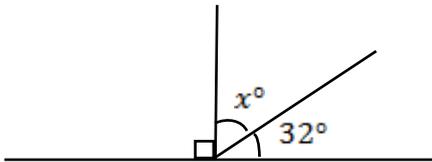


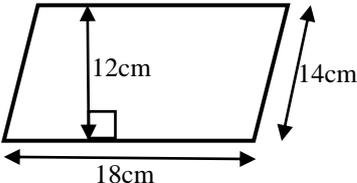
Stockport Grammar School  
 Entrance Examination  
 Mathematics Sample Paper  
 Time: 1 Hour

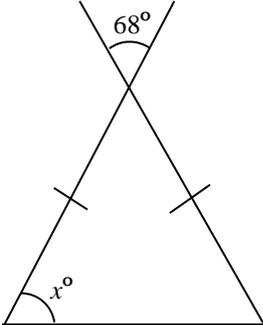
Number:	
Name:	

Answer as many questions as you can in any order. Show your working and then put your answer in the space provided. If you find a question difficult then leave it out and come back to it later.

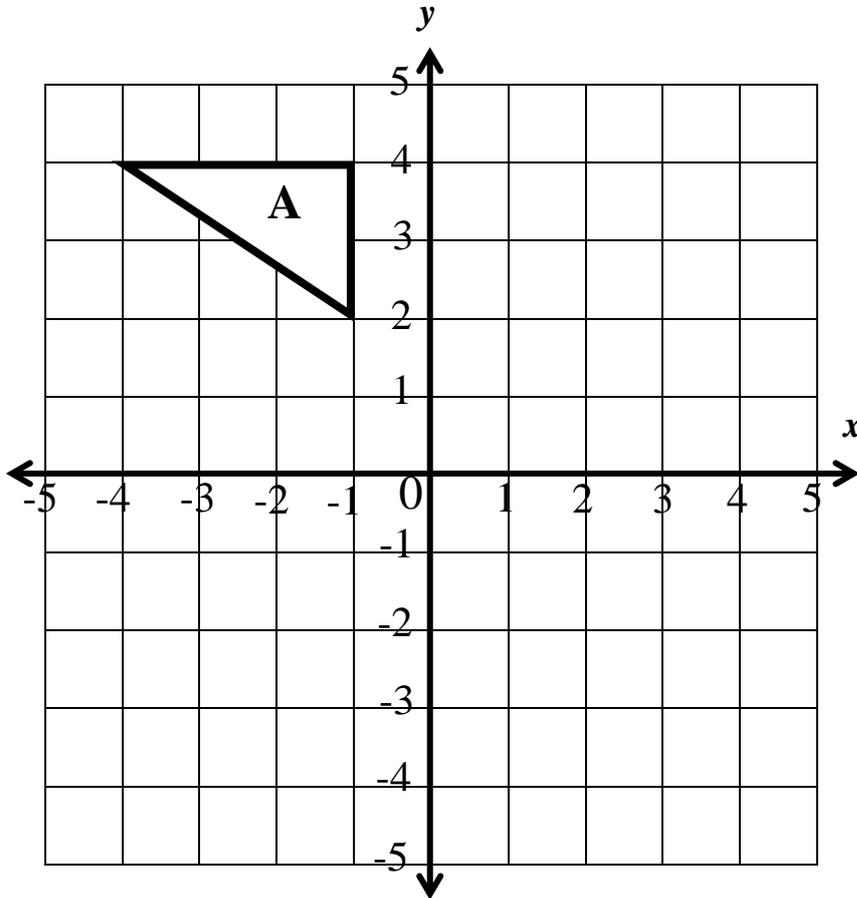
1.	Work out the answers to:  a) $241 \times 7$  b) $39 \times 16$	Answer a) _____  b) _____
2.	Work out the answers to:  a) $9642 \div 3$  b) $512 \div 16$	Answer a) _____  b) _____
3.	Work out the answers to:  a) $5412 + 6948$  b) $5021 - 3879$	Answer a) _____  b) _____
4.	Work out the answers to:  a) $8 \times 3 - 10 + 6$  b) $72 \div 9 \times 7$	Answer a) _____  b) _____
5.	a) Find 35% of 160	Answer _____

6.	<p>Find, giving your answers in cm:</p> <p>a) <math>12\text{m} + 37\text{cm}</math></p> <p>b) <math>6.3\text{km} - 140\text{m}</math></p>	<p>Answer a) _____</p> <p>b) _____</p>										
7.	<p>Which is the largest?</p> <p><math>0.305</math>, <math>\frac{1}{4}</math>, <math>0.3</math>, <math>\frac{1}{3}</math>, <math>0.35</math></p>	<p>Answer: _____</p>										
8.	<p>Find the missing angle, <math>x</math>:</p> 	<p>Answer: _____</p>										
9.	<p>Sam and Alice have baked a cake.</p> <p>Sam eats <math>\frac{1}{4}</math> of the cake.</p> <p>Alice eats <math>\frac{2}{5}</math> of the cake.</p> <p>What fraction of the cake have they eaten altogether?</p>	<p>Answer: _____</p>										
10.	<p>Matthew buys 2 sandwiches and a cookie with a £5 note.</p> <p>How much change does he receive?</p> <table border="1" data-bbox="758 1503 1070 1738"> <thead> <tr> <th colspan="2"><b>Price List</b></th> </tr> </thead> <tbody> <tr> <td>Sandwich</td> <td>£1.49</td> </tr> <tr> <td>Cookie</td> <td>£0.69</td> </tr> <tr> <td>Ice Lolly</td> <td>£0.49</td> </tr> <tr> <td>Soda</td> <td>£0.99</td> </tr> </tbody> </table>	<b>Price List</b>		Sandwich	£1.49	Cookie	£0.69	Ice Lolly	£0.49	Soda	£0.99	<p>Answer: _____</p>
<b>Price List</b>												
Sandwich	£1.49											
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11.	<p>The Battle of Naseby occurred on 14<sup>th</sup> June 1645.</p> <p>How many years ago will that be on 14<sup>th</sup> June this year?</p>	<p>Answer: _____</p>										

12.	Five bags of rice have masses of 75g, 64g, 53g, 62g and 46g. Find the mean mass of a bag of rice.	Answer: _____ g
13.	 <p>a) Find the area of the parallelogram</p> <p>b) Find the perimeter of the parallelogram</p>	<p>a) Area = _____ <math>\text{cm}^2</math></p> <p>b) Perimeter = _____ cm</p>
14.	Lucy takes 2 hours and 25 minutes to walk up a mountain and 1 hour and 45 minutes to walk down. For how long does she walk altogether?	Answer: ___ hrs ___ mins
15.	In the number 267,865 how many times bigger is the value of the first digit 6 than the value of the second digit 6?	Answer: _____
16.	Which is better value, 600g for £3 or 500g for £2.75?	Answer: _____

17.	<p>Find the size of angle <math>x</math>:</p> 	Answer: _____
18.	<p>Bilal wants to divide 235m of string equally between seven kites. Work out how much string each kite would get, giving your answer to one decimal place.</p>	Answer: _____
19.	<p>Find the obtuse angle between the hands of a clock at 5 o'clock.</p>	Answer: _____
20.	<p>a) What is the highest common factor of 14 and 42? b) What is the lowest common multiple of 8 and 16?</p>	<p>Answer a) _____ b) _____</p>
21.	<p>How many of the following numbers are prime? 43,521    43,526    43,527    43,530    43,545</p>	Answer: _____

22. a) State the coordinates of each vertex of the triangle.  
 b) Find the area of the triangle  
 c) Reflect the triangle in the  $x$ -axis and label your shape B



Answer:

a) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b) \_\_\_\_\_ units<sup>2</sup>

23. The table shows the average temperatures of some European cities.

**Average January Temperatures:**

London	7°C
Moscow	-4°C
Barcelona	12°C

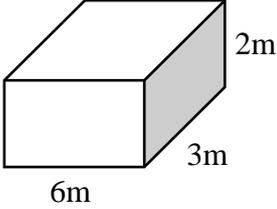
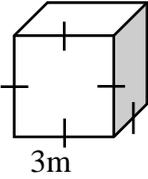
- a) On average, how much warmer is London than Moscow?  
 b) On a snowy day in Barcelona, the temperature is 19°C colder than the average for January.

What was the temperature that day?

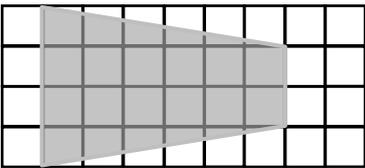
Answer:

a) \_\_\_\_\_°C

b) \_\_\_\_\_°C

24.	<p>a) What is the difference in volumes of the two boxes?</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>b) What fraction of the bigger box's volume is the volume of the smaller box?</p>	<p>Answer:</p> <p>a) _____ m<sup>3</sup></p> <p>b) _____</p>
25.	<p>Here is a recipe to make 6 pancakes.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p><b><u>Recipe for 6 Pancakes:</u></b>  <b>120g</b> Plain Flour  <b>3</b> Eggs  <b>210ml</b> Milk</p> </div> <p>a) How much of each ingredient is needed to make 18 pancakes?</p> <p>b) How much of each ingredient is needed to make 8 pancakes?</p>	<p>Answer:</p> <p>a)</p> <p>_____ g Plain Flour</p> <p>_____ Eggs</p> <p>_____ ml Milk</p> <p>b)</p> <p>_____ g Plain Flour</p> <p>_____ Eggs</p> <p>_____ ml Milk</p>
26.	<p>Vale Youth Club has 126 members. There are 20 more boys than girls. How many girls are members of the Youth Club?</p>	<p>Answer: _____</p>

27.	<p>A number sequence is made by taking the previous number, doubling it and then subtracting 3.</p> <p>The first three numbers in the sequence are:</p> <p style="text-align: center;">4, 5, 7...</p> <p>What is the sum of the next three terms in the sequence?</p>	<p>Answer: _____</p>
28.	<p>Insert the symbols +, -, ×, ÷ into the boxes to make the calculations correct:</p> <p>14 □ 2 □ 3 = 31</p> <p>120 □ 4 □ 8 = 38</p> <p>25 □ 7 □ 3 = 29</p>	
29.	<p>A clock shows 14:27</p> <p>a) How long is it since 10:32?</p> <p>b) How long is it until midnight?</p>	<p>Answer:</p> <p>a) ____ hrs ____ mins</p> <p>b) ____ hrs ____ mins</p>
30.	<p>Mr Green goes into a café and buys one pack of sandwiches, one biscuit and two cups of tea and is charged £5.80</p> <p>Mrs Plum goes into the café and buys two packs of sandwiches, two biscuits and one cup of tea and is charged £6.50</p> <p>a) How much would it cost for one pack of sandwiches, one biscuit and one cup of tea?</p> <p>b) How much is a pack of sandwiches and a biscuit?</p> <p>c) How much is a cup of tea?</p>	<p>Answer:</p> <p>a) _____</p> <p>b) _____</p> <p>c) _____</p>

31.	<p>The following grid is made of 1cm squares.</p> <p>a) What is the area of the shaded shape?</p>  <p>b) Is the perimeter of the shape 18cm, more than 18cm, or less than 18cm?</p>	<p>Answer:</p> <p>a) _____ cm<sup>2</sup></p> <p>b) _____</p>
32.	<p>The difference between a third of a certain number and one quarter of the number is 5. What is the number?</p>	<p>Answer: _____</p>
33.	<p><math>x*y</math> means “square <math>x</math> and add three lots of <math>y</math>” eg <math>5 * 4</math> means <math>5^2 + (3 \times 4) = 25 + 12 = 37</math></p> <p>a) Work out <math>4 * 5</math></p> <p>b) Work out <math>13 * 16</math></p> <p>c) If <math>p * 4 = 48</math> find the value of <math>p</math></p> <p>d) If <math>2 * q = 25</math> find the value of <math>q</math></p> <p>e) If <math>s * t = 10</math> where <math>s</math> and <math>t</math> are positive whole numbers, what are the possible values of <math>s</math>?</p>	<p>Answer:</p> <p>a) _____</p> <p>b) _____</p> <p>c) _____</p> <p>d) _____</p> <p>e) _____</p>

**NOW GO BACK AND TRY THE QUESTIONS YOU MISSED OUT**