

**The Haberdashers' Aske's Boys' School
Elstree**

11+ Entrance Examination 2008

MATHEMATICS

One Hour

Full Name

Examination Number

INSTRUCTIONS

1. DO NOT OPEN THIS PAPER UNTIL YOU ARE TOLD TO DO SO.
2. There are 30 questions on this paper. DO NOT FORGET TO TURN OVER.
3. Work quickly but accurately. You are recommended to use pencil, but you can use pen or biro if you wish.

WRITE YOUR ANSWERS TO THE QUESTIONS IN THE SPACES PROVIDED.
YOU MAY USE THE SPACE AT THE BOTTOM OF EACH PAGE FOR WORKING.

Answer

1. Add $39 + 45$

2. Subtract $167 - 94$

3. Multiply 63×8

4. Divide $162 \div 9$

5. Here is a menu:

<i>The Café in the Park</i>	
Tea	£1.05
Coffee	£1.89
Soft Drink	£1.59
Sandwich	£2.65
Cake	£2.79

Jo buys one tea, one sandwich and one cake.
Work out the total cost.

6. Sam's grandma gives him £500 for his birthday. He wants to buy a Playstation 3 which costs £399 and a Nintendo Wii which costs £180. How much **more** does he need to save before he can buy both of them?

SPACE FOR WORKING

7. Write fourteen thousand and twenty-eight in figures.

8. Which of these fractions is the largest?

$$\frac{1}{4}, \frac{3}{8}, \frac{9}{16}, \frac{15}{32}$$

9. Arrange these numbers in order of size, starting with the smallest:

1.01, 0.005, 1.006, 0.024

10. If I cut 4 cakes into 6 pieces each, 3 cakes into 4 pieces each and 1 cake into 12 pieces, how many pieces of cake do I have altogether?

11. Fill in the blanks in these sums:

a)

$$\begin{array}{r} 1 \quad 6 \quad 4 \\ + 2 \quad \square \quad 8 \\ \hline \square \quad 2 \quad 2 \end{array}$$

b)

$$\begin{array}{r} 3 \quad 0 \quad 5 \\ - 1 \quad 5 \quad \square \\ \hline 1 \quad \square \quad 9 \end{array}$$

12. Here is a recipe for chickpea curry for 4 people:

- 2 onions
- 200g of potatoes
- 400g of chickpeas
- 1 teaspoon of curry powder

Work out the amounts needed to make curry for 10 people

_____ onions
 _____ g of potatoes
 _____ g of chickpeas
 _____ teaspoons of
 _____ curry powder

SPACE FOR WORKING

TURN OVER

13. A man builds a garage in 6 days, working 6 hours a day.
How many hours did it take altogether?

If he wanted to finish the job in 4 days, how many hours a day would he
have needed to work?

14.

<p style="text-align: center;"><u>FORTUNE THEATRE</u></p> <p style="text-align: center;">'Harry Potter' THE MUSICAL</p> <p style="text-align: center;">Seats still available:</p> <p style="text-align: center;">Stalls - £5</p> <p style="text-align: center;">Circle - £7</p> <p style="text-align: center;">Upper Circle - £4</p>
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- a) How much would 18 seats in the stalls cost? _____
- b) How much more expensive would it be to take 18 seats in the circle? _____
- c) How many seats could be bought in the upper circle for £92? _____
- d) If you had to buy at least one of each type, what is the maximum
number of seats that could be bought for £41? _____

SPACE FOR WORKING

15. Answer true or false for each of the following statements:

- a) When you multiply an even number by an odd number, you get an even number.
- b) When you add an even number to an odd number, you get an even number.
- c) When you multiply any two numbers, the answer is always bigger than either of them.

16. A man throws a javelin and misses the world record by 18m.
 A second man throws a javelin and beats the world record by 7m.
 A third man throws a javelin 98m, which is 9m further than the second man's throw.

What was the original world record?

How far did the first man throw his javelin?

17. 30 students were asked if they liked coffee.
 20 of the student were girls.
 6 boys liked coffee.
 12 girls did not like coffee.
 Use this information to complete the following table.

	Boys	Girls	Total
Like coffee			
Did not like coffee			
Total			

SPACE FOR WORKING

TURN OVER

18. The average weight of four boys is 55kg. What is the total weight of the four boys? _____

A fifth boy, whose weight is 65 kg, joins the group. What is the average weight of the five boys? _____

19. The ages of Henry, James and Toby add up to 104. Henry is twice as old as James and James and Toby are twins. How old is Henry? _____

20. 3 ducks have a race.
Duck A finishes 38 seconds ahead of duck B, who finishes 17 seconds **behind** duck C.

How many seconds is duck A ahead of duck C? _____

21. Put the following numbers in the appropriate place on the table shown:

1, 2, 3, 4, 6, 7, 11, 12, 15, 16, 19, 21, 22, 24

Some numbers have been put in for you:

	Odd number	Not an odd number
Multiple of 3		12
Not a multiple of 3	7	2 4

22. On planet Sox, there are 10 millisoxxes in a gramsoxx, 20 gramsoxxes in a kilosoxx and 100 kilosoxxes in a tonnesox.

How many millisoxxes are there in three quarters of a tonnesox? _____

SPACE FOR WORKING

23. $1 + 1^2 = 2$
 $2 + 2^2 = 6$
 $6 + 3^2 = 15$
 $15 + 4^2 = 31$

Fill in the next two lines of the pattern.

24. The following table shows how certain weights are made up. Only 0, 1, or 2 can be placed in the appropriate column, depending on the number of those weights used. Complete the table.

(The first two have been done for you)

Total Weight	27g	9g	3g	1g
11g	0	1	0	2
28g	1	0	0	1
30g				
42g				
55g				
80g				

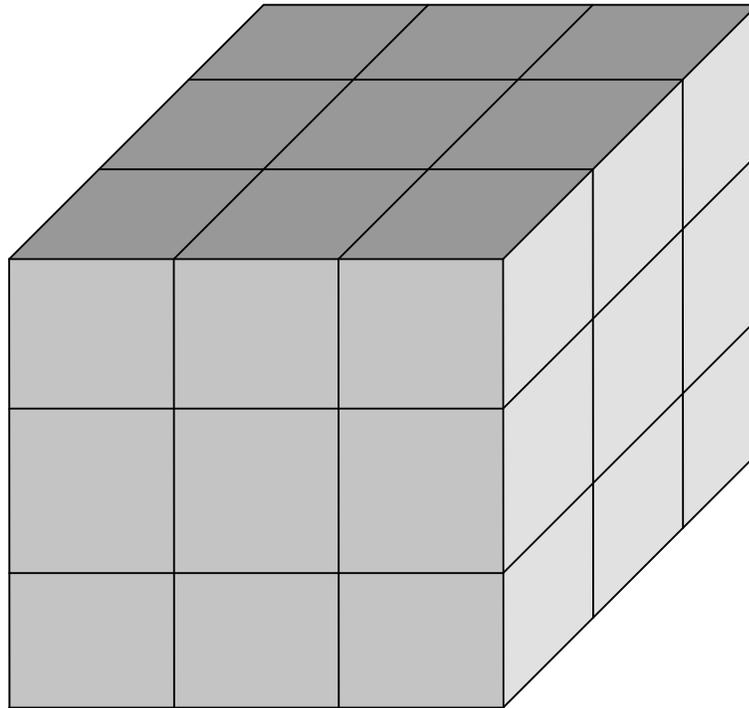
25. Tanya has lots of cubes with sides of 3 cm.

How many cubes are needed to completely fill a box measuring 24 cm by 15 cm by 15 cm ?

SPACE FOR WORKING

TURN OVER

26.



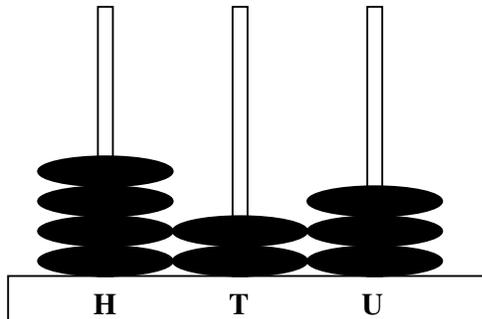
Not to scale

Some small cubes are put together as shown in the diagram to make a larger cube.

- a) How many small cubes are there? _____
- b) If this large cube was put on a wooden table, how many of the small cubes would **not** be visible from any angle? _____
- c) How many small cubes must be removed to leave a cube of a different size? (Two possible answers) either _____
or _____

SPACE FOR WORKING

27.



This diagram shows a simple abacus with nine beads representing the number 423. The maximum number of beads that can be placed on any column is nine.

If there are twenty beads, and all of them have to be used,

a) what is the largest number that can be represented?

b) what is the smallest number that can be represented?

28. John had a bag of sweets and ate four of them himself. He gave away half of those which were left and then found that when he had eaten another one there were now three left.

How many sweets were there in the bag to begin with?

SPACE FOR WORKING

TURN OVER

29. a) Charlie buys 20 marbles for £2.80. How much does each marble cost? _____

b) The next day, Rebecca and Susie visit the same shop to find that there is a special offer of 'buy one, get one half price'.

i) How much does Rebecca have to spend if she also wants 20 marbles? _____

ii) If Susie has £2.80, what is the maximum number of marbles that she can get? _____

30. Alex takes a multiple choice test in Maths. Ben then takes the same test. He is followed by Craig, David and last of all, Edward.

Alex answers 40 questions.

Ben answers 35 questions.

Craig answers 30 questions.

David answers 20 questions.

Edward answers 15 questions.

Craig takes one hour to answer all his questions.

Assuming that Craig takes the same time to answer each question, how long does he take to answer each one? _____

Calculate how long each person spends on his questions if each person on the list takes twice as long per question as the person before him.

Alex spends _____ minutes.

Ben spends _____ minutes.

Craig spends 60 minutes.

David spends _____ minutes.

Edward spends _____ minutes.

How much time do they spend altogether in hours and minutes?

_____ hrs _____ mins

SPACE FOR WORKING

NOW GO BACK AND CHECK YOUR ANSWERS CAREFULLY