

GCSE

# Mathematics

Linked Pair – Applications of Mathematics  
Paper Unit 2 Higher tier  
Mark Scheme

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93702H  
November 2014

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Version/Stage V1.1

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## Glossary for Mark Schemes

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GCSE examinations are marked in such a way as to award positive achievement wherever possible. Thus, for GCSE Mathematics papers, marks are awarded under various categories.

<b>M</b>	Method marks are awarded for a correct method which could lead to a correct answer.
<b>A</b>	Accuracy marks are awarded when following on from a correct method. It is not necessary to always see the method. This can be implied.
<b>B</b>	Marks awarded independent of method.
<b>ft</b>	Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
<b>SC</b>	Special case. Marks awarded within the scheme for a common misinterpretation which has some mathematical worth.
<b>M dep</b>	A method mark dependent on a previous method mark being awarded.
<b>B dep</b>	A mark that can only be awarded if a previous independent mark has been awarded.
<b>oe</b>	Or equivalent. Accept answers that are equivalent. eg, accept 0.5 as well as $\frac{1}{2}$
<b>[a, b]</b>	Accept values between $a$ and $b$ inclusive.
<b>3.14...</b>	Allow answers which begin 3.14 eg 3.14, 3.142, 3.149.
<b>Use of brackets</b>	It is not necessary to see the bracketed work to award the marks.

Examiners should consistently apply the following principles

### **Diagrams**

Diagrams that have working on them should be treated like normal responses. If a diagram has been written on but the correct response is within the answer space, the work within the answer space should be marked. Working on diagrams that contradicts work within the answer space is not to be considered as choice but as working, and is not, therefore, penalised.

### **Responses which appear to come from incorrect methods**

Whenever there is doubt as to whether a candidate has used an incorrect method to obtain an answer, as a general principle, the benefit of doubt must be given to the candidate. In cases where there is no doubt that the answer has come from incorrect working then the candidate should be penalised.

### **Questions which ask candidates to show working**

Instructions on marking will be given but usually marks are not awarded to candidates who show no working.

### **Questions which do not ask candidates to show working**

As a general principle, a correct response is awarded full marks.

### **Misread or miscopy**

Candidates often copy values from a question incorrectly. If the examiner thinks that the candidate has made a genuine misread, then only the accuracy marks (A or B marks), up to a maximum of 2 marks are penalised. The method marks can still be awarded.

### **Further work**

Once the correct answer has been seen, further working may be ignored unless it goes on to contradict the correct answer.

### **Choice**

When a choice of answers and/or methods is given, mark each attempt. If both methods are valid then M marks can be awarded but any incorrect answer or method would result in marks being lost.

### **Work not replaced**

Erased or crossed out work that is still legible should be marked.

### **Work replaced**

Erased or crossed out work that has been replaced is not awarded marks.

### **Premature approximation**

Rounding off too early can lead to inaccuracy in the final answer. This should be penalised by 1 mark unless instructed otherwise.

Q	Answer	Mark	Comments	
1(a)	Parallelogram or Kite	B1		
1(b)	$3.75^2 + 2^2$	M1	oe eg 14.0625 + 4	
	$\sqrt{3.75^2 + 2^2}$	M1dep	oe	
	4.25	A1		
2(a)	<b>Alternative method 1</b>			
	6 × 50 or 300 or 4 × 50 or 200 or 2 × 50 or 100	M1	attempt to convert one length on Helen's plan to actual length all lengths ± 2 mm allow combinations of lengths e.g. 20 × 50 or 1000	
	their 300 ÷ 7.5 or their 200 ÷ 5 or their 100 ÷ 2.5	M1dep	compares with equivalent length on Sidrah's plan all lengths ± 2 mm eg their 1000 ÷ 25	
	40	A1		
	<b>Alternative method 2</b>			
	6 ÷ 7.5 or 0.8 or 4 ÷ 5 or 0.8 or 2 ÷ 2.5 or 0.8	7.5 ÷ 6 or 1.25 or 5 ÷ 4 or 1.25 or 2.5 ÷ 2 or 1.25	M1	attempt to divide corresponding lengths from the two diagrams all lengths ± 2 mm allow combinations of lengths e.g. 20 ÷ 25 or 25 ÷ 20
	50 × their 0.8	50 ÷ their 1.25	M1dep	Use correctly with 50
	40	A1		

Q	Answer	Mark	Comments	
<b>2(b)</b>	<b>Alternative method 1</b> (initial area attempt in 'scaled' m <sup>2</sup> )			
	2 × 2 or 4 or 1 × 1 or 1 or 3 × 2 or 6	or 3 × 1 or 3 or 2 × 1 or 2	M1	converts to lengths in metres and attempts any appropriate area
	their 5 × 32.75		M1	oe area attempt must be complete e.g. their (2 × 2 + 1 × 1) or their (3 × 2 – 1 × 1) or their (3 × 1 + 2 × 1)
	163.75		A1	
	<b>Alternative method 2</b> (initial area attempt in 'scaled' cm <sup>2</sup> )			
	200 × 200 or 40 000 or 100 × 100 or 10 000 or 300 × 200 or 60 000	or 300 × 100 or 30 000 or 200 × 100 or 20 000	M1	converts to lengths in centimetres and attempts any appropriate area
	their 50 000 × 0.003275		M1	oe area attempt must be complete
	163.75		A1	
	<b>Alternative method 3</b> (initial attempt at 'actual' area of scale drawing in cm <sup>2</sup> )			
	4 × 4 or 16 or 2 × 2 or 4 or 6 × 4 or 24	or 6 × 2 or 12 or 4 × 2 or 8	M1	attempt at any appropriate area
	their 20 ÷ 4 × 32.75 or their 20 × 50 <sup>2</sup> × 0.003275		M1	oe uses area scale factor correctly area attempt must be complete
	163.75		A1	

Q	Answer	Mark	Comments
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3(a)	036	B1	36 is B0
3(b)	180 ± their 36 or their 144	M1	
	216	A1ft	ft 360 – their 144 or 180 + their 36 SC1 144

4(a)	$2 \div 10 (\times 60)$ or $0.2 (\times 60)$	M1	oe
	12	A1	

**Additional Guidance**

Allow incorrect time notation for M1 e.g.  $2 \div 0.10$

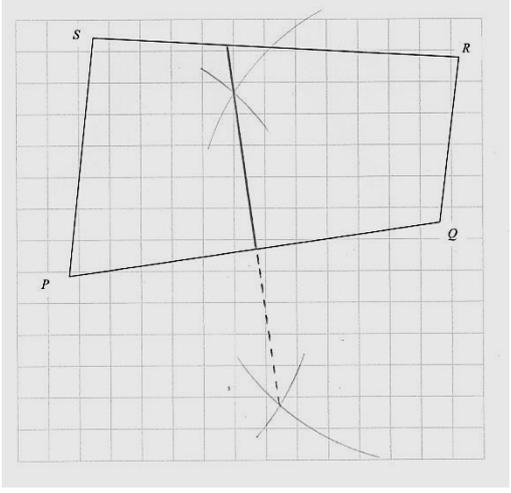
4(b)	10.55	B2	B1 Horizontal line from (10.10, 2) to (10.40, 2) or Line with correct negative gradient from their (10.40, 2) to horizontal axis or $2 \div 8$ or $0.25(h)$ or $\frac{1}{4}(h)$ or 15 (min)
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**Additional guidance**

B1 Horizontal line from (10.10, 2) to (10.40, 2) may be implied by sloping line from (10.40, 2)

Q	Answer	Mark	Comments
5	220 ÷ 21.6 or [10.1, 10.2] or 10 or 60 ÷ 14.4 or [4.1, 4.2] or 4 or 55 ÷ 10.7 or [5.1, 5.1402] or 5 or 60 ÷ 10.7 or [5.6, 5.61] or 5 or 55 ÷ 14.4 or [3.8, 3.82] or 3 or 220 ÷ 14.4 or [15.2, 15.3] or 15 or 60 ÷ 21.6 or [2.7, 2.8] or 2	M1	
	220 ÷ 21.6 or [10.1, 10.2] or 10 and 60 ÷ 14.4 or [4.1, 4.2] or 4 and 55 ÷ 10.7 or [5.1, 5.1402] or 5 or 220 ÷ 21.6 or [10, 10.2] or 10 and 60 ÷ 10.7 or [5.6, 5.61] or 5 and 55 ÷ 14.4 or [3.8, 3.82] or 3	M1	
	their 10 and their 4 and their 5 or their 10 and their 4 and their 3	M1	Rounding down their three values
	their 10 × their 4 × their 5 or their 15 × their 2 × their 5 or 150	M1	Must be product of 3 numbers (may be non-integers)
	200	A1	SC2 218 SC1 [218.1, 218.141]
<b>Additional Guidance</b>			
2nd M1 implies the first M1 150 with no working implies M4 A0 SC1 and SC2 are for doing volume ÷ volume or not showing working			

Q	Answer	Mark	Comments
6	300 600 900 ..... and 180 360 540 ..... or Any common multiple identified	M1	Common multiples are multiples of 900 Implied if second M1 gained
	3 × 1.28 (+) 5 × 0.96 or 3.84 (+) 4.8(0) or 6 × 1.28 (+) 10 × 0.96 or 7.68 (+) 9.6(0) or 17.28	M1	oe eg working in pence
	8.64	A1	
<b>Additional Guidance</b>			
864 is M1 M1			

7	Two pairs of equal intersecting arcs with centres <i>P</i> and <i>Q</i>	B1	
	Correct line joining <i>PQ</i> and <i>SR</i>	Q1	
		Strand (ii) SC1 Correct line joining <i>PQ</i> and <i>SR</i> with no construction arcs	

Q	Answer	Mark	Comments
8	Attempt at gradient or calculation of pay increase per sales increase	M1	eg1 100 ÷ 2000 or 0.05 eg2 50 ÷ 1000 or 0.05 eg3 100 every 2000
	Uses their gradient correctly or their figure correctly	M1dep	eg1 800 + 18 000 × their 0.05 eg2 1400 + 6000 × their 0.05 eg3 1400 + 3 × 100 eg4 (12 000 → 1400) 14 000 → 1500 16 000 → 1600 18 000 → 1700
	1700	A1	
<b>Additional Guidance</b>			
1400 + 3 × 100 implies M1M1 14 000 → 1500 16 000 → 1600 18 000 → 1700 implies M1M1A1			
9	Two correct trials [1.735, 1.745] which bracket 8 and answer 1.74	B4	B3 Two correct trials [1.735, 1.745] which bracket 8 and answer not 1.74 or Two correct trials [1.74, 1.75] which bracket 8 and answer 1.74 B2 Two correct trials $1.7 < x \leq 1.8$ B1 One correct trial $1.7 < x \leq 2$

Q	Additional Guidance																																																					
9	<table border="1"> <thead> <tr> <th><math>x</math></th> <th><math>V</math></th> <th>Acceptable range</th> </tr> </thead> <tbody> <tr><td>2</td><td>11.6</td><td>[11, 12]</td></tr> <tr><td>1.9</td><td>10.108</td><td>[10, 10.11]</td></tr> <tr><td>1.8</td><td>8.748</td><td>[8.7, 9]</td></tr> <tr><td><b>1.735</b></td><td><b>7.931942875</b></td><td><b>[7.9, 7.932]</b></td></tr> <tr><td><b>1.736</b></td><td><b>7.944102656</b></td><td><b>[7.9, 7.944103]</b></td></tr> <tr><td><b>1.737</b></td><td><b>7.956274653</b></td><td><b>[7.9, 7.96]</b></td></tr> <tr><td><b>1.738</b></td><td><b>7.968458872</b></td><td><b>[7.9, 7.97]</b></td></tr> <tr><td><b>1.739</b></td><td><b>7.980655319</b></td><td><b>[7.9, 7.981]</b></td></tr> <tr><td><b>1.74</b></td><td><b>7.992864</b></td><td><b>[7.9, 7.993]</b></td></tr> <tr><td colspan="3"><i>For B4 need one bold trial from above, one bold trial from below and answer 1.74</i></td></tr> <tr><td><b>1.741</b></td><td><b>8.005084921</b></td><td><b>[8.0,8.01]</b></td></tr> <tr><td><b>1.742</b></td><td><b>8.017318088</b></td><td><b>[8.0, 8.02]</b></td></tr> <tr><td><b>1.743</b></td><td><b>8.029563507</b></td><td><b>[8.0,8.03]</b></td></tr> <tr><td><b>1.744</b></td><td><b>8.041821184</b></td><td><b>[8.0,8.042]</b></td></tr> <tr><td><b>1.745</b></td><td><b>8.054091125</b></td><td><b>[8.0,8.1]</b></td></tr> <tr><td>1.75</td><td>8.115625</td><td>[8.1,8.2]</td></tr> </tbody> </table>	$x$	$V$	Acceptable range	2	11.6	[11, 12]	1.9	10.108	[10, 10.11]	1.8	8.748	[8.7, 9]	<b>1.735</b>	<b>7.931942875</b>	<b>[7.9, 7.932]</b>	<b>1.736</b>	<b>7.944102656</b>	<b>[7.9, 7.944103]</b>	<b>1.737</b>	<b>7.956274653</b>	<b>[7.9, 7.96]</b>	<b>1.738</b>	<b>7.968458872</b>	<b>[7.9, 7.97]</b>	<b>1.739</b>	<b>7.980655319</b>	<b>[7.9, 7.981]</b>	<b>1.74</b>	<b>7.992864</b>	<b>[7.9, 7.993]</b>	<i>For B4 need one bold trial from above, one bold trial from below and answer 1.74</i>			<b>1.741</b>	<b>8.005084921</b>	<b>[8.0,8.01]</b>	<b>1.742</b>	<b>8.017318088</b>	<b>[8.0, 8.02]</b>	<b>1.743</b>	<b>8.029563507</b>	<b>[8.0,8.03]</b>	<b>1.744</b>	<b>8.041821184</b>	<b>[8.0,8.042]</b>	<b>1.745</b>	<b>8.054091125</b>	<b>[8.0,8.1]</b>	1.75	8.115625	[8.1,8.2]		
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<p>Ignore incorrect trials            Give marks for correct trials if both correct and incorrect seen.            Trials must be evaluated 'correctly' in the acceptable ranges shown            Comments not needed.</p> <p><b>For B4</b>            There <b>must</b> be at least one 3dp trial in given interval. The evaluated trials must bracket 8            eg correct trials at <math>x = 1.74</math> and <math>1.745</math> and answer 1.74</p> <p><b>For B3</b>            Common answers will be as B4 with answer given to 3dp (1.741) or            correct trials at <math>x = 1.74</math> and <math>1.75</math> and answer 1.74            If no 3dp trials can award B3 max</p> <p><b>For B2 and B1</b>            If no 2dp trials can award B1 max</p>																																																						

Q	Answer	Mark	Comments
10	<b>Alternative method 1</b>		
	(Protein in pack) $8.4 \times \frac{325}{100}$ or 27.3	M1	oe
	their $27.3 \times \frac{3}{24}$ or [3.4, 3.413]	M1	oe
	$\frac{\text{their [3.4, 3.413]}}{55} (\times 100)$	M1	$\frac{6}{100} \times 55$ or 3.3 and $\frac{7}{100} \times 55$ or 3.85
	[6.1, 6.21]% or [0.61, 0.621]	A1	3.3 and 3.85 and [3.4, 3.413] Strand (ii) Correct method shown
	<b>Alternative method 2</b>		
	(Grams eaten) $\frac{3}{24} \times 325$ or [40.6, 40.63]	M1	oe
	$\frac{\text{their [40.6, 40.63]}}{100} \times 8.4$ or [3.4, 3.413]	M1	oe
	$\frac{\text{their [3.4, 3.413]}}{55} (\times 100)$	M1	$\frac{6}{100} \times 55$ or 3.3 and $\frac{7}{100} \times 55$ or 3.85
	[6.1, 6.21]% or [0.61, 0.621]	A1	3.3 and 3.85 and [3.4, 3.413] Strand (ii) Correct method shown

Q	Answer	Mark	Comments
11	$x + 4$ and $3(x + 4)$	B1	oe
	$x + \text{their } (x + 4) + \text{their } 3(x + 4)$ $= 92.65$	M1	oe linear equation Must be sum of 3 expressions = 92.65
	$5x + 16 = 92.65$	A1	oe linear equation Must have collected all terms in $x$
	15.33	B1ft	ft their linear equation of form $ax + b = 92.65$ SC3 15.33 without correct equation seen

Q	Additional Guidance
11	Likely error is use of $3x$ for $3(x + 4)$ $x + x + 4 + 3x = 92.65$ B0 M1 A0 $x = 17.73$ B1ft
	$x + x + 4 + 3(x + 4) = 92.65$ B1 M1 $5x + 4 = 92.65$ A0 (error in expanding brackets) $x = 17.73$ B1ft
	$x + x + 4 + 3(x + 4) = 92.65$ B1 M1 $x + x + 4 + 3x + 7 = 92.65$ $5x + 11 = 92.65$ A0 (error in expanding brackets) $x = 16.33$ B1ft
	Correct solution by T & I will be unlikely but if obtained award SC3

Q	Answer	Mark	Comments
12	$30\,000 + \frac{1}{4} \times 30\,000$ or 37500	M1	oe eg $30\,000 \times 1.25$
	their $37\,500 + \frac{1}{4} \times$ their 37500 or 46 875 and their $46\,875 + \frac{1}{4} \times$ their 46 875 or [58 593, 58 594]	M1dep	oe eg their $37\,500 \times 1.25^2$ or [58593, 58594] Award M2 for $30\,000 \times 1.25^3$
	58 600	A1	

Q	Additional Guidance
12	$30\,000 \times 1.25^n$ is M1 M0 for all positive integers $n$ apart from $n = 3$

Q	Answer	Mark	Comments
13	<b>Alternative method 1</b>		
	$\pi \times (58 \div 2)^2 \times 2$ or $1682\pi$ or [5281.48, 5284.844]	M1	
	their [5281.48, 5284.844] $\times 0.00852$ or [44.99, 45.03]	M1	their [5281.4, 5284.2] must be a volume
	their [44.99, 45.03] $\times 56\ 000$ or [2 519 440, 2 521 680]	M1dep	dep on 2nd M1
	[2519, 2522]	A1	Accept 2500 if method seen
	<b>Alternative method 2</b>		
	$\pi \times 29^2 \times 2$ or $1682\pi$ or [5281.48, 5284.844]	M1	
	their [5281.48, 5284.844] $\times 56\ 000$ or [295 762 880, 295 951 264]	M1	their [5281.4, 5284.2] must be a volume
	their [295 762 880, 295 951 264] $\times$ 0.00852 or [2 519 899, 2 521 505]	M1dep	dep on 2nd M1
	[2519, 2522]	A1	Accept 2500 if method seen

Q	Additional Guidance
13	<p>2nd M mark only dependent on a volume calculation eg use of <math>r = 58</math> loses the first mark but can gain up to the next two marks</p> <p><math>\pi \times 58^2 \times 2 = 21\ 136.6</math> M0  <math>21\ 136.6 \times 0.00852 = 180.08</math> M1  <math>180.08 \times 56\ 000 = 10\ 084\ 480</math> M1dep  10 084.48 A0</p>

Q	Answer	Mark	Comments
14	<b>Alternative method 1</b>		
	15.2 ÷ 1.6 or 9.5	M1	1.6 ÷ 15.2 or [0.105, 0.11]
	their 9.5 × 2.8	M1dep	2.8 ÷ their [0.105, 0.11]
	26.6	A1	
	<b>Alternative method 2</b>		
	2.8 ÷ 1.6 or [1.75]	M1	1.6 ÷ 2.8 or [0.57, 0.57143]
	their 1.75 × 15.2	M1dep	15.2 ÷ their [0.57, 0.57143]
	26.6	A1	
	<b>Alternative method 3</b>		
	$x = \tan^{-1} \frac{2.8}{1.6}$ or $x = \sin^{-1} \frac{2.8}{\sqrt{1.6^2 + 2.8^2}}$ or $x = \cos^{-1} \frac{1.6}{\sqrt{1.6^2 + 2.8^2}}$ and $\tan x = \frac{h}{15.2}$	M1	$y = \tan^{-1} \frac{1.6}{2.8}$ or $y = \sin^{-1} \frac{1.6}{\sqrt{1.6^2 + 2.8^2}}$ or $y = \cos^{-1} \frac{2.8}{\sqrt{1.6^2 + 2.8^2}}$ and $\tan y = \frac{15.2}{h}$
15.2 × tan x	M1dep	$\frac{15.2}{\tan y}$	
26.6	A1		

Q	Additional Guidance
14	Trigonometry methods Can use any letters for x and y
	$x = [60.2, 60.3]$ $y = [29.7, 29.8]$
	No marks for only doing Pythagoras, must combine with trigonometry Apply equivalent approach if sine or cosine rules used

Q	Answer	Mark	Comments
15(a)	B and C circled with no other letters circled	B1	
15(b)	$\frac{1}{2} \times 30 \times V = 270$	M1	oe
	18	A1	

16(a)	$\frac{36}{360} \times 2 \times \pi \times 20 = 4\pi$	B2	oe eg1 $\frac{1}{10} \times 2 \times \pi \times 20 = 4\pi$ eg2 $40\pi \div 10 = 4\pi$ B1 $\frac{36}{360}$ (oe fraction or decimal) or $2 \times \pi \times 20$ or $\pi \times 40$ or [125.6, 125.7]
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Q	Additional Guidance
16(a)	$\frac{36}{360} \times 2 \times \pi \times 20$ must be seen to equal $4\pi$ but if given as a different multiple of $\pi$ or not equated to $4\pi$ only award B1

16(b)	their $\frac{36}{360} \times 2 \times \pi \times 30$ or $6\pi$	M1	oe eg1 $\frac{1}{10} \times 2 \times \pi \times 30$ eg2 $60\pi \div 10$ eg3 [18.8, 18.9]
	$4\pi + \text{their } 6\pi + 20 + 20 + 10 + 10$	M1dep	oe eg [12.56, 12.6] + [18.8, 18.9] + 30 + 30
	$10\pi + 60$	A1	SC2 [91.36, 91.5]

Q	Additional Guidance
16(b)	

Q	Answer	Mark	Comments
17	$\cos 39^\circ = \frac{60}{PB}$ or $\sin 51^\circ = \frac{60}{PB}$	M1	$(60 \tan 39^\circ)^2 + 60^2$ or [5960.7, 5960.701]
	$\frac{60}{\cos 39}$ or $\frac{60}{\sin 51}$	M1dep	$\sqrt{\text{their [5960.7, 5960.701]}}$
	[77.2, 77.21]	A1	
	[30.88, 30.9] or 31	B1ft	ft their calculated distance $\div$ 2.5 rounded to nearest integer or better

18(a)	All points plotted correctly ( $\pm \frac{1}{2}$ sq) and smooth curve through all points ( $\pm \frac{1}{2}$ sq)	B2	B1 At least six points plotted correctly ( $\pm \frac{1}{2}$ sq)
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Q	Additional Guidance
18(a)	Curve passing through all correct points implies B2 even if points not explicitly plotted

18(b)	[22, 23] and [67, 68]	B2ft	B1ft [22, 23] or [67, 68] or Line $d = 7$ drawn or implied ft their graph
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Q	Additional Guidance
18(b)	B1ft Line $d = 7$ implied by marks on their graph or on $x$ -axis at appropriate points

Q	Answer	Mark	Comments
19	$2 \times \pi \times 14 \times 19$ or $532\pi$	M1	[1670.48, 1671.544]
	$\pi \times 15 \times 39$ (-) $\pi \times 5 \times 13$ or $585\pi$ (-) $65\pi$ or $520\pi$	M1	[1836.9, 1838.1] (-) [204.1, 204.23] or [1632.67, 1634]
	$532\pi$ and $520\pi$	A1	[1670.48, 1671.544] or [1632.67, 1634]
	their $532\pi$ and their $520\pi$ and A	Q1ft	Correct ft decision based on their two surface areas Strand (iii) Must have gained both M marks and have a full method for frustum

Q	Additional Guidance
19	$2 \times \pi \times 14 \times 19 = 532\pi$ M1 $\pi \times 15 \times 39 = 585\pi$ M0 A0 B Q0
	$2 \times \pi \times 14 \times 19 = 266\pi$ M1 $\pi \times 15 \times 39 - \pi \times 5 \times 13 = 520\pi$ M1 A0 A Q0ft
	$2 \times \pi \times 14 \times 19 = 266\pi$ M1 $\pi \times 15 \times 39 - \pi \times 5 \times 13 = 520\pi$ M1 A0 B Q1ft
	$2 \times \pi \times 14 \times 19 = 532\pi$ M1 $\pi \times 15 \times 39 - \pi \times 5 \times 13 = 450\pi$ M1 A0 A Q1ft

Q	Answer	Mark	Comments
20(a)	$a^0 = 1$	B1	
<b>Q</b>	<b>Additional Guidance</b>		
20(a)	12 000 $a^0 = 12\ 000$ or $12\ 000 \times 1 = 12\ 000$ is condoned		
20(b)	$a^3 = \frac{6144}{12\ 000}$ or $(a =) \sqrt[3]{\frac{6144}{12\ 000}}$	M1	
	0.8	A1	oe
20(c)	<b>Alternative method 1</b>		
	12 000 $\times 0.8^8 = [2013, 2013.3]$ and 12 000 $\div 6 = 2000$ or $[2013, 2013.3] \times 6 =$ $[12078, 12\ 079.8]$	B1	
	<b>Alternative method 2</b>		
	$0.8^8 = [0.16, 0.17]$ and $\frac{1}{6} = [0.16, 0.17]$	B1	
21	$4^2 + 6^2$ or $16 + 36$ or $52$ or $2^2 + 3^2$ or $4 + 9$ or $13$	M1	Correct attempt at $BD^2$ or $BX^2$
	$\frac{1}{2} \times \sqrt{\text{their } 52}$ or $\sqrt{\text{their } 13}$ or [3.6, 3.61]	M1dep	Correct attempt at $BD$ or $BX$
	$\tan (EBD =) \frac{7}{\text{their } [3.6, 3.61]}$	M1	oe
	[62.7, 62.8]	A1	Accept 63 with correct method seen



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