

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>B</b>	C	D
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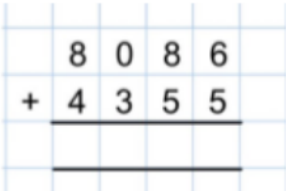
Use the space on the paper for working out.

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.


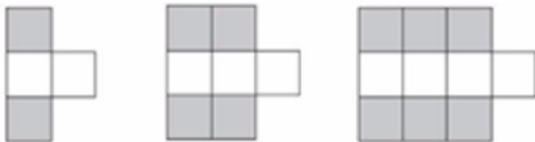
1.					
	<table border="1"><tr><td data-bbox="405 730 616 763">A. 1231311</td><td data-bbox="616 730 826 763">B. 12441</td><td data-bbox="826 730 1037 763">C. 12341</td><td data-bbox="1037 730 1219 763">D. 12301</td></tr></table>	A. 1231311	B. 12441	C. 12341	D. 12301
A. 1231311	B. 12441	C. 12341	D. 12301		
	<p><i>Working out:</i></p>				
2.	<p>What is the answer to</p> $0.2 \times 0.03$				
	<table border="1"><tr><td data-bbox="405 1133 616 1167">A. 6</td><td data-bbox="616 1133 826 1167">B. 0.600</td><td data-bbox="826 1133 1037 1167">C. 0.006</td><td data-bbox="1037 1133 1219 1167">D. 0.6</td></tr></table>	A. 6	B. 0.600	C. 0.006	D. 0.6
A. 6	B. 0.600	C. 0.006	D. 0.6		
	<p><i>Working out:</i></p>				
3.	<p>Work out</p> $6 - 2 + 3 \times 4$				
	<table border="1"><tr><td data-bbox="405 1435 616 1469">A. 28</td><td data-bbox="616 1435 826 1469">B. 16</td><td data-bbox="826 1435 1037 1469">C. -18</td><td data-bbox="1037 1435 1219 1469">D. 4</td></tr></table>	A. 28	B. 16	C. -18	D. 4
A. 28	B. 16	C. -18	D. 4		
	<p><i>Working out:</i></p>				

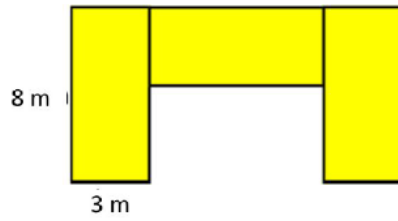
4.	What is the answer when the first prime number is subtracted from the first even multiple of 7?		
A. 5	B. 11	C. 12	D. 13
<p><i>Working out:</i></p>			
5.	<p>Evaluate this expression</p> $5(6x + 7y - 8z)$ <p>x = 9 y = 3 z = 6</p>		
A. 95	B. 120	C. 135	D. 180
<p><i>Working out:</i></p>			
6.	<p>Add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

7.	Calculate $836 \times 45$						
<b>A. 37620</b>		<b>B. 37520</b>		<b>C. 37420</b>		<b>D. 37610</b>	
<i>Working out:</i>							
8.	Which statement is true?						
<b>A. <math>24 \times 70 = 48 \times 35</math></b>				<b>C. <math>24 \times 70 = 12 \times 35</math></b>			
<b>B. <math>24 \times 70 = 48 \times 46</math></b>				<b>D. <math>24 \times 70 = 48 \times 140</math></b>			
<i>Working out:</i>							
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?						
<b>A. 2m</b>		<b>B. 3m</b>		<b>C. 4m</b>		<b>D. 5m</b>	
<i>Working out:</i>							

<p><b>10</b> .</p>	<p>Sarah has these digit cards:</p> <div style="text-align: center;"> <table border="1" style="display: inline-table; margin: 0 10px;"> <tr><td style="padding: 5px;">5</td></tr> </table> <table border="1" style="display: inline-table; margin: 0 10px;"> <tr><td style="padding: 5px;">2</td></tr> </table> <table border="1" style="display: inline-table; margin: 0 10px;"> <tr><td style="padding: 5px;">4</td></tr> </table> </div> <p>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.</p> <p>Which of the following could <b>NOT</b> be a possible answer?</p>				5	2	4
5							
2							
4							
	<p><b>A.</b> <math>25 \times 4</math></p>	<p><b>B.</b> <math>42 \times 5</math></p>	<p><b>C.</b> <math>54 \times 2</math></p>	<p><b>D.</b> <math>24 \times 5</math></p>			
	<p><i>Working out:</i></p>						
<p><b>11</b> .</p>	<p>Train starts at station A at 10: 45 am and reaches Station B at 13:20 . If it stops for 10mins in between. How much is the travel time from station A to B if it doesn't stop in between.</p>						
	<p><b>A.</b> 2 h 25 min</p>	<p><b>B.</b> 3h 40min</p>	<p><b>C.</b> 2h 35min</p>	<p><b>D.</b> 4h 20min</p>			
	<p><i>Working out:</i></p>						
<p><b>12</b></p>							

·	What fraction is half-way between 2 and 2.5 ?			
	A. 7/2	B. 7/4	C. 9/4	D. 11/4
	<i>Working out:</i>			
<b>13</b>	<p>· A pack of 15 pens cost £4.65. Pens are the same value if they are bought individually.</p> <p>What is the correct calculation to work out the cost of 19 pens?</p>			
	A. $(4.65 \times 15) \div 19$		C. $(4.65 \div 15) \times 19$	
	B. $(15 \div 4.65) \times 19$		D. $(15 \div 4.65) \div 19$	
	<i>Working out:</i>			
<b>14</b>	<p>· I am thinking of a number. I multiply it by 4 and add 3 to it. My solution is 23.</p> <p>What is my number?</p>			
	A. 5	B. 80	C. 6.5	D. 8.75
	<i>Working out:</i>			
<b>15</b>	<p>· A hexagon is worth 6 points.</p>			

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



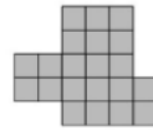
What is the perimeter of the shape?

- 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. 

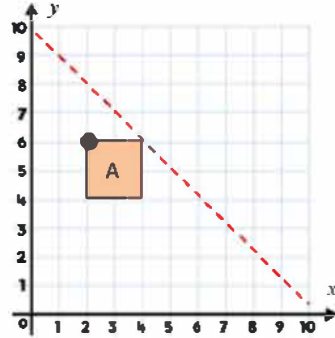
*Working out:*

**19**

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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)

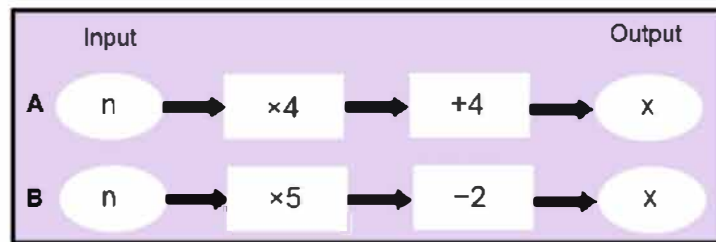
C. (5, 8)

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. -2

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.

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

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:

$$1 \square 2 \square 3 \square 4$$

each  $\square$  is to be replaced by either + or  $\times$ .

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**