
MATHEMATICS

1112/01

Paper 1

April 2016

MARK SCHEME

Maximum Mark: 50

IMPORTANT NOTICE

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

This document consists of **10** printed pages.



Question number	1		
Part	Mark	Answer	Further Information
(a)	1	5 : 23 pm	Do not accept 5 23 without pm.
(b)	1	44 (minutes)	
Total	2		

Question number	2		
Part	Mark	Answer	Further Information
(a)	1	8.437	
(b)	1	117.6	
Total	2		

Question number	3		
Part	Mark	Answer	Further Information
	1	Draws 3 correct lines 	
Total	1		

Question number	4		
Part	Mark	Answer	Further Information
(a)	1	182 218 281 812	
(b)	1	<div style="display: flex; justify-content: space-around;"> True False </div> $15^2 = 225$ <input checked="" type="checkbox"/> <input type="checkbox"/> $\sqrt{144} = 72$ <input type="checkbox"/> <input checked="" type="checkbox"/> $4^2 = \sqrt{64}$ <input type="checkbox"/> <input checked="" type="checkbox"/>	
Total	2		

Question number	5		
Part	Mark	Answer	Further Information
	2	14, 26	Award 1 mark for each correct answer.
Total	2		

Question number	6		
Part	Mark	Answer	Further Information
	1	Because $3 + 5 + 7 + 9 = 24$, which is a multiple of 3	<p>Award mark if 24 is seen and an indication that this is a multiple of 3 e.g. $3 \times 8 = 24$</p> <p>Do not accept explanations which use specific calculations e.g. $3579 \div 3$</p>
Total	1		

Question number	7		
Part	Mark	Answer	Further Information
(a)	1	$2\frac{2}{3}$ or equivalent mixed number	Do not accept $\frac{8}{3}$
(b)	1	9	
Total	2		

Question number	8		
Part	Mark	Answer	Further Information
(a)	1	(4, -2)	Do not accept (x = 4, y = -2)
(b)	1	(1, 1)	Do not accept (x = 1, y = 1)
Total	2		

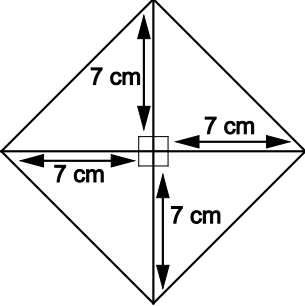
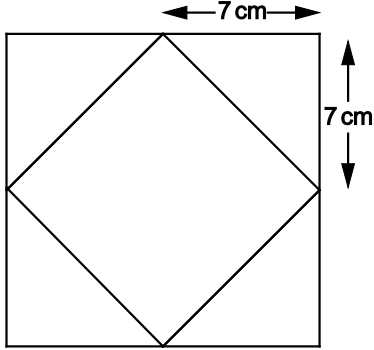
Question number	9		
Part	Mark	Answer	Further Information
(a)	1	(Day) 7 th	
(b)	1	4 (cm)	
(c)	1	A correct conclusion, e.g. * the bean plant getting full sun grew taller/faster/better * the more sun, the taller/faster/better the plant grew	
Total	3		

Question number	10		
Part	Mark	Answer	Further Information
	1	-10	
Total	1		

Question number	11		
Part	Mark	Answer	Further Information
	2	75 (m ²)	Award 1 mark for 110 – <i>their</i> 35 or 60 + <i>their</i> 15 or 33 + <i>their</i> 42 or 110 and 35 seen or 60 and 15 seen or 33 and 42 seen
Total	2		

Question number	12		
Part	Mark	Answer	Further Information
	1	$x \rightarrow 6x - 8$ <input checked="" type="checkbox"/> $x \rightarrow 2x$ <input type="checkbox"/> $x \rightarrow 4x - 6$ <input type="checkbox"/> $x \rightarrow x^2$ <input checked="" type="checkbox"/>	
Total	1		

Question number	13		
Part	Mark	Answer	Further Information
(a)	1	$1\frac{1}{3}$ (km) or equivalent, e.g. $\frac{4}{3}$	
(b)	1	$3\frac{5}{8}$ (km) or equivalent, e.g. $\frac{29}{8}$	
Total	2		

Question number	14		
Part	Mark	Answer	Further Information
	1		<p>Square can be in any orientation.</p> <p>Accept the following arrangement:</p> 
Total	1		

Question number	15		
Part	Mark	Answer	Further Information
	1	4 (litres)	
Total	1		

Question number	16		
Part	Mark	Answer	Further Information
(a)	1	874.59	Do not accept 874.590
(b)	1	870	Do not accept 870.0
Total	2		

Question number	17																			
Part	Mark	Answer	Further Information																	
	2	<table border="1"> <thead> <tr> <th></th> <th>Red</th> <th>Green</th> <th>Blue</th> <th>Yellow</th> </tr> </thead> <tbody> <tr> <th>Frequency</th> <td>64</td> <td>48</td> <td>56</td> <td>32</td> </tr> <tr> <th>Relative frequency</th> <td>0.32</td> <td>0.24</td> <td>0.28</td> <td>0.16</td> </tr> </tbody> </table>		Red	Green	Blue	Yellow	Frequency	64	48	56	32	Relative frequency	0.32	0.24	0.28	0.16	Award 1 mark if 2 entries are correct.		
	Red	Green	Blue	Yellow																
Frequency	64	48	56	32																
Relative frequency	0.32	0.24	0.28	0.16																
Total	2																			

Question number	18		
Part	Mark	Answer	Further Information
	1	No and an explanation, e.g. When the income is high the age can be high or low or When age is x, income can be high or low	No mark without some explanation
Total	1		

Question number	19		
Part	Mark	Answer	Further Information
(a)	1	$4 + 9 \times (6 - 4) = 22$	
(b)	1	$24 \div (12 - 8 + 2) = 4$	
Total	2		

Question number	20		
Part	Mark	Answer	Further Information
	2	200 (cm ²)	<p>Award 1 mark for identifying the side length of the square as 5 cm. This could be implied by stating the area of the small square is 25 cm².</p> <p>or</p> <p>20 associated with the length/longer side of the rectangle.</p> <p>or</p> <p>10 associated with the width/shorter side of the rectangle.</p>
Total	2		

Question number	21		
Part	Mark	Answer	Further Information
	2	(\$) $1.89(00)$	Award 1 mark either for 5.40×0.35 seen or 54×35 seen or 0.0054×350 seen or for sight of the digits 189 or for correct method with at most 1 error. e.g. $5.40 = 1000 \text{ g}$ $0.54 = 100 \text{ g}$ $0.26 = 50 \text{ g (error)}$ $3 \times 0.54 + 0.26 = 1.88$
Total	2		

Question number	22		
Part	Mark	Answer	Further Information
	1	$33 \text{ (cm}^2\text{)}$	
Total	1		

Question number	23		
Part	Mark	Answer	Further Information
	2	($<$) > < > =	Award 1 mark for 3 correct symbols.
Total	2		

Question number	24		
Part	Mark	Answer	Further Information
	1	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	
Total	1		

Question number	25		
Part	Mark	Answer	Further Information
(a)	2	20 (cm)	Award 1 mark for $\frac{160}{8}$ or For sight of 140
(b)	1	$\frac{2}{3}$	
Total	3		

Question number	26		
Part	Mark	Answer	Further Information
	2	(x =) 46 (°) (y =) 67 (°)	Award 1 mark for each correct answer.
Total	2		

Question number	27		
Part	Mark	Answer	Further Information
(a)	1	$\boxed{20} + \frac{\boxed{0.2} \times \boxed{2}}{\boxed{0.02}} = 40$	The 0.2 and 2 cards may be swapped over.
(b)	1	40	
Total	2		

Question number	28								
Part	Mark	Answer	Further Information						
	3	<table border="1"> <tbody> <tr> <td>12.2 km</td> <td>064 °</td> </tr> <tr> <td>12.8 – 13.2 km</td> <td>145 – 149 °</td> </tr> <tr> <td>18.6 – 19.0 km</td> <td>285 – 289 °</td> </tr> </tbody> </table>	12.2 km	064 °	12.8 – 13.2 km	145 – 149 °	18.6 – 19.0 km	285 – 289 °	<p>Award 2 marks if 3 answers lie within the given ranges.</p> <p>Award 1 mark if 2 answers lie within the given ranges.</p>
12.2 km	064 °								
12.8 – 13.2 km	145 – 149 °								
18.6 – 19.0 km	285 – 289 °								
Total	3								