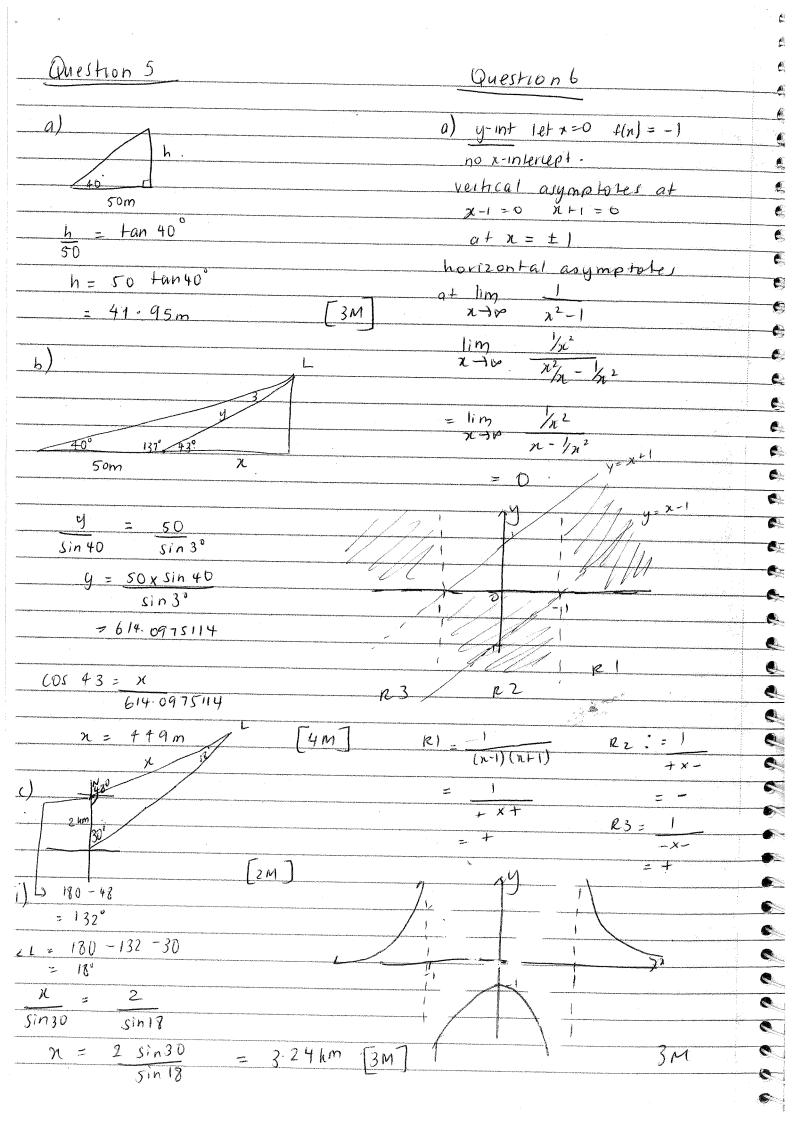


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A	question3				C
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	A	(d)			
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		tanx-	tany = sin (x-4)		
His: $\sin z - \sin y$ $\cos z - \cos y$			Application of the Control of the Co		
COSX Cosy Prove $AD = BC$ Sink, siny Cosx cosy CARD = LEDC (alternake is ABNCO) Sinx cosy = Siny cosx CARD = LEDC (vertically apposite) Cosy = $COSY$	B 17 - 1 - 1 - 1 - 1				C
From $A0 = BC$ COSX SINK Siny From $A0 = BC$ CAEB > COEC (Rectically approxib) CAEB > COEC (Vertically approxib) CAEB > COEC (Vertically approxib) COEC (VERTICALLY + Siny coech COEC (VERTICALLY + Sin	* 1	LHS = Si	nx - Siny	The state of the s	•
Prove $AP = AC$ ABON = LEDC (alternate is ABNCO) SINKLOSY - SINYLOSX CAEB = LOEC (vertically apposite) CAEB = LOEC (vertically apposite) CAEB = LOEC (vertically apposite) COSY COSY SINCLOSY + SINY COSY COSY COSY SINCLOSY + SINY COSY CENTRAMENTAL COSY COSY SINCLOSY - SINY COSY CABLE - LOEC (" " " " " " " " " " " " " " " " " " "		co			£.
Prove $A0=A^{\circ}$ (ABAD = LEDC (alternate (SABNO)) Sinx(05 y - Siny cosx (ABB > LDC (vertically opposite) cosy $e^{0.53}$ (ABB > LDC (vertically opposite) cosy $e^{0.53}$ (ABAD = KBCO (angles subtended at the Sinx cosy + Siny cosx (BAD = KBCO (angles subtended at the Sinx cosy + Siny cosx (BAC - KAOC (""""""""""""""""""""""""""""""""""""		Sin	Sinx , siny		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Prove AO = BC				
CAEB = CDEC (vertically apposite) COST COSY COST COSY COST COSY CBAD = CBCD (angles subtended at the Similary + siny cost Circumference by the same are core equal) COST COSY. CABC = CADC (""""""""""""""""""""""""""""""""""""					
Final Server A Since Cost A Server A Since Cost A Server A Since Cost A Server A Serve		Sin.	x cosy - siny cosx		•
Final Server A Since Cost A Server A Since Cost A Server A Since Cost A Server A Serve	<pre><aeb (vertically="" =="" ldec="" opposite)<="" pre=""></aeb></pre>		cosy cosy		
CBAD = (BCD (angles sublended at the circumference by the same arc are equal) COST (Oly). CIRCUMFERENCE by the same arc are equal) COST (Oly). Sinx (avy) - Sinx (avy) - Sinx (avy) +	GNABENHA				
Circumference by the same are are equal) Likewise $ \begin{array}{cccccccccccccccccccccccccccccccccc$	< BAD = < BCD (angles subtended at the		sink cosy + sin y cos.		
$(ABC = \langle AOC (" " " " " " " " " " " " " " " " " " $;		COST COSY.		
i. B < Bar = < ABE (both equal b < BCO) = $Sin(x-y)$ i. ABE is isoscelles then $AE = BE$ (equal sides of isosceles A) = EHS where $ED = EC$ (Since < $EOC = AECD$ & $AEDC$ is isosceles) so $AE + ED = BE + EC$ (Sum of equal sides are equal) then $AE = BE$ (equal sides of isosceles) $AE = AED = BE + EC$ (Sum of equal sides are equal) $AEDC = AED = AEDC = AEDC$			= Sinx Cosy - Siny cos.	χ	
$ \begin{array}{c} \vdots B < Bar = < ABE (hoth equal \ ho < BCO) \\ \vdots \triangle ABE is isoscelles \\ \hline \\ hen AE = BE (equal sides of isosceles \ \Delta) \\ \hline \\ hen AE = BE (equal sides of isosceles \ \Delta) \\ \hline \\ EO = EC (Since < EoC = < ECO \ A \ AEOC \ is isosceles \) \\ \hline \\ so AE + EO = BE + EC (sum of equal sides are equal) \\ \hline \\ +M \\ \hline \\ 2) \\ \hline \\ +ance = \begin{vmatrix} m_1 - m_2 \\ 1 + m_1 m_2 \end{vmatrix} phere m=3 Since 3n-y=y \\ \hline \\ +ance = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} phere m=3 Since 3n-y=y \\ \hline \\ +ance = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} phere m=3 Since 3n-y=y \\ \hline \\ +ance = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} phere m=3 Since 3n-y=y \\ \hline \\ & 3 & $					
then $AE = BE$ (equal sides of isosceles Δ) = EHS ikewise $ED = EC$ (Since $\langle EOC = \langle ECO \neq AEOC \text{ is isosceles} \rangle$ so $AE + EO = BE + EC$ (Sum of equal sides are equal) $AE = AE =$		co)			
Then $AE = BE$ (equal sides of isosceles Δ) = EHS ikewise $EO = EC$ (Since $\langle EDC = \langle ECD \frac{1}{2} AEOC \text{ is isosceles} \rangle$ So $AE + ED = BE + EC$ (sum of equal sides are equal) $ \begin{array}{c} +m \cdot m \cdot$	A second	and the second s	Sin (nry)		
ikewise $ED = EC (Since \land EOC = \land ECD \nleq \Delta EOC \text{ is isosceles})$ $SO AE + EO = BE + EC (Sum of equal sides are equal)$ $+M.$ $2)$ $tan Q = \begin{vmatrix} m_1 - m_2 \\ 1 + m_1 m_2 \end{vmatrix} where m=3 Since 3n-y=y$ $4nn Q = \begin{vmatrix} m_1 - m_2 \\ 1 + m_1 m_2 \end{vmatrix} where m=3 Since 3n-y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 1 + 3x^{-2}/3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3 + 2/3 \\ 3 + 3 \end{vmatrix} 3y=y=y$ $4nn Q = \begin{vmatrix} 3$	then AE = BE (equal sides of 1805	celes a)	= RHS	4M	
So $AE + EO = BE + EC$ (sum of equal sides are equal) $4M$. 2) $tan Q = \begin{vmatrix} m_1 - m_2 \\ 1 + m_1 m_2 \end{vmatrix}$ where $m = 3$ since $3n - y = y$ $then 3n - y = y$. $then 3$		en e			
$ \frac{4n \cdot a}{1 + an \cdot a} = \frac{m_1 - m_2}{1 + m_1 \cdot m_2} \text{where } m = 3 \text{since } 3n - y = y \\ $					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	SO AELED = BELEC (SUM OF LQU	nal sides	are equal)		<u>e</u>
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	40.				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	The state of the s				
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		nu 2n+	34 = 4		
$Q = 74^{\circ} 45'$ c) $\lim_{x \to 3} \frac{\chi^{2} - 27}{x - 3} = \lim_{x \to 3} \frac{\chi^{2} + 3\chi + 9}{\chi^{2} + 3\chi + 9}$	tano = 3 + 2/3		34=4-21		
$Q = 74^{\circ} 45'$ c) $\lim_{x \to 3} \frac{\chi^{2} - 27}{x - 3} = \lim_{x \to 3} \frac{\chi^{2} + 3\chi + 9}{\chi^{2} + 3\chi + 9}$	1+3x-2/3		y=4-2x		.
$Q = 74^{\circ} 45'$ c) $\lim_{x \to 3} \frac{\chi^{2} - 27}{x - 3} = \lim_{x \to 3} \frac{\chi^{2} + 3\chi + 9}{\chi^{2} + 3\chi + 9}$			3 3	and the same of th	<u> </u>
c) $\lim_{x \to 3} \frac{x^3 - 27}{n - 3}$ $\lim_{x \to 3} \frac{(x - 3)(x^2 + 3x + 9)}{x - 3}$ $\lim_{x \to 3} \frac{(x - 3)(x^2 + 3x + 9)}{x - 3}$	= 3		to the second		6
c) $\lim_{x \to 3} \frac{x^3 - 27}{x - 3}$ $\lim_{x \to 3} \frac{(x - 3)(x^2 + 3x + 9)}{x - 3}$ = $\lim_{x \to 3} \frac{x^2 + 3x + 9}{x^2 + 3x + 9}$	p				<u>\$</u>
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Q = 74° 45			anging the same and	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1 27 1 1 1 1	12			
$= \lim_{x \to 3} x^2 + 3x + 9$	c) $\lim_{x \to 3} (x-3)(x+3x+9)$				*** ***
$=\lim_{\lambda \to 3} \chi^{+} + 3\chi + 0$	7-3	x /3			
2.7	$= \lim_{\chi \to 3} \chi^2 + 3\chi$	x + 9			0
	^ ¬¬				

F

Question 4 Prove AB=AE AC = AD = BC = OEIn A ACD (ACD = < ADC (base c's of isorceles a) (affacent supprementary is) LADE = LACB = 180-0 Ac = AO (given) BC = DE (given) : DACB = DADE (SAS) - AB = AE (corresponding sides of congruent is) A line parallel to one side of a triangle divides the other sides proportionally) 13d +36 =0 (d-9)(d-4)=0E d = 4 In A ABD and SAOC < ADC = 90° (adjacent suplementary is) (ADC = (ADB (both equal to 90°) < ACD = 180-90- < ABO (sum = 90 - (ABD < BAO = 180.90 - (ABD (CSUM &) DABD $\chi^2 = 36$ = 90- (ABD) BABD III BADC (equal angular, : x = 6 only. 4M



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Question 7
(i) \cos(\alpha + \theta) = \cos \alpha \cos \theta - \sin \alpha \sin \theta
                                          [M]
                                                                                       •
  cos 30 = 4 cos 30 - 3 cos 0
                                                                                       •
cos 30 = cos (20+0)
                                                                                       •
 = (0520 (010 - sin 20 sin 0
                                                                                       = (cos20-sin20) cos0-2sin20 cos 0x sin0
 = cos30 - sin20 cos0 - 2 sin20 cos0
  = \cos^3\theta - 3\sin^2\theta \cos\theta
   = \cos^3 \theta - 3(1 - \cos^2 \theta) \cos \theta
  = \cos^3\theta - (3 + 3\cos^2\theta)\cos\theta
                                                                                       •
        = \cos^3\theta - 3\cos\theta + 3\cos^3\theta
         = 4 cos 3 8 - 3 cos 8
         = RHS.
                                                                                       6
                                        13M7
                                                                                       solve 3 cos 3 d - 6 cos 0 - \sqrt{3} = 0
                                                                                       8
            (4\cos^3\theta - 3\cos\theta) = \sqrt{3}
            (4 \cos^3 0 - 3 \cos \theta) = \sqrt{3}
                                                                                       .
                  105 30
                              = \sqrt{3}
                                                                                       3
        y = 30^{\circ}, 330, 390, 690, 750, 1050
                                                                                       8 = 10°, 110', 130, 230 ,250, 350
                                                                                       •
                                                                                       •
                                                       [3M]
                                                                                       6
                                                                                       8
                                                                                       0
                                                                                       •
                                                                                       0
                                                                                       C
                                                                                       •
```

1 A A B D	s de de mets
$\frac{\ln \triangle ABD}{6) + \tan 60 = BD}$	$\frac{\ln \Delta BOR}{400^2 = Bh^2 - BO^2}$
h -	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
h + an 68 = 80	$400^2 = h^2 + ah^2 + ah^2 + ah^2$
	$\frac{400^2 = h^2 (+an^2 10 - tan^2 68)}{2}$
In DABK tan 70 = Bu	fan^270-tan^68 tan^270-tan^268
h	2
h + an70 = Bk	$h^2 = 400/(cot20 - cot22)$
7,700	
h BOK.	h= 1400 (co+220-co+222)
	$=\frac{400}{\sqrt{6.12}}$
+00 = h2 tan 68 + h2 tan 10	$\frac{\sqrt{\cot^2 20 \cdot \cot^2 2}}{1i}$
400 = h2 (+an268 + +an270)	= 335°
tan 68+tan 10 + an 268 + tan 210	
2	
h ² = 400	
tan 68 tan 70	
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	h - f4002 (cot22 cat 2)
$h = \sqrt{\frac{4}{4ap^268 + ap^270}}$	V
= 1220 299	
=/2720.098.	
$=$ 2720 m. \geq 2M	

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