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**MATHEMATICS**

**0845/01**

Paper 1

**April 2017**

MARK SCHEME

Maximum Mark: 40

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**IMPORTANT NOTICE**

Mark Schemes have been issued on the basis of **one** copy per Assistant examiner and two copies per Team Leader.

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Markers were instructed to award marks. It does not indicate the details of the discussions that took place at an Markers' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

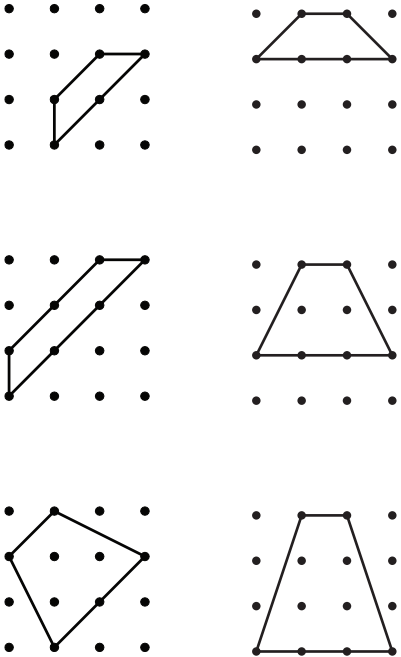
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This document consists of **13** printed pages and **1** blank page.

**Mark scheme annotations and abbreviations**

<b>M1</b>	method mark
<b>A1</b>	accuracy mark
<b>B1</b>	independent mark
<b>FT</b>	follow through after error
dep	dependent
oe	or equivalent
cao	correct answer only
isw	ignore subsequent working
soi	seen or implied

Question	Answer	Marks	Further Information
1	50	1	
Question	Answer	Marks	Further Information
2	9 (km)	1	
Question	Answer	Marks	Further Information
3 (a)		1	Anywhere in the multiples of three ring, but not in the overlap area.
3 (b)	24	1	

Question	Answer	Marks	Further Information
4 (a)	heptagon	1	Accept 'irregular heptagon'. Accept 'septagon'.
4 (b)	<p>Any trapezium with 1 line of symmetry made by connecting dots on the grid, e.g.:</p> 	1	Accept shape drawn in any orientation.

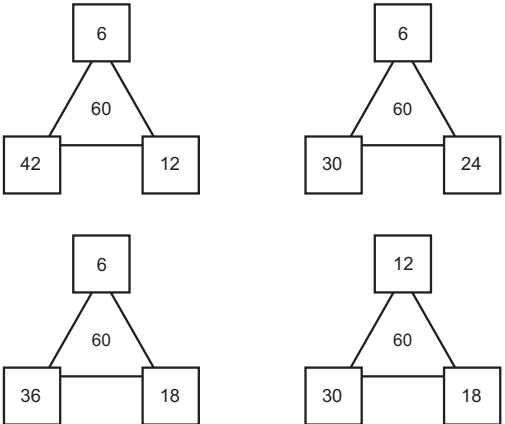
Question	Answer	Marks	Further Information					
5	7 (marbles)	2						
	A correct method containing any number of arithmetic errors: For example: (24 ÷ 2) – 5 or (24 – 10) ÷ 2 or 24 – (24 ÷ 2) – 5	M1						
Question	Answer	Marks	Further Information					
6	$1\frac{1}{2}$ or $1\frac{2}{4}$ or $1\frac{4}{8}$ (pizzas)	1	Accept any equivalent mixed number.					
Question	Answer	Marks	Further Information					
7 (a)	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>2</td> </tr> <tr> <td>4</td> </tr> <tr> <td>5</td> </tr> <tr> <td>3</td> </tr> </tbody> </table>	Frequency	2	4	5	3	1	Ignore tally column.  Mark is awarded for correct frequencies.  Do not accept tallies on their own.
	Frequency							
2								
4								
5								
3								
7 (b)	Red	1						

Question	Answer	Marks	Further Information
8 (a)	(\$) 40	1	
8 (b)	July, August, September <b>and</b> October	1	All four answers must be given for the mark, with no extras. Accept abbreviations, e.g. J, A, S, O

Question	Answer	Marks	Further Information
9	4250 (ml)	1	

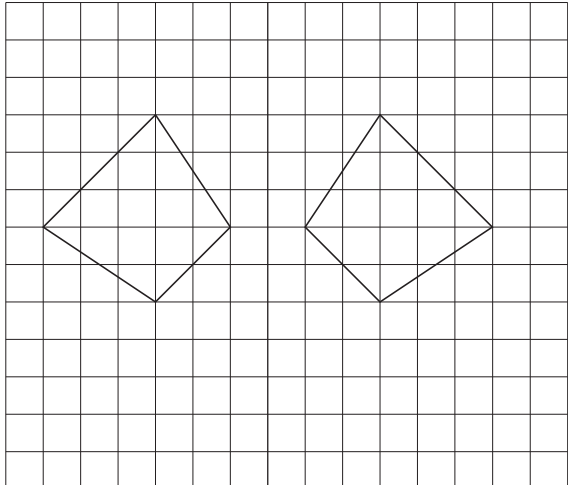
Question	Answer	Marks	Further Information
10		2	One mark for each.
	One correct line.	B1	

Question	Answer	Marks	Further Information
11	16, 36 <b>and</b> 49	1	All three numbers must be correct for the award of the mark.

Question	Answer	Marks	Further Information
12	<p>Any one of:</p>  <p>Three different multiples of 6</p> <p><b>or</b></p> <p>Three multiples of 6 that add to 60 but with one repeat e.g. 6 6 48</p>	2	Numbers can be in any order.
13	1.48 or 0.36	1	Do not allow 1 unit, 4 tenths and 8 hundredths or (0 units), 3 tenths and 6 hundredths.

Question	Answer	Marks	Further Information
14	<p>The card has a letter T on it</p> <p>The card has a letter R on it</p> <p>The card has a capital letter on it</p> <p>Impossible</p> <p>Unlikely</p> <p>Even chance</p> <p>Likely</p> <p>Certain</p>	1	Both correct for 1 mark.
Question	Answer	Marks	Further Information
15	4	1	Accept 13 remainder 4.  Do <b>not</b> accept fractions or decimals.



Question	Answer	Marks	Further Information
16	<p style="text-align: center;">mirror line</p> 	1	<p>All four vertices must be correct.</p> <p>Drawing must be accurate enough to show clear intention.</p>
Question	Answer	Marks	Further Information
17 (a)	<p>Explanation that shows that 784 must be multiplied by 10, for example  <math>112 \times 70 = 112 \times 7 \times 10</math>  or  <math>784 \times 10</math>  The answer, 7840, is not essential.</p>	1	<p>Do not allow 7840 without a correct explanation.</p> <p>Do not allow long multiplication <math>112 \times 70</math> with no reference to <math>112 \times 7 = 784</math>.</p> <p>Do not accept 'add zero' or 'move decimal'.</p>
17 (b)	<p>Explanation that shows that 784 must be divided by 10, for example:  <math>11.2 \times 7 = 112 \div 10 \times 7</math>  or  <math>784 \div 10</math>  or  <math>112 \times 7 \times 0.1</math>  The answer, 78.4, is not essential.</p>	1	<p>Do not allow 78.4 without a correct explanation.</p> <p>Do not allow long multiplication <math>11.2 \times 7</math> with no reference to <math>112 \times 7 = 784</math>.</p> <p>Do not accept 'move decimal'.</p>

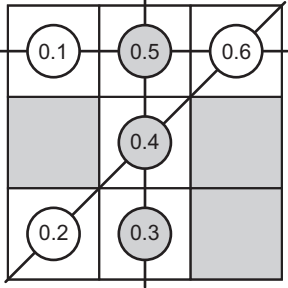
Question	Answer	Marks	Further Information
18	0.2	2	All 3 lines correct with no extra lines.
	Two answers correct and no more than 1 extra incorrect line.	B1	

Question	Answer	Marks	Further Information
19 (a)	6.3 oe	1	
19 (b)	0.76 oe	1	

Question	Answer	Marks	Further Information
20 (a)	$(-4, -3)$	1	Correct format only.
20 (b)		1	K is plotted at $(-4, -3)$ . Accept follow through from part (a).

Question	Answer	Marks	Further Information
21	3.12 3.14 3.2 3.4 3.42	1	Do not accept reverse order.

Question	Answer	Marks	Further Information
22	140	1	

Question	Answer	Marks	Further Information
23	<div style="display: flex; flex-direction: column; gap: 10px;"> <div style="border: 1px solid black; background-color: #cccccc; padding: 2px 5px; width: 40px;">true</div> <div style="border: 1px solid black; padding: 2px 5px; width: 40px;">true</div> <div style="border: 1px solid black; padding: 2px 5px; width: 40px;">true</div> <div style="border: 1px solid black; padding: 2px 5px; width: 40px;">false</div> </div>	1	All three must be correct for the award of the mark.  Accept any clear indication.
Question	Answer	Marks	Further Information
24	1 3 11 33	1	All factors must be given for award of one mark. Allow in any order.
Question	Answer	Marks	Further Information
25	<p>Each line should total 1.2</p> 	1	All three numbers must be correct for the award of the mark.

Question	Answer	Marks	Further Information
26	2.69  and  3.58	1	Both must be correct for the mark.
Question	Answer	Marks	Further Information
27	62(°)	1	Accept answers between 61° and 63° inclusive.
Question	Answer	Marks	Further Information
28	116 (cm <sup>2</sup> )	2	
	A correct method containing any number of arithmetic errors, e.g.: (12 × 3) + (20 × 4) or (7 × 12) + (4 × 8) or (20 × 7) – (8 × 3)	M1	

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