ELTHAM COLLEGE

11+ ENTRANCE TEST

2019

MATHEMATICS

Time allowed: **45 minutes**

Name: .....

Instructions:

The test is 45 minutes long.

You may not use a calculator.

Section A contains 20 multiple choice questions.

Answer each question by drawing a circle around the correct answer like this:

A	(B)	C	D

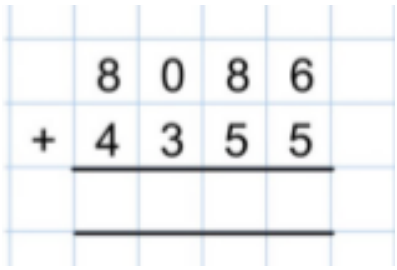
Use the space on the paper for working out.

Section B contains 3 problem-solving questions.

Attempt all questions, and use the space on the paper to clearly show your working out.

SECTION A: MULTIPLE CHOICE QUESTIONS

This section contains 20 questions.

1.				
	A. 1231311	**B. 12441**	**C. 12341**	**D. 12301**
	Working out:			
2.	What is the answer to 0.2×0.03			
	A. 6	**B. 0.600**	**C. 0.006**	**D. 0.6**
	Working out:			
3.	Work out $6 - 2 + 3 \times 4$			
	A. 28	**B. 16**	**C. -18**	**D. 4**
	Working out:			

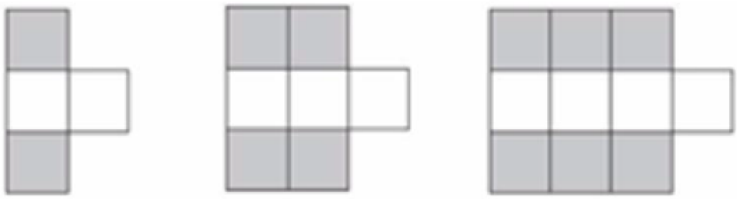
4.	What is the answer when the first prime number is subtracted from the first even multiple of 7?			
	A. 5	**B. 11**	**C. 12**	**D. 13**
	Working out:			
5.	Evaluate this expression $5(6x + 7y – 8z)$ x = 9 y = 3 z = 6			
	A. 95	**B. 120**	**C. 135**	**D. 180**
	Working out:			
6.	Add brackets to this calculation to that the answer is 5 $22 – 10 + 8 ÷ 4$			
	A. 22 – (10 + 8) ÷ 4		**C. (22 – 10 + 8) ÷ 4**	
	B. (22 – 10) + 8 ÷ 4		**D. 22 – 10 + (8 ÷ 4)**	
	Working out:			

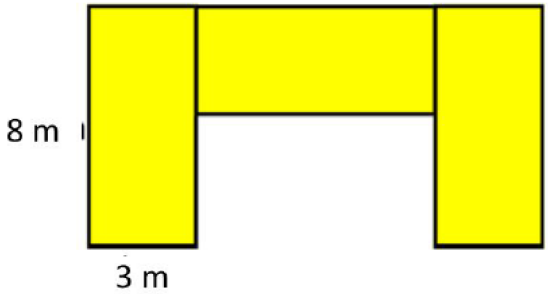
7.	Calculate 836 × 45			
	A. 37620	**B. 37520**	**C. 37420**	**D. 37610**
	Working out:			
8.	Which statement is true?			
	A. 24 × 70 = 48 × 35		**C. 24 × 70 = 12 × 35**	
	B. 24 × 70 = 48 × 46		**D. 24 × 70 = 48 × 140**	
	Working out:			
9.	A room measures 8m by 20m. Isabelle wants to tile the floor with square tiles. What is the length of the largest tile she can use so that all of the floor will be covered?			
	A. 2m	**B. 3m**	**C. 4m**	**D. 5m**
	Working out:			

<table>
<tr><td>10.</td><td colspan="4">Sarah has these digit cards:
5 2 4
She makes a 2-digit number and a 1-digit number using all the cards.
She multiplies them together.
Her answer is a multiple of 3.

Which of the following could NOT be a possible answer?</td></tr>
<tr><td></td><td>A. 25 × 4</td><td>B. 42 × 5</td><td>C. 54 × 2</td><td>D. 24 × 5</td></tr>
<tr><td></td><td colspan="4">Working out:</td></tr>
<tr><td>11.</td><td colspan="4"></td></tr>
<tr><td></td><td>A.</td><td>B.</td><td>C.</td><td>D.</td></tr>
<tr><td></td><td colspan="4">Working out:</td></tr>
<tr><td>12</td><td colspan="4"></td></tr>
</table>

.	What fraction is half-way between and ?			
	A.	**B.**	**C.**	**D.**
	Working out:			
13.	A pack of 15 pens cost £4.65. Pens are the same value if they are bought individually. What is the correct calculation to work out the cost of 19 pens?			
	A. (4.65 × 15) ÷ 19		**C. (4.65 ÷ 15) × 19**	
	B. (15 ÷ 4.65) × 19		**D. (15 ÷ 4.65) ÷ 19**	
	Working out:			
14.	I am thinking of a number. I multiply it by 4 and add 3 to it. My solution is 23. What is my number?			
	A. 5	**B. 80**	**C. 6.5**	**D. 8.75**
	Working out:			
15.	A hexagon is worth 6 points.			

	A square is worth 4 points. How much is a triangle worth? 			
	A. Can't tell	**B. 1**	**C. 2**	**D. 4**
	Working out:			
16.	Here is a pattern made from grey and white tiles  Shape 1 Shape 2 Shape 3 A shape in the pattern has 28 grey tiles. How many white tiles does it have?			
	A. 28	**B. 15**	**C. 14**	**D. 9**
	Working out:			
17.	This shape is made up of 3 identical rectangles.			

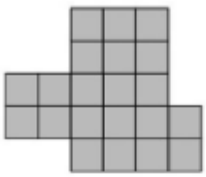


What is the perimeter of the shape?

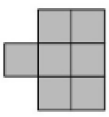
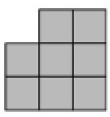
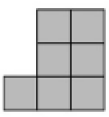
	A. 50 m	**B. 66 m**	**C. 72 m**	**D. 54 m**

Working out:

18. The shape shown on the right was made from three identical copies of one of the smaller shapes below, without gaps or overlaps.

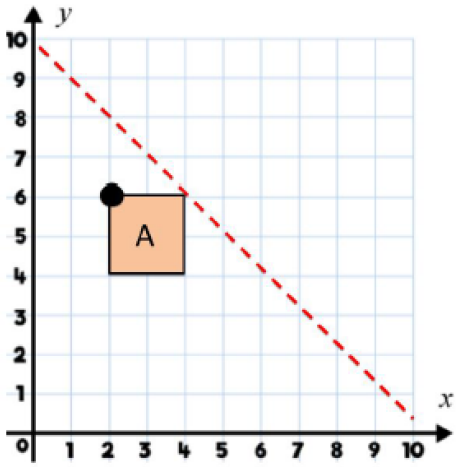
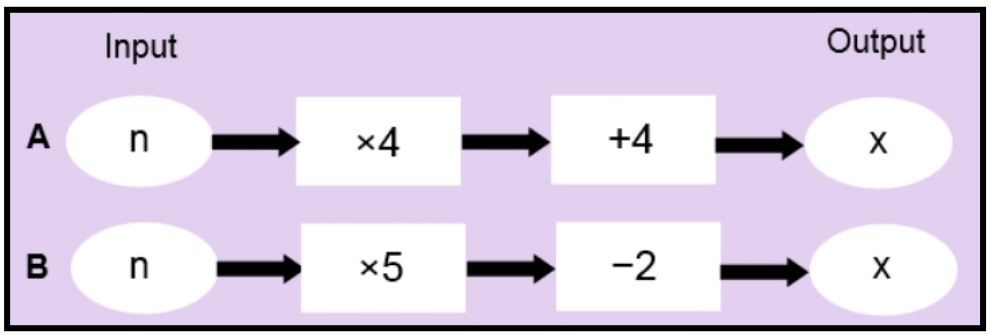


Which smaller shape was used?

	A. 	B. 	C. 	D. 

Working out:

19.

	If triangle A is reflected in the mirror line, what would the new co-ordinate of the dot be?  			
	A. (6, 6)	**B. (7, 6)**	**C. (5, 8)**	**D. (4, 8)**
	Working out:			
20.	Here are 2 number machines:  Both machines have the same input. Work out the input if both machines also have the same output.			
	A. 2	**B.**	**C. 6**	**D. -6**
	Working out:			

SECTION B: PROBLEM-SOLVING QUESTIONS

This section contains 3 questions.

Use the space on each page to clearly show your working out.

1.	A book has 256 pages with, on average, 33 lines on each page and 9 words on each line. Find an estimate for the number of words in the book.
2.	

	What is the smallest possible difference between two different nine-digit numbers, each of which includes all of the digits 1 to 9? *For example the two numbers could be:* *123456789 and 987654321*
3.	

	In the expression below: 1 ☐ 2 ☐ 3 ☐ 4 each ☐ is to be replaced by either + or ×. What is the largest value of all the expressions that can be obtained in this way?

TEST COMPLETE

NOW GO BACK AND CHECK YOUR WORK CAREFULLY