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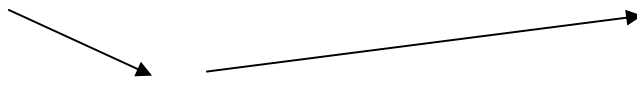
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$$x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1 = (x^2 + x + 1)(x^5 + x^4 + x^3 + x^2 + x + 1)$$

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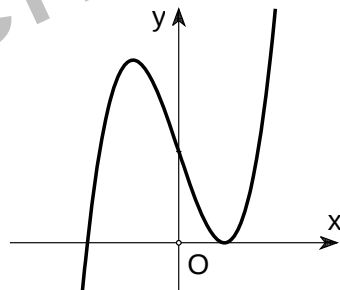
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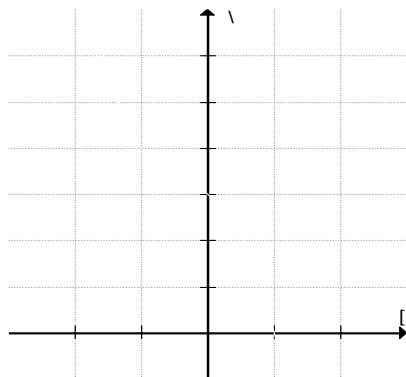
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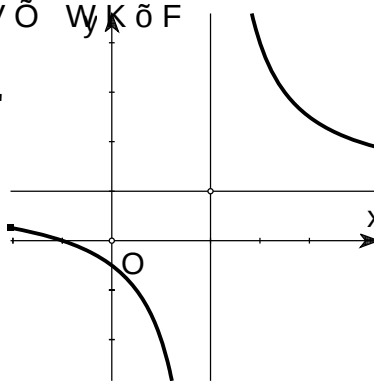
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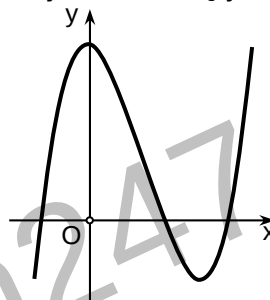
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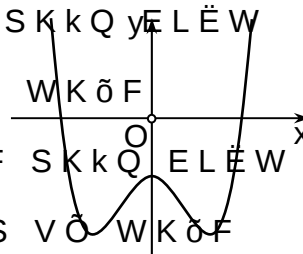
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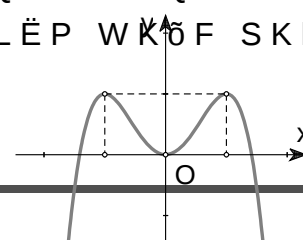
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$$\&kX \ 9\beta \text{L} \text{a} \text{b} \text{Oj} \text{FiF} \text{V}\tilde{\text{O}} \text{WK}\tilde{\text{O}} \text{F} \text{aGmkiQJ} \text{WyO} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{O}\tilde{\text{E}} \text{QK} \ \text{y}\tilde{\text{A}} \text{QjR} \text{Gm}$$

$$\frac{\$}{\text{P}} \text{O} \text{a} \text{b} \text{J} \quad \% \text{P} \text{O} \text{a} \text{b} \text{J} \quad \& \text{P} \text{O} \text{a} \text{b} \text{J} \quad ' \text{P} \text{O} \text{a} \text{b} \text{J}$$

$$\&kX \&K\text{R} \text{a} \text{b} \text{Rj} \text{Yj} \text{a} \text{ORJ} \ 7\text{tQK} \text{OR}\tilde{\text{O}} \text{c}$$

$$\frac{\$}{\text{P}} \quad \text{P} \quad \% \text{P} \quad \& \text{P} \quad ' \text{P}$$

$$\&kX \&K\text{R} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} - \ 7\text{tQK} \text{OR}\tilde{\text{O}} \text{a} \text{Rj} \text{b} \text{ORJ}$$

$$\frac{\$}{\text{I}} - \quad \text{I} \quad \% \quad \& - \quad ' \text{I}$$

$$\&kX \ 5\sim \text{W} \text{J}\tilde{\text{N}} \text{Q} \ \text{ELQ}\sqrt{\text{X}} \text{WK}\tilde{\text{O}} \text{F}$$

$$\frac{\$}{\text{Q}} \text{b}^- \quad \text{Q} \text{b}^- \quad \% \text{Q} \text{b}^- \quad \& \text{Q} \text{b}^- \quad ' \text{Q}$$

$$\&kX \ 9\beta \text{L} \text{a} \text{b} \text{Lx} \text{Oj} \text{FiF} \text{V}\tilde{\text{O}} \text{WK}\tilde{\text{O}} \text{F} \text{GmkiQJ} \text{WyO} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{O}\tilde{\text{E}} \text{QK} \ \text{y}\tilde{\text{A}} \text{QjR}$$

$$\frac{\$}{\text{x}} \text{a} \text{b} \quad \text{x} \text{a} \text{b} \% \quad \text{x} \text{a} \text{b} \quad \& \quad \text{x} \text{a} \text{b} \quad ' \text{x}$$

$$\&kX \&K\text{R} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{a} \text{b} \text{Oj} \text{FiF} \text{V}\tilde{\text{O}} \text{WK}\tilde{\text{O}} \text{F} \text{aGmkiQJ} \text{WyO} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{O}\tilde{\text{E}} \text{QK} \ 7\text{tQK}$$

$$\frac{\$}{\text{P}} - \quad \text{P} - \quad \% \quad \text{P} \quad \& - \quad ' \text{P}$$

$$\&kX \&K\text{R} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{a} \text{b} \text{Oj} \text{FiF} \text{V}\tilde{\text{O}} \text{WK}\tilde{\text{O}} \text{F} \text{aGmkiQJ} \text{WyO} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{O}\tilde{\text{E}} \text{QK} \ \frac{\text{O} \text{R} \text{y}}{\text{ORx} \text{y}} \text{O} \text{R}$$

$$\frac{\$}{\text{M}} - \quad \text{M} \% \quad \text{M} - \quad \text{M} - \& \quad ' \text{M}$$

$$\&kX \ 9\beta \text{L} \text{P}\tilde{\text{N}} \text{L} \text{V}\tilde{\text{O}} \text{WK}\tilde{\text{O}} \text{F} \text{aGmkiQJ} \text{WyO} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{O}\tilde{\text{E}} \text{QK} \ \text{y}\tilde{\text{A}} \text{Gm}\beta \text{L} \ \text{y} \text{k} \backslash \ \text{y} \sim \text{QJ} \text{"}$$

$$\frac{\$}{\text{ORa}} \text{b} - \quad \text{aOR}\tilde{\text{O}} \text{ORJ} \quad \text{ORa} \text{b} \quad \text{aOR}\tilde{\text{O}} \text{ORJ}$$

$$\& \text{ORa} \text{b} - \quad \text{aOR}\tilde{\text{O}} \text{ORJ} \quad \text{ORa} \text{b} - \quad ' \text{aOR}\tilde{\text{O}} \text{ORJ}$$

$$\&kX \ 9\beta \text{L} \text{P}\tilde{\text{N}} \text{L} \text{V}\tilde{\text{O}} \text{WK}\tilde{\text{O}} \text{F} \text{aGmkiQJ} \text{WyO} \text{a} \text{b} \text{Yj} \text{a} \text{ORJ} \text{O}\tilde{\text{E}} \text{QK} \ \text{y}\tilde{\text{A}} \text{QjR} \text{Gm}\beta \text{L} \ \text{y} \text{k} \backslash$$

$$\frac{\$}{\text{ORJ}} \frac{\sqrt{\text{x}} \text{S}}{\text{y} \text{©}} \quad \frac{\text{D} \cdot \text{S}}{\text{E} \text{©}} \quad \cdot \quad \text{ORJ} \frac{\sqrt{\text{x}} \text{S}}{\text{y} \text{©}} \quad \frac{\text{D} \cdot \text{S}}{\text{E} \text{©}} \quad \% \quad \cdot$$

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 WKXÝF NKRSQJ
 \$ > % > @ & '
 &kX ;pW FiF VÖ WKÖF K ÓaDd P l m 7QP JLi WUÿPÖKÓF QÖKEÿÇWSKfKfEäDmWfKQJ
 P ORa as
 b ORJ b© 1
 \$ P_{PLQ} % P_{PLQ} & P_{PLQ} '
 &kX ;pW K j P t V Ö ^t _t m YnLOj WKDP VÖ WKöF
 Oj W±S KçS W©W F§ FVFD RLkFWKfKfEäDmWfKQJ FäD B L P Ñx y VÖ K Ö B ö
 e^{x y} e x y 7uP VÖ SK«Q Wñ FäD
 \$ 9{ VÖ% & '
 &kX ;pW FiF VÖ WkÿÇWSKfKfEäDmWfKQJ KÖEP WKöF xy x y 7uP JLi WUÿPÖKÓF
 FäD x y
 \$ P_{PLQ} √ % P_{PLQ} √
 & P_{PLQ} √ ' P_{PLQ} √
 &kX 7KDQJ ÿR 5LFKWH ÿmçF &KDUOHV)UDQFQVYÿR QX©W Yjyç

FiF VÕ ýR ýÝ FK©Q ýÝQJ FèD FiF F&QOjÝWkíF©WtQ&LýýkQKYİC
M_L OñJ QñM_L Oj ýÝ FK©AQOjÝQJrQ ýÝ WÕL ýD ýmçF ýAR EµQ
ELrQ ýÝ FKX-Q +ÓL WKHR WKDQJ KX-QLWKWHELF©QJÝ WÕLLF
ýÝQJ ý©W5LFKWH VÁ OBQ J©S P©\ O«Q EY©W ýÝÝWÕLLF KDW HèD

\$ % & ' -

&kX 'kQ VÕ WKÃ JLBL ýmçF mBS MèNQW WKQAR Qj{ Qjk QKVİ FèD
PÕF WtQK 6 QJ QkQ VÕ WDXÖE W QJ GkQ VÕ KµQJQkQ VÕK R
1DP Fy NKRŞQJ QJmál Yj Wù OË W QJ G PÝW Q IRµQJkQ YP±V
OË W QJ GkQ VÕ KµQJ Q P NK{QJ ýÜL aWKíF ýñQR QQPL QJR QGImQ
\$ % & ' -

&kX 6Õ OmçQJ FèD OR¥IRQJL PñWK-QK\$QWUWKtQ&JMLÈPR ým{QJ
st s ' WURQJ ýQj VÕ OmçQJ YL NKXtQOŞ VÕFOEñDQJ «XL NK
t SK~W %LÃW VDXJ YSKNWXWQK\$ VÕ OñQKVDX FPDQ OKX NÇ W
OmçQJ YL NKX-Q \$ Oj WULÈX FRQ"
\$ SK~W% SK~W & SK~W ' SK~W

&kX 0ÝW QJmál JñL QWUQKXQJ×QJ WKHR KuQK WKÍF OmLWNpS
WKiQJ WKÍ WLÅQ OmL ýmçF WtQKF W FBRWŞKQ Q WUmßFWýQ
WKiQJ VDX ýy +ÓL VDX tW QK©W AED RkQMLU XÈW Kij QJ"QJmál
\$ WKiQJ % WKiQJ & WKiQJ ' WKiQJ

&kX ĐQJ 1DP JãWULÈX ý×QJ YjR QJkQ KJQJ WKQRPWKQCL WOkíE
PÝW Q P QD X{QJ 1DP U~W WRjQ EÝ VÕ WLÅQ GmßQK Q O
QK©W ýÇ VÕ WLÅQ OmLWQKLEQ ýmçF QJLŞ KñQOmL VX©W KJQJ
\$ % & ' -

&kX
&KR NKÕL FKYS WÍ JLiF ýÅX FQKF EQQ J©SEKIDJ O«Q F&Q NKÝÖ
FKYS WÍ JLiF $\sqrt{a}$ FKR $\sqrt{a}$ % $\sqrt{a}$ & ' $\sqrt{a}$

&kX 7tQK WKÇèWtñKÕL O±S SKmkQJ \$%&' $\sqrt{a}$ % $\sqrt{a}$ ' $\sqrt{a}$ ELÃW \$&'
 $\sqrt{a}$ $\sqrt{a}$ $\sqrt{a}$ & $\sqrt{a}$ % $\sqrt{a}$ -a

&kX &KR NKÕL F©DyF ýil Oj KuQKa, SXAQBCD ¥QJ W¥R YßL P»W Sñ
SAB PÝW JyF7tQK WKÇèWtñKÕL FKYS ým FKR

\$ $\sqrt{a}$ $\sqrt{a}$ $\sqrt{a}$ & $\sqrt{a}$ '
&kX &KR KuQK F©DyF JyF SABCD Oj KuQK YX{QJ JyF Yß
P»W SK·Q $\sqrt{a}$ ý7tQK WKÇèWtñKÕL SABEDyS

\$ $\sqrt{a}$ $\sqrt{a}$ $\sqrt{a}$ & $\sqrt{a}$

&kX &KR WABCDÈQ FiF AB¥QK AD ý{L PÝW YX{QJ JyF Yß QaKYDX
AD a *ñMLNP WmkQJ íQJ Oj WUXEJCJD IDŞ PñQFKFWQKQDW WíKGLÈQ

AMNP

V\$ -a

V a

V -%&

V 'a

&kX &KR KuQK FhSABCDWfYjYiF Oj KuQK YX√{QJ F7ADPKSADjFQJQSW¥L
P»W SAQ YX{QJ JyF YβL P»W SK·QJ yiSABCDĖWQWAKÇ7WQIK NK
NKR§QJhWBFyĤQ P»WSSD·QJ

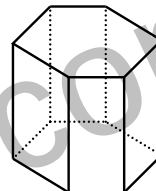
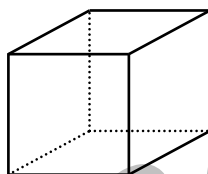
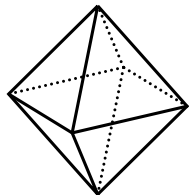
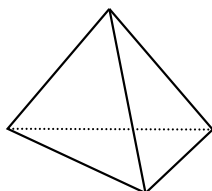
h\$ -a

%h -a

&h -a

' h -a

&kX +uQK yD GLĖQ QKRQSymMLkFykjÖL [íQJ"



\$ 7í GLĖQ yĀX yĀX% &iWuGLĖQ±S SKQJkQJé OéF JLiF yĀX
&kX +uQK yD GLĖQ WURQJ KuQK YÁ ErQ Fy EDR QKLrX P»W "

\$

%

&

'

&kX .KÖL EiW GLĖQ yĀX Oj NKÖL yD GLĖQ yĀX OR¥L

\$ ^5;3`

% ^3;5`

& ^4;3`

' ^3;4`

&kX &KR NKÖL Wí GLĖQ FyñWuQ WKĖKWEtFQJFèFy NFkFÖYíQK QĭĖFQ
yLÇP FèD FiF F¥QK FèD NKÖL^VWí GLĖQ ym FKR WtQK Wí VÖ

\$ $\frac{V}{V}$ -

% $\frac{V}{V}$ -

& $\frac{V}{V}$ % -

' $\frac{V}{V}$ & -

&kX &KR KuQKAEKfS yĤC Oj WDP JLiF YXQJJa,W¥d√2,SA 2a Yj
SA YX{QJ JyF YβLAB»W%SLĤQJ P»W SK·QJ YXQJ JyFGYĖIQ Wt
WKLĀW GLĖQYjFkWQKĖKfKyS Oj

\$ $\frac{4a^2\sqrt{10}}{25}$

% $\frac{4a^2\sqrt{3}}{15}$

& $\frac{8a^2\sqrt{10}}{25}$

' $\frac{4a^2\sqrt{6}}{15}$

&kX &KR Wí GABĖQ FyĀF¥QK FñQJ O«Q OmçW Oj WUXQAB BCLÇP Fè
E Oj yLÇP yÖB TixQJ OyβW SMNEQJFKLD NKÖBCDWWKjQKQKDL NKÖL
WURQJ yy NKÖL yD GLĖQYjFkWQKĖKfKyS Oj

\$ V $\sqrt{a}$ V $\sqrt{a}$ % V & $\sqrt{a}$ V $\sqrt{a}$

&kX &KR NKÖL O ABC ABÜÉ F BQ J a ÿABC Oj WDP JLiF BXÿQJ FkQ
AC a $\sqrt{\quad}$ 7tQK WKÇë D tñFKÖL O QJ WUé ÿm FKR
\$ V a %V a & V a ' V a

&kX 0»W SKABQÇ FKLD NKÖABCA Q Ç WKÇQK FiF NKÖL ÿD GLËQ C
\$ 0ÝW NKÖL FKyS WDP JLiF Yj PÝW ÝWKÖL KÖK ySKQ SÊWJLPFJLi
FKyS Wí JLiF
& +DL NKÖL FKyS WDP JLiF ' +DL NKÖL FKyS Wí JLiF

&kX &KR NKÖL ABQÇy\$il Oj KuQK ABKá QK ±W SAAABCD Yj PS
SBC W¥R YßL ÿq\ 7tQK WKÇë D tñFKÖL ABQÇyS

\$ V a V% $\sqrt{a}$ V&a V a

&kX ;pW NKÖLABCD FyËQK Yj FiF F¥QK FzQ $\sqrt{O¥LZ¥XÇEWQÇ}$ W
NKÖL WABCD FyQW JLi WUíxO $\sqrt{Q}$ QK©W x $\sqrt{\quad}$ x& $\sqrt{\quad}$
' x $\sqrt{\quad}$

&kX &KR WABCD FyQ WDBCD LYK{QÇ M¥ABCD AB a BC a YÇD a
7tQK EiQ FëQKP»W F«X QJABCD WLÃS Wí GLËQ
\$ R $\frac{a\sqrt{\quad}}{\quad}$ %R $\frac{a\sqrt{\quad}}{\quad}$ & R $\frac{a\sqrt{\quad}}{\quad}$ ' R $\frac{a\sqrt{\quad}}{\quad}$

&kX &KR NKÖLABQÇy\$A ABC SA AB BC YÇA 7tQK WKÇ Wt
FëD NKÖLABCK\$S %V & V '

&kX +uQK O QJ WUé WDP JLiF ÿÅX Fy EDR QKLrX P»W SK·QJ
\$ P»W SK·QJ P»W SK·QJ P»W SK·QJ P»W SK·QJ

&kX &KR NKÖLABQÇy\$il Oj KuQK XSAABQÇQK NFiAKyÅQ SBS
EµQ $\sqrt{\quad}$ 7tQK WKÇë D tñFKÖL FKyS ÿm FKR

\$ V a V a% V & $\sqrt{a}$ V a'

&kX ;pW NKÖLABQÇy\$yil Oj WDP JLiF, SXAABCfK Q KRSIQ JAFyiÅQ Wí
P»W S BQ JEµQJ L ÇŶLJyF JLóD K SABP»WBSK·QÇQK V NKL WKÇ W
NKÖL SABQ KÓ \$KRW P/RV $\sqrt{\quad}$ FRV $\sqrt{\quad}$ FR/V

&kX &KR KuQK EiW GLËQJyÅWUÉQ GLËQ WtFK W©W F\$ FiF P»W
0ËQK ÿÅ QjR Gmß\$ S yk $\sqrt{ya}$ QJ "S % $\sqrt{a}$ S& $\sqrt{a}$ S' a

&kX &KR NKÖL FKySSABCF yJ FyQK Åy\YEµQÇK EaQ 7tQÇJWKÇ Wt
FëD NKÖLABCK\$S $\sqrt{a}$ %V $\sqrt{a}$ & $\sqrt{a}$ V ' $\sqrt{a}$

&kX &KR KuQK ABQÇy\$y ÿil Oj KuQK ABKóa QK ±W SAßL a Yj
SAAABCD 7tQK E FQ FñDQ R»W F«X QJR SABCD LÃS KuQK FKyS
\$ R a R % R a& R' a

&kX &KR NKÖL O ABC ABÜÉ FyQ JABC Oj WDP JLiF AB FACQ aßL
BAC P SBC W¥R YßL ÿil PÝWQJyWKÇë D tñFKÖL O QJ WUé ÿ

$$\$ \sqrt{a} \qquad \sqrt{a} \qquad \% \sqrt{a} \qquad \& \sqrt{a} \qquad ' \sqrt{a}$$

&kX 7URQJ W©W FŞ FiF KuQK FKyS Wí NtiFKyÆxQQÝL W EÑD W
 NKÕL FKyS Fy WKŞQWtFK OßQ QK©W V & √ V √'
 &kX 7URQJ NK{QJ JLDQ ABCFKRQWADWBLYAC=a√.7tQK ýÝ GjL ýmáQ
 FëD KuQK QyQ QK±Q ýmÆE[MQU TXDQK BWDPU ÆEiF

$$\$ = a \qquad \%l = \sqrt{a} \qquad \&l = \sqrt{a} \qquad ' l = 2a$$

&kX 7i PÝW W©P W{Q KuQK FKó QKÆWQ NtFKLWKnDjP FiF WK•Q
 WUé Fy FKLÅX FDR EµQJ FP WKHFDKDLßEiFK\VDX [HP KuQ

x&iFK *z W©P W{Q EDQ ý«X WKjQK P»W [XQJ TXDQK FëD W

x&iFK &³W W©P W{Q EDQ ý«X WKjQKWK©PL ýW©PKFKQJPQWDXQ
 PÝW WK•QJ

.t KLËDj9WKÇ WtFK FëD WK•QJ Jz ýmQFQW WKHÇ WKHÇQJ FëDýKjF V
 FiFK 7tQK Wí VÕ

$$\frac{\sqrt{a}}{\sqrt{a}} - \frac{\sqrt{a}}{\sqrt{a}} \qquad \frac{\sqrt{a}}{\sqrt{a}} \qquad \% \frac{\sqrt{a}}{\sqrt{a}} \qquad ' \frac{\sqrt{a}}{\sqrt{a}}$$

&kX 7URQJ NK{QJ JLDQ ABCD FKABQK Fyó QK*ÑN O«Q OmçW Oj W
 ýLÇPAÆYDÇ 4XD\ KuQK FKó QK±WMWy [KQJ ýmXFDQKWWKéQK WU
 WRjQŞFKëQ KuQK WUé ýy

$$\$ S_s S \qquad \%Sws S \qquad \&Sws S \qquad ' Sws S$$

&kX &KR NKÕL QyQ 1 Fy EiQ NtQK ýil EµQJYj7QLKQWKQFKtF
 FëD NKÕL QyQ 1

$$\$ \sqrt{\xi} \qquad \sqrt{\xi} \qquad \% \xi \qquad \& \sqrt{\xi} \qquad ' \sqrt{\xi}$$

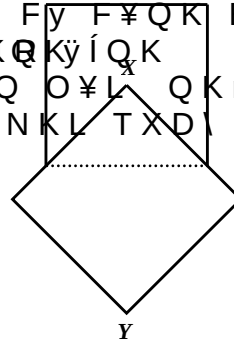
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 WKÇ WtFK 9 FëD WKÑS WUQJQWRÆ ým FKR

$$\$ \sqrt{\mathfrak{h}} \qquad \% \sqrt{\mathfrak{h}} \qquad \sqrt{\mathfrak{h}} \qquad \& \sqrt{\mathfrak{h}} \qquad ' \sqrt{\mathfrak{h}}$$

&kX &KR KuQK KÝSBDABQKFKY% D \$' D \$\$ 7DQK EiQ NtQK 5
 P»W F«X QJR¥ABWCLÃS Wí GLËQ

\$ R a R $\frac{a}{\%}$ R $\frac{a}{\%}$ & R a

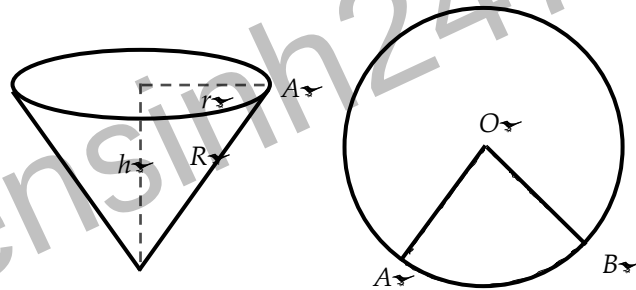
&kX &KR KDL KuQK YX{QJ F•QJ Fy F¥QK EµQJ
 ŷmçF [ÃS FK×QJ OrQ ~~QKDX~~ ~~WVW~~ KkQ KyíQK
 YX{QJ Oj WkP FèD KuQK YX{QJ FzQ O¥L QKm KuQK YÁ ErQ
 7tQK WkÇ ~~WtFK~~ WkÇ WUZQ [RD\ NKL TXD\ P{ KuQK
 WURQ [XQJ ~~WXDQK~~ WUéF



$$\begin{matrix} \$ V & \sqrt{} S \\ V & \sqrt{} S \end{matrix}$$

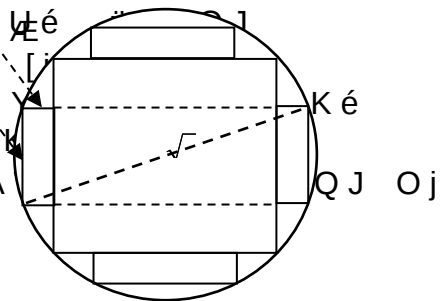
$$\begin{matrix} & \sqrt{} S \\ & \sqrt{} S \end{matrix}$$

&kX &³W EÓ KuQK ~~WVW~~ QKUSQ•QJ Fy QpW J¥FK WURQJKKWQKQ
 EiQ ~~NtQK~~ GiQ O¥L YBL QKDX ŷç ŷmçF PÝW QyQ S&ÉXQFpS¥C
 QKm NK{QJ ŷiQ JONQyF*ÁLWkP FèD TX¥W WUZQ ~~WkÇ~~ QjPQ&KÉ
 Fy WkÇ WtFK OßQ QK©W



$$\begin{matrix} x \$ \frac{2\sqrt{3}}{3} & \% x \frac{2\sqrt{6}}{3} & & x S \frac{2S}{3} & ' x S \end{matrix}$$

&kX 7ĩ PÝW NK~F JÛ WUZQ KuQK WUé
 NtQK EµQK«Q [¿ WKjQK PÝW FKLÃE [i
 WLÃW GLËQ QJDQJ Oj KuQK YX{QJ Y
 NtFK WkYmQKm KuQK YÁ xml [iF ŷiQK
 ŷç GLËQ WtFK Vñ GéQJ WKHR WLÃ
 OßQ QK©W"



$$\begin{matrix} \$ x \sqrt{} & \% x & & x \sqrt{} & ' x \sqrt{} \end{matrix}$$

&kX &KR KDL P»W SK•QJ 3 Yj 4 VRQJ ~~F•QJ~~ ~~WVW~~ L2 QKQXNQKF
 WKjQK KDL ŷmáQJ WUZQ Fy F•QJ EiQJNYQK WpW FèDQ RÝQyQVß
 WUZQ Yj ŷil WU•QJ YBL ŷmáQJ WUZQ FzQj O4LŷçtQKËQKW&KQ
 KuQK QyQ ŷy Oj OßQ QK©W

$$\begin{matrix} \$ R & \% R\sqrt{} & & R\sqrt{} & ' \sqrt{} \end{matrix}$$