

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
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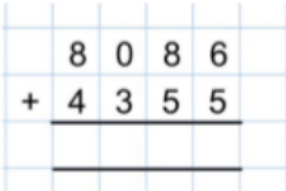
Use the space on the paper for working out.

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.


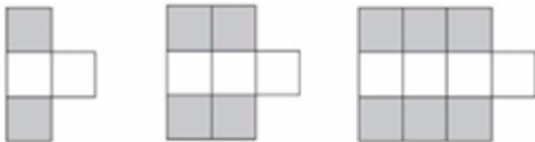
1.					
	<table border="1"><tr><td data-bbox="405 730 616 763">A. 1231311</td><td data-bbox="616 730 826 763">B. 12441</td><td data-bbox="826 730 1037 763">C. 12341</td><td data-bbox="1037 730 1219 763">D. 12301</td></tr></table>	A. 1231311	B. 12441	C. 12341	D. 12301
A. 1231311	B. 12441	C. 12341	D. 12301		
	<p><i>Working out:</i></p>				
2.	<p>What is the answer to</p> 0.2×0.03				
	<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>				

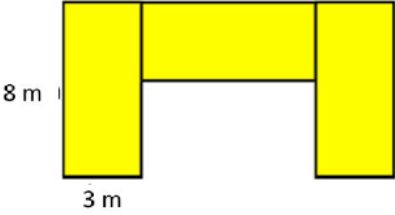
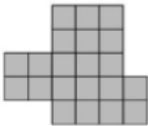




4.	What is the answer when the first prime number is subtracted from the first even multiple of 7?		
	A. 5	B. 11	C. 12
	<i>Working out:</i>		
5.	Evaluate this expression		
	$5(6x + 7y - 8z)$		
	$x = 9$ $y = 3$ $z = 6$		
	A. 95	B. 120	C. 135
	<i>Working out:</i>		
6.	Add brackets to this calculation to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

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

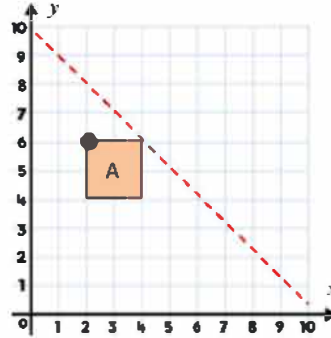
<p>10 .</p>	<p>Sarah has these digit cards:</p> <div style="text-align: center;"> <table border="1" style="display: inline-table; margin: 0 10px;"> <tr><td style="padding: 5px;">5</td></tr> </table> <table border="1" style="display: inline-table; margin: 0 10px;"> <tr><td style="padding: 5px;">2</td></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 NOT be a possible answer?</p>	5	2	4	
5					
2					
4					
	<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;">A. 25×4</td> <td style="width: 25%;">B. 42×5</td> <td style="width: 25%;">C. 54×2</td> <td style="width: 25%;">D. 24×5</td> </tr> </table>	A. 25×4	B. 42×5	C. 54×2	D. 24×5
A. 25×4	B. 42×5	C. 54×2	D. 24×5		
	<p><i>Working out:</i></p>				
<p>11 .</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>				
	<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;">A. 2 h 25 min</td> <td style="width: 25%;">B. 3h 40min</td> <td style="width: 25%;">C. 2h 35min</td> <td style="width: 25%;">D. 4h 20min</td> </tr> </table>	A. 2 h 25 min	B. 3h 40min	C. 2h 35min	D. 4h 20min
A. 2 h 25 min	B. 3h 40min	C. 2h 35min	D. 4h 20min		
	<p><i>Working out:</i></p>				
<p>12</p>					

.	What fraction is half-way between 2 and 2.5 ?			
	A. $\frac{7}{2}$	B. $\frac{7}{4}$	C. $\frac{9}{4}$	D. $\frac{11}{4}$
	<i>Working out:</i>			
13	<p>.</p> <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>			
14	<p>.</p> <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>			
15	<p>.</p> <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>16</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>17</p>	<p>. This shape is made up of 3 identical rectangles.</p>		

	<div style="text-align: center;">  <p>8 m</p> <p>3 m</p> </div> <p>What is the perimeter of the shape?</p>						
	<table border="1" style="width: 100%; text-align: center;"> <tr> <td style="width: 25%;">A. 50 m</td> <td style="width: 25%;">B. 66 m</td> <td style="width: 25%;">C. 72 m</td> <td style="width: 25%;">D. 54 m</td> </tr> </table>	A. 50 m	B. 66 m	C. 72 m	D. 54 m		
A. 50 m	B. 66 m	C. 72 m	D. 54 m				
	<p><i>Working out:</i></p>						
<p>18</p> <p>.</p>	<p>The shape shown on the right was made from three identical copies of one of the smaller shapes below, without gaps or overlaps.</p> <div style="text-align: right;">  </div> <p>Which smaller shape was used?</p>						
<p>A.</p>		<p>B.</p>		<p>C.</p>		<p>D.</p>	
	<p><i>Working out:</i></p>						
<p>19</p> <p>.</p>							

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)

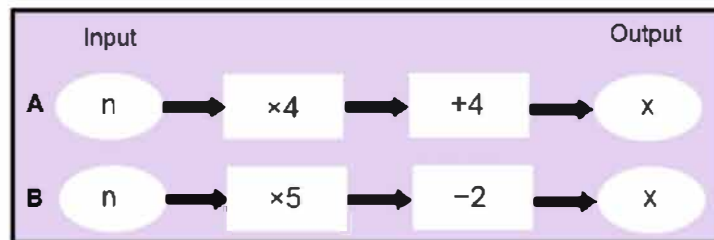
C. (5, 8)

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.

1.	<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>
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:

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

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