUESTIONS YOU HAVE NOT ANSWERED.