

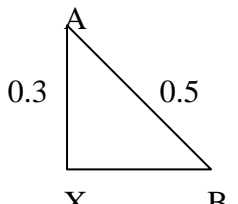
LUGARI DISTRICT JOINT END OF YEAR
EXAMINATIONS
FORM I MATHEMATICS

MARKING SCHEME

1	$\begin{aligned} &(-8)2 \times (6) \div 4 \\ &64 \times (6 \div 4) \\ &= 96 \end{aligned}$	M ₁ A ₁																																
2.	$\frac{5(x+2y) - 4(2x-y)}{20}$ $\frac{5x + 10y - 10x + 4y}{20}$ $\frac{10y + 4y + 5x - 10x}{20}$ $\frac{14y - 5x}{20}$	M ₁ M ₁ A ₁																																
3.	Total ratio = 2 + 3 + 4 + 6 $\frac{6}{15} \times 5600$ Sh. 2,240	B ₁ M ₁																																
4.	Exterior angle = $180^\circ - 156^\circ$ $= 24^\circ$ No of sides = $\frac{360^\circ}{24^\circ}$ $= 15^\circ$	M ₁ M ₁ A ₁																																
5.	<table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr><td>2</td><td>12</td><td>15</td><td>2</td></tr> <tr><td>2</td><td>6</td><td>15</td><td>21</td></tr> <tr><td>3</td><td>3</td><td>15</td><td>21</td></tr> <tr><td>5</td><td>1</td><td>5</td><td>7</td></tr> <tr><td>7</td><td>1</td><td>5</td><td>7</td></tr> <tr><td></td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table> <p style="text-align: center;">L.C M = $2^2 \times 3 \times 5 \times 7 = 450$</p> <p>b)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr><td>3</td><td>12</td><td>15</td><td>21</td></tr> <tr><td></td><td>4</td><td>5</td><td>7</td></tr> </tbody> </table>	2	12	15	2	2	6	15	21	3	3	15	21	5	1	5	7	7	1	5	7		1	1	1	3	12	15	21		4	5	7	B ₁ A ₁
2	12	15	2																															
2	6	15	21																															
3	3	15	21																															
5	1	5	7																															
7	1	5	7																															
	1	1	1																															
3	12	15	21																															
	4	5	7																															
6.	Vol of Slab = $(0.05 \times 0.03 \times 0.14)$ $= 0.00021\text{m}^3$ Density = $\frac{0.45\text{kg}}{0.00021\text{m}^3}$ $= 2142.85\text{kg/m}^3$	M1 M1 A1																																

7	<p>IID = 440m $D = 440 \times \frac{7}{22}$ $D = 1400$</p> <p>$R = 70m$ $R = 80m$</p> <p>Area = $\frac{22}{7} \times (80)^2 - \frac{22}{7} \times (70)^2$ $= 20114 - 15400m^2$ $= 4714m^2$</p> <p>Cost = 4714×306 $= \text{sh. } 33,000$</p>	<p>B_1</p> <p>M_1</p> <p>A_1</p> <p>A_1</p>
8.	<p>$CB2 = 5^2 - 4^2$ $= 25 - 16$ $= \sqrt{9}$ $= 3$</p> <p>Area of trap = $\frac{1}{2} \times 3(4 + 16)$ $= 30cm^2$</p>	<p>M_1</p> <p>A_1</p> <p>M_1</p> <p>A_1</p>
9.	<p>390 5310 6732</p> <p>Divisible by 2 because last digit is even or zero Divisible by 3 because number added (digits add) is divisible by 3</p>	<p>B_1</p> <p>B_1</p> <p>B_1</p>
10.	<p>0.7 $R = 0.7777$ $10r = 7.7777$ $10r - r = 7.7777 - 0.7777$ $9r = 7$</p> <p>$R = \frac{7}{9}$</p>	<p>M_1</p> <p>A_1</p>
11.	<p>Reading + eating $\frac{1}{4} + \frac{1}{12} = \frac{1}{3}$ Remaining = $1 - \frac{1}{3}$</p> <p>Sleeping = $\frac{1}{2} \times \frac{2}{3}$ $= \frac{1}{3}$</p>	<p>B_1</p> <p>B_1</p> <p>B_1</p>
12.	<p>Time = $(30 + 50) \text{ Min}$ $= 80 \text{ min}$ $= 1 \frac{1}{3} \text{ hr}$</p> <p>Distance = $66m \times 1 \frac{1}{2}$ $= 88m$</p>	<p>B_1</p> <p>M_1</p> <p>A_1</p>
14.	<p>Kenya shillings = $1,000,000 \times 0.63$ $= \text{sh. } 630,000$</p>	<p>M_1</p>

	Money left = shs 630,000 x $\frac{1}{4}$ Shs. $\frac{157500}{65}$ = 24205 9/13 J.Y	M ₁ M ₁ A ₁																
15.	$\frac{60}{360} \times 2 \times \frac{22}{7} \times 3.5 \text{ cm}$ = 3.66 + 3.5 + 3.5 cm = 10.66cm	M ₁ M ₁ A ₁																
16.	$7056 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 7 \times 7$ $\sqrt{7056} = 2^{4 \times \frac{1}{2}} \times 3^{2 \times \frac{1}{2}} \times 7^{2 \times \frac{1}{2}}$ = 22 x 3 x 7 = 84	M ₁ M ₁ A ₁																
17.																		
18.	Area A = $\frac{1}{2} \times 80 \times 200 = 8000\text{m}^2$ Area B = $\frac{1}{2} \times 280 (200 + 80) = 39200\text{m}^2$ Area C = $\frac{1}{2} \times 40 \times 80 = 1600\text{m}^2$ Area D = $\frac{1}{2} \times 120 \times 80 = 4800\text{m}^2$ Area E = $\frac{1}{2} \times 80 (80 + 160) = 9600\text{m}^2$ Area F = $\frac{1}{2} \times 200 \times 160 = 16000\text{m}^2$ Total = 79200cm ³ Hactares = $\frac{79200}{10,000} = 7.9$	M ₁ M ₁ M ₁ A ₁																
19.	$5x - 2y = 4$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 25%;">X</td> <td style="width: 25%;">-2</td> <td style="width: 25%;">0</td> <td style="width: 25%;">2</td> </tr> <tr> <td>Y</td> <td>-7</td> <td>-2</td> <td>3</td> </tr> </tbody> </table> $X + y = 5$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 25%;">X</td> <td style="width: 25%;">-2</td> <td style="width: 25%;">0</td> <td style="width: 25%;">2</td> </tr> <tr> <td>Y</td> <td>7</td> <td>5</td> <td>3</td> </tr> </tbody> </table> d) $5x - 2y = 4$ $x + y = 5$ $5x - 2(5-x) = 4$ $5x - 10 + 2x = 4$ $7x = 14$ $X = 2$ $x + y = 5$ $2 + y = 5$ $Y = 3$	X	-2	0	2	Y	-7	-2	3	X	-2	0	2	Y	7	5	3	M ₁ A ₁ M ₁
X	-2	0	2															
Y	-7	-2	3															
X	-2	0	2															
Y	7	5	3															

	$y = 3, x = 2$	A ₁
20.	$B + \frac{3b}{2} + \frac{3b}{2} = 360$ $4b = 360$ $B = 90$ $a = \frac{3 \times 90}{2}$ $a = 135$ <p>b) $Z + 140^\circ = 180^\circ$ <s on a straight line $Z = 180^\circ - 140^\circ$ $Z = 40$</p> $Z = Y = 40^\circ$ AC + <s because EF GH $X + 40 = 180$ $X = 140^\circ$ <p>c) $2n$ $(2n + 5.1)$ $2(2n + 5) = 22$ $4n + 10 = 22$ $4n = 22 - 10$ $4n = 12$ $n = 3$</p>	M ₁ A ₁ A ₁ B ₁ B ₁ B ₁ A ₁ B ₁ B ₁ M ₁
21.	 $XB^2 = 0.5^2 - 0.3^2$ $XB = \sqrt{0.5^2 - 0.3^2}$ $XB = 0.4$ <p>Area of ABF = $\frac{1}{2} \times 0.8 \times 0.3$ = 0.12cm^2</p> <p>Area of BCEF = 0.5×0.8 = 0.4cm^2</p> <p>Area of ABCDEF = $0.12 + 0.4 + 0.12$ = 0.64cm^2</p> <p>Area of (ABHG) = 0.5×18</p>	M ₁ A ₁ M ₁ M ₁ M ₁ M ₁ M ₁

	$= 9\text{cm}^2$	A_1
	T.S.A = (2 (0.64) + (9 x 6) cm^2	M_1
	= 1.28 + 54cm	
	= 55.28 cm^2	M_1
	Volume = (0.64) x 18 cn	M_1
	= 11.52 cm^3	