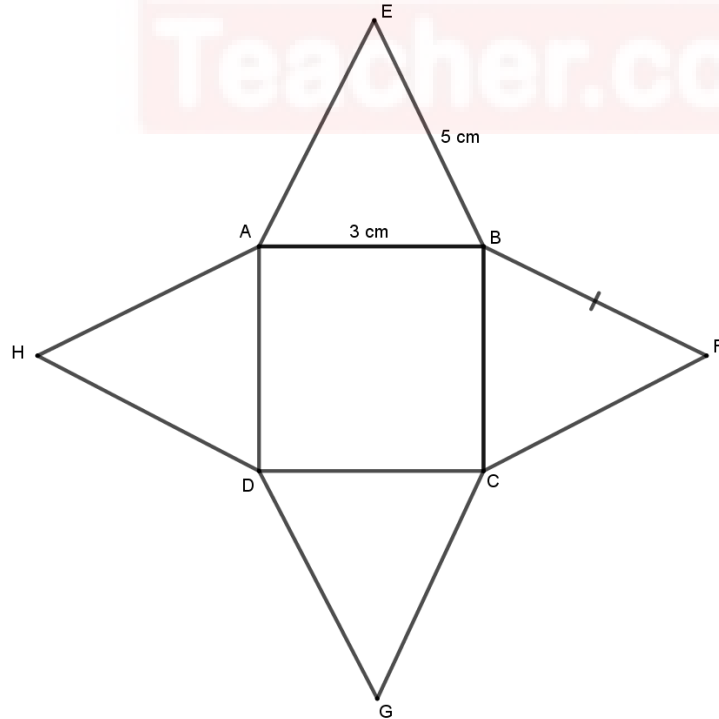


### FORM TWO MARKING SCHEME

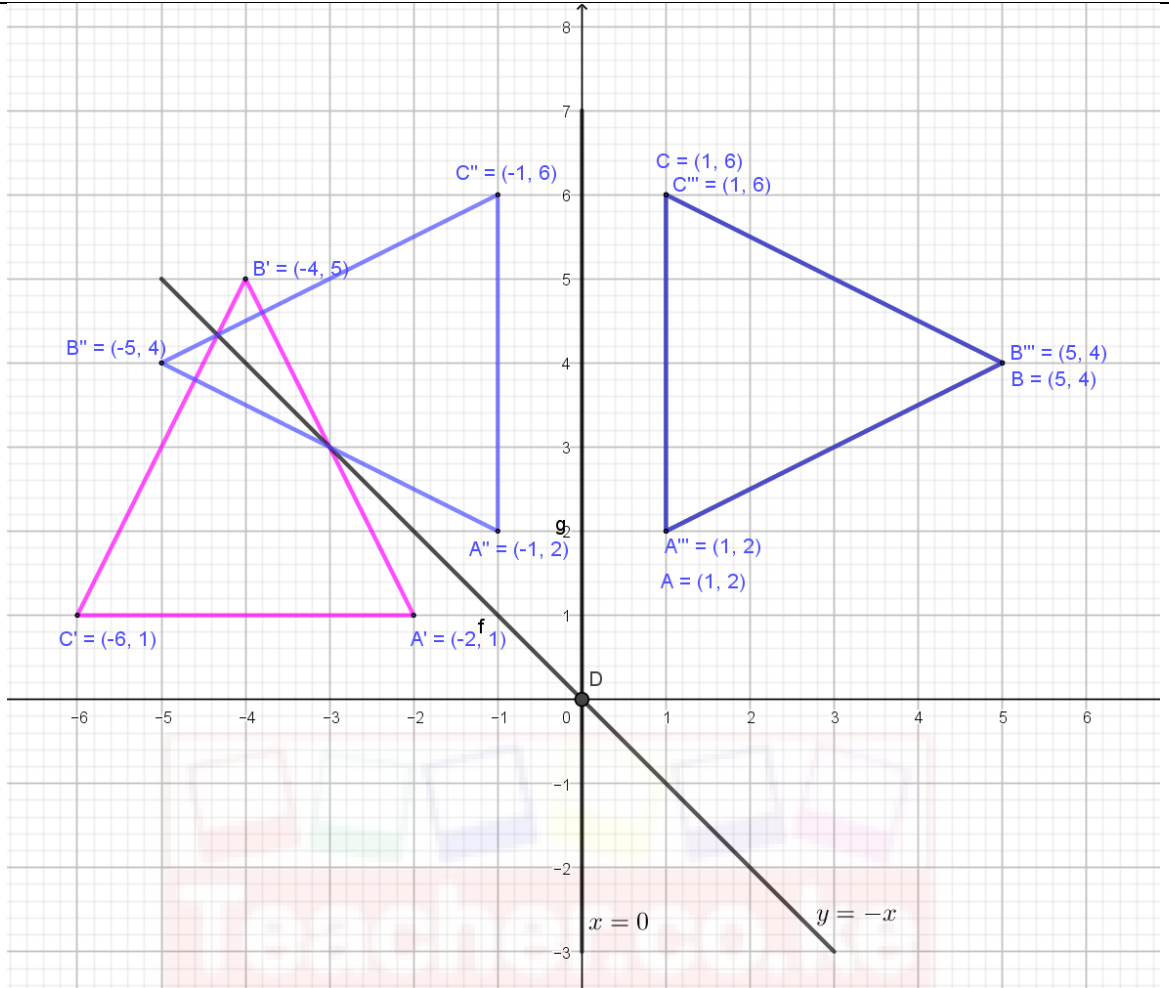
No	Working	Marks																																
1	$\text{Cost price} = \frac{100}{80} \times 500 = \text{Sh. } 625$ $\text{Selling price} = \frac{110}{100} \times 625 = \text{Sh. } 687.5$	M1 M1 A1																																
2	$\text{Area of sector} = \frac{60}{360} \times \frac{22}{7} \times 10.5 \times 10.5 = 57.75 \text{ cm}^2$ $\text{Area of triangle ABC} = 0.5 \times 15.6 \times 7 = 54.6 \text{ cm}^2$ $\text{Area of segment} = 57.75 - 54.6 = 3.15 \text{ cm}^2$	M1 M1 A1																																
3	$3x - 4y = 1 \dots\dots (i)$ $7x + y = 23 \dots\dots (ii)$ $\Rightarrow y = 23 - 7x$ $3x - 4(23 - 7x) = 1$ $3x + 28x = 1 + 92$ $x = 3$ $y = 23 - 7(3) = 2$ $\text{Coordinates are } (3, 2)$	M1 M1 A1																																
4	<table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <tr><td>2</td><td>48</td><td>36</td><td>27</td></tr> <tr><td>2</td><td>24</td><td>18</td><td>27</td></tr> <tr><td>2</td><td>12</td><td>9</td><td>27</td></tr> <tr><td>2</td><td>6</td><td>9</td><td>27</td></tr> <tr><td>3</td><td>3</td><td>9</td><td>27</td></tr> <tr><td>3</td><td>1</td><td>3</td><td>9</td></tr> <tr><td>3</td><td>1</td><td>1</td><td>3</td></tr> <tr><td></td><td>1</td><td>1</td><td>1</td></tr> </table> $\text{LCM} = 2^4 \times 3^3 = 432 \text{ litres}$	2	48	36	27	2	24	18	27	2	12	9	27	2	6	9	27	3	3	9	27	3	1	3	9	3	1	1	3		1	1	1	M1  M1 A1
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2	6	9	27																															
3	3	9	27																															
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	1	1	1																															
5	$(5 \times 0.2525 \times 100) + (12 \times 0.1686 \times 10)$ $126.25 + 20.232$ $= 146.482$	M1 M1 A1																																
6	$3^{2x} + 3^{2x} = 54$ $2k = 54$ $k = 27 = 3^3$ $3^{2x} = 3^3$ $x = 1.5$	M1  M1 A1																																
7	$\frac{2}{3} \text{ of } \left( x - \left( \frac{1}{2}x + \frac{1}{8}x \right) \right) = 4000$ $\frac{1}{4}x = 4000$ $x = \text{Sh. } 16\ 000$	M1  M1 A1																																
8	$\angle CHB = \angle DCI = 63^\circ \Rightarrow \text{Corresponding angles}$ $\angle AGB = \angle HCB = 30^\circ \Rightarrow \text{Alternate angles}$ $\angle GCJ = 180 - 93 = 87^\circ$	B1  M1 A1																																
9	$\frac{18}{8} = \frac{6+x}{x}$	M1																																

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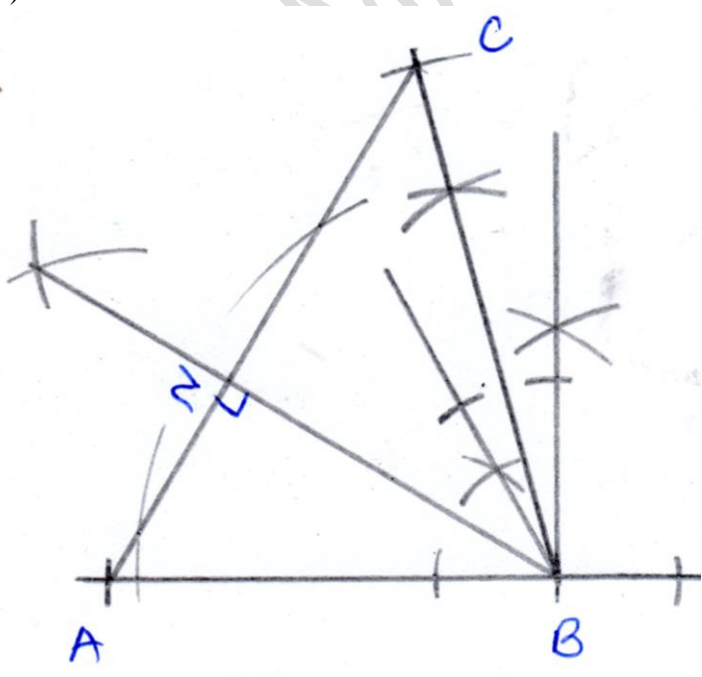
	$18x = 48 + 8x$ $x = 4.8 \text{ cm}$	M1 A1
10	$0.1573^3 = (1.573 \times 10^{-1})^3 = 3.891 \times 10^{-3}$ $6728^{\frac{1}{3}} = (6.728 \times 10^3)^{\frac{1}{3}} = 1.881 \times 10^1$ $0.003891 + 18.81 = 18.81389$	B1 B1 B1
11	$L.S.F = \sqrt[3]{\left(\frac{27}{8}\right)} = \frac{3}{2}$ $A.S.F = (3/2)^2 = \frac{9}{4}$ $CSA = \frac{9}{4} \times 352 = 792 \text{ cm}^2$	M1 M1 M1 A1
12	$\frac{\sqrt{5184}}{\sqrt[3]{2744}} = \frac{2^3 \times 3^2}{2 \times 7}$ $= \frac{36}{7} = 5\frac{1}{7}$	M1 M1  A1
13	$0.\dot{6} = \frac{2}{3}$ $0.00\dot{2}\dot{4} = \frac{2}{825}$ $\frac{2}{3} - \frac{2}{825} = \frac{548}{825}$	M1  M1 A1
14	<p>(a)</p>  <p>(b) Total Surface Area = <math>(4 \times 7.15) + 9 = 37.6 \text{ cm}^2</math></p>	B2  M1 A1
15	$\text{Volume} = \frac{2200}{0.8} = 2750 \text{ cm}^3$	M1 M1

	Capacity = $2750/1000 = 2.75$ litres	A1																														
16	<table border="1"> <thead> <tr> <th>No</th> <th>Std form</th> <th>Log</th> </tr> </thead> <tbody> <tr> <td>0.64</td> <td><math>6.4 \times 10^{-1}</math></td> <td><math>\bar{1}.8062</math></td> </tr> <tr> <td><math>1.64^2</math></td> <td><math>1.64 \times 10^0</math></td> <td><math>0.2148 \times 2</math></td> </tr> <tr> <td></td> <td></td> <td>0.4296</td> </tr> <tr> <td></td> <td></td> <td><b>0.2358</b></td> </tr> <tr> <td>0.04</td> <td><math>4 \times 10^{-2}</math></td> <td><math>\bar{2}.6021</math></td> </tr> <tr> <td>384.2</td> <td><math>3.842 \times 10^2</math></td> <td>2.5845</td> </tr> <tr> <td></td> <td></td> <td><b>1.1866</b></td> </tr> <tr> <td>N/D</td> <td>←←←←←</td> <td><math>\bar{1}.0492 \div 2</math></td> </tr> <tr> <td><b>0.3347</b></td> <td><math>10^{-1} \times 10^{0.5246}</math></td> <td><b><math>\bar{1}.5246</math></b></td> </tr> </tbody> </table>	No	Std form	Log	0.64	$6.4 \times 10^{-1}$	$\bar{1}.8062$	$1.64^2$	$1.64 \times 10^0$	$0.2148 \times 2$			0.4296			<b>0.2358</b>	0.04	$4 \times 10^{-2}$	$\bar{2}.6021$	384.2	$3.842 \times 10^2$	2.5845			<b>1.1866</b>	N/D	←←←←←	$\bar{1}.0492 \div 2$	<b>0.3347</b>	$10^{-1} \times 10^{0.5246}$	<b><math>\bar{1}.5246</math></b>	M1- all logs M1 – add, sub M1 - division A1- correct answer
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17	<p>(a)</p> <p>(b) (i) Distance = <math>13.2 \times 20 = 264</math> km Bearing = <math>077^\circ</math> (ii) <math>S30^\circ W</math> (iii) Distance = <math>7.8 \times 20 = 156</math> km</p>	Every point B1 Correct bearing B1  M1 A1 B1 B1 M1 A1																														

18



19 (i)



B3

	(ii) $AC = 6.1 \pm 0.1 \text{ cm}$ (iii) $BN = 3.9 \pm 0.1 \text{ cm}$ (iii) Area = $\frac{1}{2} \times 6.1 \times 3.9$ $= 11.895 \text{ cm}^2$	B2 B1 M1 M1 A1
20	(a) Area of door = $2 \times 2 \times 1.02 = 4.08 \text{ m}^2$ Area of windows = $4 \times 0.96 \times 0.6 = 2.304 \text{ m}^2$ Total area of walls = $2(4.8 \times 3) + 2(6.5 \times 3) + (6.5 \times 4.8)$ $= 28.8 + 39 + 31.2 = 99 \text{ m}^2$ Total area covered by planks = $99 - (4.08 + 2.304) = 92.616 \text{ m}^2$  (b) Number of planks = $\frac{92.616}{1.8 \times 0.15}$ $= 343.02 \cong 344 \text{ planks}$ (c) Cost of planks = $344 \times 45.5 = \text{Sh. } 15\ 652$	M1  M1 M1 A1 M1 A1  M1 A1  M1 A1
21	(a) (i) $m_1 = \frac{6-3}{-1+2} = 3$  (ii) $3 = \frac{y-6}{x+1}$ $y = 3x + 9$ (b) (i) $m_2 = -\frac{1}{3}$ (ii) $-\frac{1}{3} = \frac{y-6}{x+1}$ $x + 3y = 17$ (c) (i) $m_1 = m_3 = 3$ (ii) $3 = \frac{y-2}{x-1}$ $3x - 1 = y$ (iii) $x$ - intercept; $x = \frac{1}{3}$ $y$ intercept; $y = -1$	M1  M1  A1  M1  M1  A1  M1 M1  A1  B1