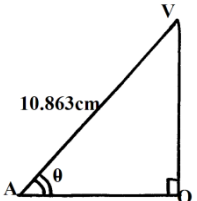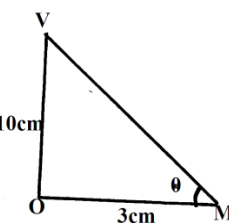## 2. Area of a triangle

1.   a) $BC^2 = 50^2 + 80^2 - 2 \times 50 \times 80 \cos 30$

   $= 2500 + 6400 - 6928.20 = 1971.8$

   $\therefore BC = \sqrt{1971.8}$

   $= 44.40m$

    $= 44m$

 b) Area of the plot

   $= \frac{1}{2} \times 50 \times 80 \times \sin 30 \quad = 1000m^2$

   $= \dfrac{(1000)}{10000}$ ha

   $= 0.01ha$

 c) i) Length of wire required

   $= (50 + 80 + 44) \times 4 = 696m$

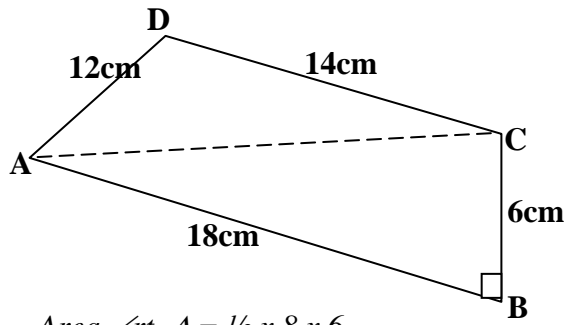   ii) Complete rolls to be bought $= 2$

   iii) Cost $(2 \times 4000) = Shs.8000$

3. Area of polygons

1.	(a) AC	B1	
	(b) AC $= \sqrt{6^2 + 6^2}$		
	$= \sqrt{72}$	M1	
	$= 8.485$		
	$\overline{AO} = \frac{1}{2} \times 8.485 = 4.243$		
	VA $= \sqrt{4.243^2 + 10^2}$	M1	
	$= \sqrt{118.003}$		
	$= 10.863$.	A1	
	(c)		
	$\cos \theta = \dfrac{4.243}{10.863}$	M1	
	$\cos \theta = 0.39059$		
	$\theta = 67.01^0$	A1	
	(d)		
	$\tan \theta = {}^{10}/_3$	M1	
	$\theta = 73.30^0$	A1	
	(e) Vol $= {}^1/_3 \times 6 \times 6 \times 10$	M1	

	$= 120\text{cm}^3$	**A1**	
		10	

1. $\dfrac{180(n-2)}{180(n-1-2)} = \dfrac{4}{3}$

$540n - 1080 = 720n - 2160$

$720n - 540n - 2160 - 1080$

$180n = 1080$

$n = 6$

Area of hexagon $= 6\,(\,½ \times 10 \times \sin 60)$

$= 6 \times 43.30 = 259.81 \ cm^2$

2.

Area ∠rt Δ = ½ x 8 x 6

$$S = \frac{12 + 14 + 10}{2}$$

$$A = \sqrt{18(18-12)\,(18-14)\,(18-10)}$$
$$= \sqrt{18 \times 6 \times 4 \times 8}$$
$$= \sqrt{3456}$$
$$= 58.79$$

Total area = 24 + 58. 79 = 82.79