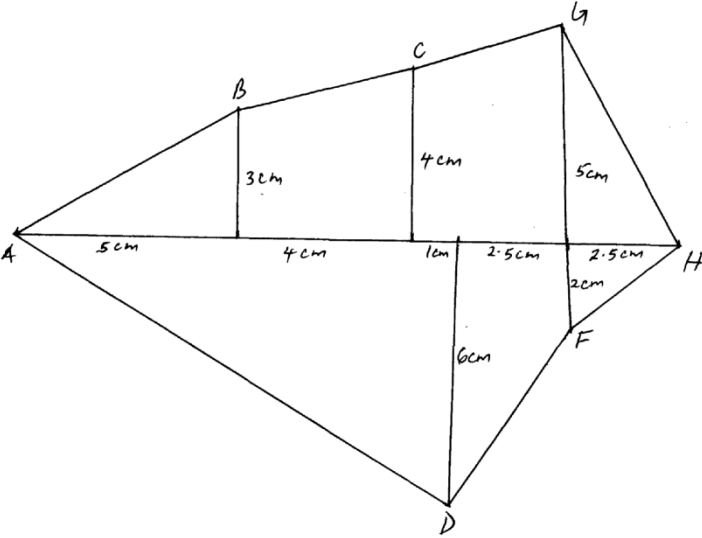
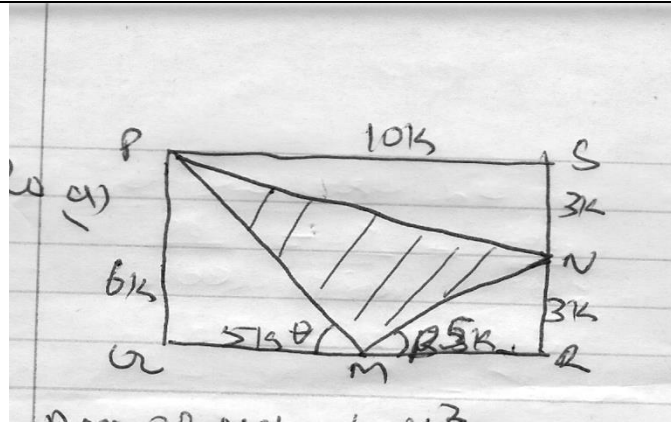


## 2. Area

1	$\frac{1}{2} \times 14 \times 22 \sin 75^\circ - \frac{75}{360} \times \frac{22}{7} \times 14 \times 14$ $7 \times 22 \sin 75 - \frac{55 \times 7}{3}$ $= 20.42$	M <sub>1</sub> M <sub>1</sub> M <sub>1</sub> A <sub>1</sub>	
2.	LSF 1 cm rep 50000cm 1cm rep 500m ASF 1cm <sup>2</sup> rep 250000m <sup>2</sup> $\text{Area} = \left( \frac{6.16 \times 250000}{10000} \right)$ $= 154\text{ha}$	B1 M1 A1	ASF given
		03	
3.	$\text{Area} = 4 \times 4 \sin 42^\circ - \frac{42}{360} \times \frac{22}{7} \times 4 \times 4$ $= 10.71 - 5.867$ $= 4.796$	M1 M1 A1	$\checkmark$ area of rhombus & sector $\checkmark$ difference in area
		03	
5.	(a) $\tan 60^\circ = \frac{AC}{5\text{cm}}$ $AC = 8.6605\text{CM}$ (b) $A = \frac{1}{2} \times 5 \times 8.6605$ $A = 21.65125$ (b) $\frac{60}{360} \times \pi r^2$ $\frac{60}{360} \times 3.142 \times 25$ $= 13.091\text{cm}^2$ (d) Area of shaded part $\Delta COA = \Delta OBA$ , sector $OCD = OCB$ $21.65 \times 2 = 43.3025\text{cm}^2$ $13.091 \times 2 = 26.182\text{cm}^2$ $\therefore \text{Area of shaded part}$ $43.3025 - 26.182$ $= 17.11225\text{cm}^2$	M1 A1 M1 A1 M1 A1 M1 M1 M1 A1 A1	

<p>6.</p>  <p> <math>\frac{1}{2} \times 200 \times 120 = 12,000</math>  <math>160 \times \frac{1}{2} \times 50 = 4000</math>  <math>\frac{1}{2} \times 50 \times 40 = 1000</math>  <math>\frac{1}{2} \times 50 \times 100 = 2500</math>  <math>\frac{1}{2} \times 180 \times 70 = 6300</math>  <math>\frac{1}{2} \times 140 \times 80 = 5600</math>  <math>\frac{1}{2} \times 100 \times 60 = \underline{3000}</math>  <math>\frac{34400m^2}{10000}</math>  <math>= 3.44ha</math> </p>	<p> <b>B1</b> For AH  <b>B1</b> for ✓ offset  <b>B1</b> ✓ div for AH  <b>B1</b> Offsets ⊥ to AH  <b>B1</b> Complete diagram  <b>M1</b>  <b>M1</b>  <b>M1</b>  <b>A1</b>  <b>B1</b> </p>	
<p>7.</p> $S = \frac{5.7 + 4.2 + 6.3}{2} = 8.1$ $= \sqrt{8.1(8.1 - 5.7)(8.1 - 4.2)(8.1 - 6.3)}$ $= \sqrt{8.1 \times 2.4 \times 3.9 \times 1.8} = 11.68$ <p>Shaded area = 18.05 - 11.68 = 6.368cm<sup>2</sup></p>	<p> <b>B1</b>  <b>M1</b>  <b>A1</b>  <b>B1</b> </p>	
	<p><b>10</b></p>	
		<p><b>04</b></p>

8



Area of the rectangle =  $60k^2$

Area of unshaded part parts

$$\begin{aligned} &= \frac{1}{2} \times 6k \times 5k + \frac{1}{2} \times 15k \times 3k + \frac{1}{2} \times 30k \times 3k \\ &= 15k^2 + 7.5k^2 + 15k^2 \\ &= 37.5k^2 \end{aligned}$$

Area of shaded part =  $60k^2 - 37.5k^2$   
 $= 22.5k^2$

b)

$$\frac{1}{2} \times 15k^2 = 30$$

$$k^2 = \frac{30 \times 2}{15}$$

$$k = 2$$

Dimensions = 20m by 12 cm

$$\tan \theta = \frac{12}{10}$$

$$\theta = 50.19^\circ$$

$$\tan \beta = \frac{6}{10}$$

$$\beta = 30.96^\circ$$

M1

M1

M1

A1

M1

A1

M1

A1

M1

A1

10

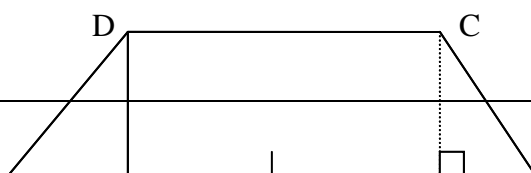
9

a) =

$$\begin{aligned} &\frac{160}{360} \times \frac{22}{7} \times 10.5^2 \\ &= 154 \text{ cm}^2 \end{aligned}$$

M1

A1





$$100 \\ = \text{Kshs. } 475, 425$$

$$\begin{aligned} \text{Selling price per tile} &= \frac{475,425}{525 \times 20} \\ &= 45.27 \\ &= \text{Kshs. } 45.00 \end{aligned}$$

$$12. \quad \frac{AC}{\sin 60^\circ} = 10 = AC = 8.66 \\ \angle A 70^\circ, \frac{BC}{\sin 70^\circ} = 10 = BC = 8.91 \\ \text{Area} = \frac{1}{2} \times 8.66 \times 8.91 \sin 50^\circ \\ = 27.28$$

$$13. \quad S = \frac{1}{2} (170 + 190 + 210) \\ S = 285 \\ \sqrt{\text{Area} = 285 (285 - 170) (285 - 190) (285 - 210)} \\ \sqrt{= 2865 \times 115 \times 95 \times 75} \\ = \underline{15281m^2} \\ \frac{15281}{10,000} \\ = 1.528ha$$

$$14. \quad \begin{array}{l} \text{LCM of } 30, 50 \text{ and } 35 \text{ mins} \\ 30 = 2 \times 3 \times 5 \\ 35 = 5 \times 7 \\ 50 = 2 \times 5^2 \end{array} \left. \vphantom{\begin{array}{l} 30 \\ 35 \\ 50 \end{array}} \right\} \text{L.C.M} = 2 \times 3 \times 5^2 = 1050 \\ \text{Into hrs } \frac{1050}{60} \text{ hrs} = 17.5 \text{hrs} \\ \text{Next wail together at } \begin{array}{r} 7:18 \\ + 17:30 \\ \hline 24:48 \end{array} \\ = \text{at } 1.48 \text{ a.m on Tuesday}$$

$$15. \quad \begin{array}{l} \text{Maize} - \frac{1}{4} \times \frac{2}{3} = \frac{1}{6} \\ \text{Remainder} - \frac{2}{3} - \frac{1}{6} = \frac{1}{2} \\ \text{Beans} - \frac{4}{5} \times \frac{1}{2} = \frac{2}{5} \\ \text{carrrots} - \frac{1}{5} \times \frac{1}{2} = \frac{1}{10} \end{array} \\ \text{Let total area of farm be } x \text{ acres} \\ \frac{1}{10} x = 0.9 \\ x = 0.9 \times 10 = 9 \text{ acres}$$