
MATHEMATICS

0845/02

Paper 2

October 2017

MARK SCHEME

Maximum Mark: 40

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 a Markers' meeting before marking began, which would have considered the acceptability of alternative answers.

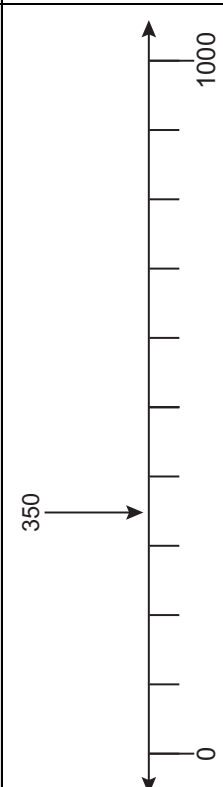
Mark schemes should be read in conjunction with the question paper and the End of Series report.

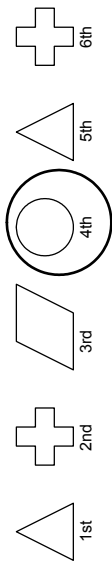
Cambridge will not enter into discussions about these mark schemes.

This document consists of **11** printed pages and **1** blank page.

Mark scheme annotations and abbreviations

M1	method mark
A1	accuracy mark
B1	independent mark
FT	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		1	
Question	Answer	Marks	Further Information
2(a)	$\frac{6}{18}$ or $\frac{1}{3}$	1	Accept fractions written in words. Accept equivalent fractions.
2(b)	$\frac{9}{18}$ or $\frac{3}{6}$ or $\frac{1}{2}$	1	Accept fractions written in words. Accept equivalent fractions.
Question	Answer	Marks	Further Information
3	Card 2 – any number greater than 4990 and smaller than 5010 and Card 4 – any number greater than 5010 and smaller than 5060	1	Both boxes must be correct for the award of the mark. Allow decimal numbers in the correct range.

Question	Answer	Marks	Further Information					
4	$B < D < C < A$	2	Allow 50° 75° 90° 110° (± 2)					
	Angles in the correct order but with consistent misinterpretation of $<$ i.e. $A < C < D < B$			B1				
Question	Answer	Marks	Further Information					
5(a)	Pineapples: 7	1	Both must be correct for the award of the mark.					
	Melons: 14							
5(b)	4.5 (cm)	1						
Question	Answer	Marks	Further Information					
6		1						
Question	Answer	Marks	Further Information					
7	<table border="1" data-bbox="1085 1344 1165 1724"> <tr> <td>5</td> <td>3</td> <td>2</td> <td>x</td> <td>8</td> </tr> </table>	5	3	2	x	8	1	
	5	3	2	x	8			
Question	Answer	Marks	Further Information					
8	28.6	2						
	Sight of 34.1 and 5.5			B1				

Question	Answer	Marks	Further Information
9	(\$) 0.39	1	
Question	Answer	Marks	Further Information
10(a)	600 (ml)	1	
10(b)	825 (g)	1	
Question	Answer	Marks	Further Information
11	<p>7.8 7 8.5 8 7.49 9 8.37</p>	1	All four must be correct for the award of the mark.

Question	Answer	Marks	Further Information
12	48 (years) or 104 (years) A correct method involving multiples of 8 plus 1 or multiples of 7 minus 1, for example: ... 24 32 40 48 56 ... 25 33 41 49 57 or ... 21 28 35 42 49 ... 20 27 34 41 48	2 M1	 Do not accept a list of multiples without evidence of +1, –1 as appropriate.
Question	Answer	Marks	Further Information
13		1	All three must be correct for the award of the mark.

Question	Answer	Marks	Further Information
14	120 (°)	1	
15	16 (students)	1	
16	$\begin{array}{r} 3.73 \\ - 1.45 \\ \hline 2.28 \end{array}$	2	<p>All three numbers must be correct.</p> <p>Allow</p> $\begin{array}{r} 3.73 \\ - 1.45 \\ \hline 2.28 \end{array}$ <p>Do not allow</p> $\begin{array}{r} 3.713 \\ - 1.55 \\ \hline 2.268 \end{array}$
Two correct numbers.		B1	

Question	Answer	Marks	Further Information
17	<p>Explanation that 15 has factors other than 1 and 15, for example:</p> <ul style="list-style-type: none"> • 3 (or 5) is a factor of 15 • $3 \times 5 = 15$ • 3 (and/or 5) divides into 15 	1	<p>Do not award the mark for explanations that only define prime numbers with no reference to 15.</p> <p>Do not award the mark for explanations which only state that 15 can be divided by other numbers. Answers must state factors other than 1 and 15, e.g.: “15 can be divided by 3 and 5” oe.</p>

Question	Answer	Marks	Further Information
18(a)	4.8 (cm)	1	Accept 4.7 to 4.9 inclusive (cm)
18(b)	73 (mm)	1	Accept 72 to 74 inclusive (mm)

Question	Answer	Marks	Further Information
19	41.78 or 81.74	1	

Question	Answer	Marks	Further Information
20	(\$)16.74	1	

Question	Answer	Marks	Further Information						
21	$209.5 + 8.29 + 94.03$ <input type="text" value="="/> 51.97×6 $998.3 + 6.7$ <input type="text" value=">"/> $1001 - (549.4 + 302.67)$ $70.75 \times (3.93 + 1.37)$ <input type="text" value="<"/> $900 \div 2.4$ Two signs correct.	2	All three signs must be correct for two marks.						
		B1							
Question	Answer	Marks	Further Information						
22	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>$12 \frac{1}{2}$</td> <td>12.5</td> </tr> <tr> <td>$21 \frac{1}{4}$</td> <td>21.25</td> </tr> <tr> <td>$42 \frac{4}{5}$</td> <td>42.8</td> </tr> </table> Three correct answers.	$12 \frac{1}{2}$	12.5	$21 \frac{1}{4}$	21.25	$42 \frac{4}{5}$	42.8	2	All four answers must be correct for two marks. Accept equivalent fractions.
$12 \frac{1}{2}$	12.5								
$21 \frac{1}{4}$	21.25								
$42 \frac{4}{5}$	42.8								
		B1							

Question	Answer	Marks	Further Information
23(a)		1	
23(b)	(0, 1) or (1, -1)	1	Accept follow through from part (a). Note that (b) must be a whole number co-ordinate which lies on the line drawn in part (a).
Question	Answer	Marks	Further Information
24	<p>Any three numbers which total 10</p> <p>Evidence that the total of the five numbers is 20, for example:</p> <ul style="list-style-type: none"> • sight of 5×4 or 4×5 • sight of 5 numbers totalling 20 within a trial and improvement method 	2	Numbers may be repeated.

Question	Answer	Marks	Further Information
25	50 (cm ²)	2	Method can contain any number of arithmetic errors, but must be a correct method. Do not allow $(3 \times 10) + (8 \times 4) = 62$ (cm ²)
	A complete method: $(8 \times 4) + (3 \times \text{their } 6)$ or $(3 \times 10) + (\text{their } 5 \times 4)$ or $(8 \times 10) - (\text{their } 5 \times \text{their } 6)$ Arithmetic evidence of <i>their</i> 6 as $10 - 4 =$ wrong answer or Arithmetic evidence of <i>their</i> 5 as $8 - 3 =$ wrong answer must be shown.		

Question	Answer	Marks	Further Information
26	135	1	

Question	Answer	Marks	Further Information
27	Triangular pyramid or Tetrahedron	1	Do not accept triangular prism or pyramid.

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