75Ià1* 7+37 7+¤&+ 7+¬1+ ,　　Ä 7+, 0Ð1 72È1 .+Ô,
1 P KÑF
Thời gian làm bài: 90 phút.

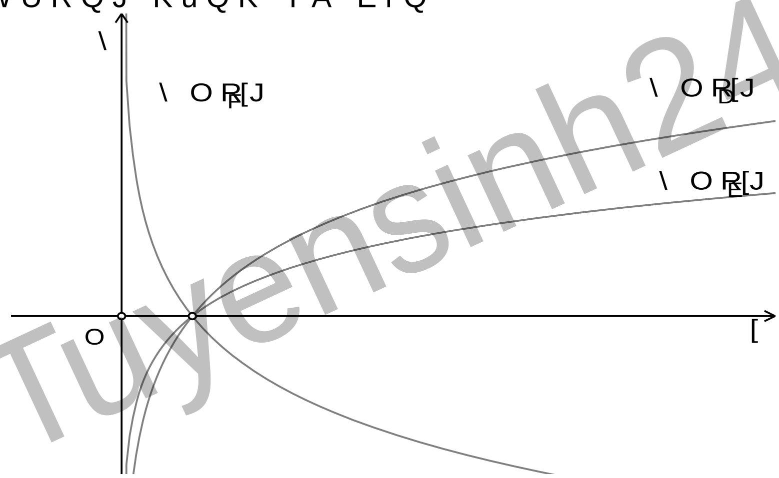
0m ÿÅ WKL

&kX *L§L SKmkQJWUuQK ORJ
$ x　%x　&x　' x

&kX 7±S QJKLËP 6 FëD EÂW SKmkQJ WUuQK
$ S ?^ f　%S f　&S f　' 5?^

&kX 7URQJ NK{QJ JLDQ YíL KÉ WñD ÿÝ 2[\] FKR P×W SK·QJ 9HFWk
QjR VDX ÿk\ Oj YHFWk SKiS WX\ÃQ FëD P»W SK·QJ 3
JG　JG　JG　JG
$ n　%n　&n　' n

&kX &KR ED VÕ WKõFG FNKiFkQJ × WKÏ KjP VÕ x ORJ x ÿmçF FKR
WURQJ KuQK YÁ ErQ



0ËQK ÿÅ QjR VDX ÿk\ ÿ~QJ"
$c b a　%a c b　&c a b　' b c a

&kX ÐQJ $Q Gõ ÿÏQK JñL YjR QJkQ KjQJ PÝW VÕ WLÅQ WUßLµQ jnL
Q P VÕ WLÅQ OmL VÁ ÿmçF QK±S YjR YÕQ [EDQ ÿÉX {Q ÿÏQK VÕ WLW
YjR QJkQ KjQJ ÿÇ VDX Q P VÕ WLÅQ OmL ÿLiPXDWPÝWFKLÃF [H
$ WULËX ÿ×QJ　% WULËX ÿ×QJ　& WULËX ÿ×QJ　' WULËX ÿ×QJ

&kX 9ßL FiF VÕ WKõF G©Wm×QJ 0ËQK ÿÅ QjR GmßL ÿk\ ÿ~QJ"
$ ORJ a§/b© ORJ a ORJ b　% ORJ ab ORJ a ORJ b
& ORJ a§/b© ORJ a ORJ b　' ORJ ab ORJ a ORJ b ORJ

&kX &KR FiF VÕ SKźF iz iz i *ÑL $ % & ' O«Q OmçW Oj
GLÉQ FëD z +ÓL Wí JLiF $%&' Oj KuQK Ju "
$ +uQK FKó QK±W　% +uQK WKDQJ　& +uQK YX{QJ　' +uQK EuQK KjQK

&kX &KR KjP VÕ x x .K·QJ ÿÏQK QjR GmßL ÿk\ ÿ~QJ"
$ &õF WLÇX FëD KjP VÕ EµQJ　% &õF WLÇX FëD KjP VÕ EµQJ
& &õF WLÇX FëD KjP VÕ EµQJ　' &õF WLÇX FëD KjP VÕ EµQJ

&kX 7XQJ ÿÝ JLDR ÿLÇP FëD FixF ÿy× xWKÏx KjP µQÕ

$ –   %   & $\sqrt{\ }$ '

&kX &KR ELÇPX $\sqrt{W K\acute{x}\sqrt{Fx}}$ YßL [! 0ËQK ÿÅ QjR Gmß L ÿk\ ÿ~QJ "

$ P x   % P x   & P x   ' P x

&kX 7URQJ NK{QJ JLDQ $Oxyz$ FKR ÿLÇP $A(1;3;2)$ Yj P»W SK·QJ

$(P): 2x-5y+4z-36=0$ 7ÑD ÿÝ KuQK FKLÃX FxD A WUrQ (P) Oj yF

$ $H(-1;-2;6)$ % $H(1;-2;6)$ & $H(1;-2;-6)$ ' $H(1;2;6)$

&kX 7tQK ÿ¥R KjP FëD KjP VÕ $y = e^{\sqrt{x}}$

$ $y = \frac{\sqrt{x}\ e^{\sqrt{x}}}{e^{\sqrt{x}}}$ % $y = \frac{\sqrt{x}\ e^{\sqrt{x}}}{e^{\sqrt{x}}}$

& $y = \frac{e^{\sqrt{x}}}{\sqrt{x}\ \ e^{\sqrt{x}}}$ ' $y = \frac{e^{\sqrt{x}}}{\sqrt{x}\ \ e^{\sqrt{x}}}$

&kX 7KLÃW GLËQ TXD WUéF FëD PÝW KuQK FyQ Oj PÝW WDP JLiF µQJ
WtFK [XQJ TXDQK FëD KuQK QyQ Oj

$ $2\pi a^2$ % $\frac{\pi a^2\sqrt{2}}{2}$ & $\frac{\pi a^2\sqrt{2}}{3}$ ' $\frac{\pi a^2\sqrt{2}}{4}$

&kX 0ÝW Y±W FKX\ÇQ ÿÝQJ FKtQK WKHR SK·N\ WX±Q WK\ Oj NKR§QJ WKáL
Y±W E³W ÿ«X FKX\ÇQ ÿÝQJ Yj V PpW Qj NKR§QJ ÿ¥KQL ÿ±Q ÿLYÿ
NKR§QJ WKáL JLDQ JLk\ NÇ Wï O~F ßE³W ÿ«X FKX\ÇQ ÿÝQJ ÿm
QKLrX "

$ P V   % P V   & P V   ' P V

&kX &KR KjP VÕ x x 0ËQK ÿÅ QjR Gmß L ÿk\ ÿ~QJ "

$ +jP VÕ QJKÏFK ELÃQ WUrQ NKR§QJ   % +jP VÕ ÿ×QJ ELÃQ WUrQ NKR§QJ

& +jP VÕ QJKÏFK ELÃQ WUrQ NKR§QJ   ' +jP VÕ QJKÏFK ELÃQ WUrQ NKR§QJ

&kX &KR VÕ SKíF z WKR§ Pm7uP SK«Q WKõF Yj SK«Q §R FëD]

$ 3K«Q WKõF EµQJ SK«Q §R EµQJ   % 3K«Q WKõF EµQJ SK«Q §R EµQJ
& 3K«Q WKõF EµQJ i SK«Q §R EµQJ   ' 3K«Q WKõF EµQJ i SK«Q §R EµQJ

&kX &KR VÕ SKíF]5D WKR§ PmQ z i 7tQK 3 D E

$ P   % P –   & P   ' P –

&kX 7uP QJX\rQ KjP FëD KjP VÕ f x

$ $\int f(x)\,dx = \frac{x}{\ln} + C$ % $\int f(x)\,dx = \frac{x}{\ln} + C$

& $\int f(x)\,dx = \frac{x}{\ln} + C$ ' $\int f(x)\,dx = \frac{x}{\ln} + C$

&kX +uQK O QJ WUé Fy WKÇ Fy VÕ F¥QK Oj VÕ QjR VDX ÿk\ "

$ %   &   '

&kX 7URQJ NK{QJ JLDQ YßL mkËDWR¥yÝz 2[\] IFKR 9LÃW SKmkQ
WUuQK P»W F«X WkP , Yj WDÃS [~F YßL P»W SK·QJ

$ x y z — %x y z

& x y z ' x y z —

&kX &KR KjP VÕ [iF ÿÏQK WLQ OLrQ WéF WUrQ PÛL NKR§QJ [
ELÃQ WKLrQ VDX

+ÓL NK·QJ ÿÏQK QjR GmßVDÝk\ Oj NK·QJ ÿÏQK
$ × WKÏ KjP VÕ Fy KDL WLËP F±Q=QJDYQ=Oj FiF ÿmáQJ WK·QJ
%+jP VÕ ÿ¥W FõF¥WUÏ W¥L ÿLÇP
& × WKÏ KjP VÕ F¥QKDíLQWLDËPFiF ÿmáQJWK·QJ
' +jP VÕ NK{QJ Fy ÿ¥R=KjP W¥L ÿLÇP

&kX máQJ WK·QJ QjR GmßL ÿk\ Oj WLËP F±Q"QJDQJ FëD ÿ× WK
$ x %y & y ' x

&kX 7URQJ NK{QJ JLDQ YßL KË WRB¥ ÿÝ 2[\] FKR 3KmkQJ WUu
P»W SK·QJ TXD $ Yj YX{QJ JyF YßL ÿmáQJ WK·QJ %& Oj
$ x y z %x y z & x y z ' x y z

&kX *Ñz Oj FiF QJKLËP SKíF zëDzSKmkQJ WUWQJ ÿyk
Fy SK«Q §R GmkQJ 7uP VÕ SKíFzOLrQ KçS FëD VÕ SKíF
$ i % i & i ' i

&kX 7URQJ NK{QJ JLDQ YßL KË WP¥ÝÝ 2[\]z [pW YPj»WmSKQJQWK·Q

-x
d ®y t t R • 7uP W©W F§ FiF JLi WUÏ WKõFQJFëDRQWKYDP PV
¯z t

SK·QJ 3
$ 0ÑL P %m & m ' mz

&kX &KR KjP VÕx OLrQ WéF aWDrQ*ÑDR@QJ KuQK SK·QJ JLßL K¥Q
C y f x WUéF KRjQK QKJD[LDým[áEJQWKKm KuQK YÁ

*L§ VñOó GLËQ WtFK ÐëÞ KÌQK ÕQK{ SK·QJ íF ÿ~QJ WURQJ FiF SKm
GmßL ÿk\"

$ S f x dx 3 f x dx (a, b) 3 % S f x dx 3 f x dx (a, b) 3

& S f x dx 3 f x dx (a, b) 3 ' S f x dx 3 f x dx (a, b) 3

&kX 6Õ OmçQJ FëD OR¥L YL NKX-Q $ WURQJ FKÝHW ÿ~QJ
WURQJ ÿy V Oj VÕ OmçQJ YL NKX-Q ÿ«X VDX
WKu VÕ OmçQJ YL NKX-Q $ Oj QïJ Ku´F ERQ ÿ«ÓL VÕ OmçQJ
WULËX FRQ "

$ SK~W % SK~W & SK~W ' SK~W

&kX &KR KuQK FKyS 6 $%& ÿÃX Wï $ Ojj 6% & Oj

$ a % a & a ' a

&kX &KR KuQK KÝS FK % &' $% D' $' Oj 7$QK ERQFKDQ K»W
F«X QJR¥L WLÃS Wí GLËQ $&%

$ R a % R a & R a ' R a

&kX &KR VÕ SKíF PiQ z i 0ËQK ÿÅ QjR VDX ÿk\ ÿ~QJ "

$ |z| % |z| & |z| ' |z|

&kX &KR O QJ WUé ÿíQJ %¶' &¶ FyiF $ % & $¶ Oj QJD¥L a %
a JyF JLóD KDL P»W SK·QJ $¶%& Oj Ku QKÕL O QJ WU

$ a % a & a ' a

&kX Ç WtQK WtFK SKkQ 0ÝW KÑF VLQK OjP QKm VDX

%mßF x VLQ dx ÿt R V

%mßF I 9 x dx 3 t tdt 3 V L Q

%mßF I'R ÿy FR V tdt

%mßF I'R ÿy FdtR V t t§ . V

/áL JL§L WUrQ ÿ~QJ KD\ VDL QÃX VDL WKu VDL Wï EmßF P©\"
$ %mßF % %mßF & %mßF ' /áL JL§L ÿ~QJ

&kX &KR Wí GLËQ $%&' ÿÅX NKRQJ ÃF FiF P»W SK·QJ 7tQK WKÇ
V Wí GLËQ $%&' ÿÅX

$ V % V & V ' V

&kX % LÃW dx/(x x) aOQb OQ YßL D E Oj FiF VÕ QJX\rQ 7tQK 6

$ S　　%S　　& S　　' S

&kX &KzRz Oj KDL VÕ SKíF WKÓDz Pm Qiz SKm%kzÕ W WUuQtK JLi WUÏ
E L Ç X PW Kz íFz

$ P $\sqrt{\ }$　　%P $\frac{\sqrt{\ }}{\ }$　　& P $\sqrt{\ }$　　' P $\frac{\sqrt{\ }}{\ }$

&kX &KR KjP Yõ [iF ÿÏQK ^WUrQ LrQ WéF WUrQ PÛL NKR§QJ [iF
WKLrQ QKm VDX

7uP W±S KçS W©W F§ FiF JLi WUÏ FeD WKm Fy ÿ~ PJ VDR FKRJ
WKõF"

$ > 　　% > f　　& f　　' f

&kX ;pW FiF VÕ WKõF D E WKR§ PmQ DL! ED EL ÇX JLi WUÏ QKÓ Q

$P \quad log^2_{\frac{a}{b}} a^2 \quad 3log_b \frac{a§}{b©}$.

$ P_{min} 13　　% P_{min} 14　　& P_{min} 15　　' P_{min} 19

&kX &KR KjP $\frac{ax \ \ b}{cx \ \ d}$ VÕ Fy ÿ× WKÏ QKm KuQK YÁ
.K·QJ ÿÏQK QjR VDX ÿk\ Oj NK·QJ ÿÏQK ÿ~QJ"

$ $\frac{ad\ !}{bc}$ ®　　% $\frac{ad}{bc\ !}$ ®

& $\frac{ad\ !}{bc\ !}$ ®　　' $\frac{ad}{bc}$ ®

&kX +Ñ QJX\rQ KjP FeD KjP VÕ FRV x x x

$ F x — — FCR x　% F x — — VCL x　& F x — — VCL x　' F x — — FCR V x

&kX &KR KuQK S.ABCD Fy ÿi\ ABCD Oj KuQK WKRL $a\sqrt{3}$ F¥QK E µQJ +DL
P»W (SAB) Y (SAD) F•QJ YX{QJ JyF YßL ÿi\ (ABCD). *yF JLÕD (SBC) Yj (ABCD) E µQJ
7tQK NKR§QJ FiFK h W× A ÿÃQ P»W (SBC)

$ $h \quad a\sqrt{3}.$　　% $h \quad 2a\sqrt{2}.$　　& $h \quad \frac{2a\sqrt{2}}{3}.$　　' $h \quad \frac{3a\sqrt{2}}{2}.$

&kX 1JmáL WD GõQJ WUrQ P»W ÿ©W E µQJ WKp P EÿKL ÃFX QKÅ X F
FKLÅX GjL Oj P Yj FKLÅX UÝQJ Oj P ¥E µQJ FiFK FR ¥Q SKõ L W©PE
FKLÅX UÝQJ FëD W©P E¥W VDR FKR KDL P pW FKLÅX GjL FeD WKDQK
YÁ 7uP NKR§QJ NK{QJ JLDQ SKtD WURQJ OÅX Oj OßQ QK©W"

$ x   % x   & x √   ' x √

&kX 7uP W©W F§ FiF JLi WUÏ FëD WKyDP VÕ WKõFy FED Çÿ mÿ á QWJKW $y = \frac{x}{x\sqrt{mx}}$
F±Q
$ m !   % m   & m z   ' m !

&kX 7uP W±S KçS W©W F§ FiF JLi WUÏ y FëD WKDm VÕ ×QK õEFLÃ Qÿ
WUrQ NKfR $ QJ

$ > f   % f   & > f   ' f

&kX %LMÃ W N Oj FiF ÿLÇP FõF WUÏy Fa Db ÿ× WK7Ït QK P \VÕ $\frac{c}{x}$

$ y —   % y —   & y —   ' y —

&kX .t KL ËX V_1, V_2 O«Q OmçW Oj WKÇ WtFK KuQK F«X ÿkYQj WÏ K QtK F
WUzQ [RD\ VLQK UD NKL TXD\ KuQK S $y = 2x + 2$ L ßYLj ÿ ¥ mQ ã LFRÿQ
$y = 2\sqrt{1 - x^2}$ [XQJ TXD Ox .K +WU éV R V_1, V_2 QK

$ $V_1 > V_2$.   % $V_1 < V_2$.   & $V_1 = V_2$.   ' $V_1 = 2V_2$.

&kX &KR KuQK WUé Fy WKLÃW GLËQ TX DY LWE Uµ é JOj PÝW QK KuQK KÇ FW
FëD NKÕL WUé ÿm FKR

$ $\frac{S}{}$ % $\frac{S}{}$ & $\frac{S}{}$ ' $\frac{S}{}$

&kX 7URQJ NK{QJ JLDQ YßL KË WRÄ¥ ÿÝ 2 [\] FKR ÿkmLQ ÿLÇP ·Q
$\frac{x}{}, \frac{y}{}, \frac{z}{}$ *ÑL 0 Oj JLDR ÿLÇP FëD ÿmáQJ'WK tQK $ WÍ VÕ ÿmáQJ $\frac{AM}{MB}$

$ $\frac{AM}{MB}$ % $\frac{AM}{MB}$ –   & $\frac{AM}{MB}$ ' $\frac{AM}{MB}$ –

&kX *L§FVxñ Oj PÝW QJX\rQ KjP xFëD WjUrQ VÕ NKRf§ QYJ $\frac{e^x}{x}$ 3 $\frac{e^x}{x}dx$
0ËQK ÿÅ QjR Gmß L ÿk\ ÿ~QJ "

$ I F F   % I F F   & I F F   ' I F F

&kX 7uP W±S KçS W©W F§ FiF JLi uWQÏ Fmë mWKDyP VÕ
QJKLËP WKXÝF NKR§QJ

$ % >   & >   '

&kX 7URQJ NK{QJ JLD $Oxyz$ YßE KKRË EWDÑ ÿLÇP $ % P & Q
VÕ WKõF GmkQJ WKÓD PmQ P Q 7K PYi WFUXÏ QJKRÓ LQ KWLÃ SFWD

$ √   % √   & √   ' √

+Â 7

Thei gian làm bài: 90 phút.

0mã

&z &FiFVÕK z $i z$ $i z$ $i z$ i ... iFçK

ÛD z z z z ...

$ ... % ... & ... ' ...

&z ... PÝVDRÛ

QVÕ ... $x\cdot N$ ...

... Pi...

$ ... % ... & ... ' ...

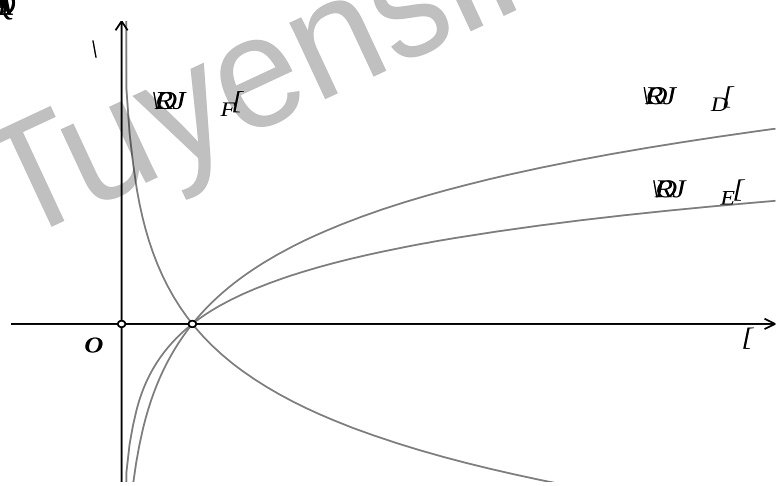
&z ... $mp\ D$ x y z I 9...

... D ...

$ x y z % x y z

& x y z ' x y z

&z ... $a\ b\ c$ ... $y = \log_a x$, $y = \log_b x$, $y = \log_c x$ ...



$ $c\ b\ a$ % $b\ c\ a$ & $c\ a\ b$ ' $a\ c\ b$

&z ... $Q\ x\ Q$ x ...

$ S f % S f & S ? ^ `$f$ ' ^ `

&z ... P x y z 9...

...

$ $\vec{n}$ % $\vec{n}$ & $\vec{n}$ ' $\vec{n}$

&z ... y x x x ...

$ ... % ... f

& ... f ' ...

$y \quad x \quad y \quad x \quad x$

$\$ \; - \qquad \% \qquad \& \; \sqrt{} \qquad '$

$P \quad \sqrt{x\sqrt{x\sqrt{x}}}$

$\$ \; P \quad x^{-} \qquad \% \; P \quad x^{-} \qquad \& \; P \quad x^{-} \qquad ' \; P \quad x^{-}$

$y \quad \frac{x}{x}$ "

$\$ \; x \qquad \% \; y \qquad \& \; y \qquad ' \; x$

$i\,z \quad \overline{z} \quad i$

$\$ \; P \quad - \qquad \% \; P \qquad \& \; P \quad - \qquad ' \; P$

$\$ \qquad \% \qquad \& \qquad '$

$y \quad -x \quad -x$

$\$$ % &

$'$ —

$y = f\left(x\right) \qquad \mathbb{R} \setminus \left\{-1;1\right\}$

$\mathbb{R}$

$y = -2 \qquad y = 2$

$x = 0$

$x = -1 \qquad x = 1$

$x = 0$

$<$ $a \; b$

$\$ \; ab \quad a \quad b$

$\% \; ab \quad ab \quad b$

$\& \; \frac{a}{b} \; {}_{b}\, a$

$' \; \frac{a}{b} \quad a \quad b$

$f \; x \quad {}^{x}$

$\$ \; \int f \; x \; dx \quad \frac{{}^{x}}{} \quad C$

$\% \; \int f \; x \; dx \quad \frac{{}^{x}}{} \quad C$

$\& \; \int f \; x \; dx \quad \frac{{}^{x}}{} \quad C$

$' \; \int f \; x \; dx \quad \frac{{}^{x}}{} \quad C$

$Oxyz \qquad P \qquad A\left(-1;3;2\right)$

$\left(P\right): 2x - 5y + 4z - 36 = 0$

$H \qquad A \qquad \left(P\right) \; O$

$H\left(-1;-2;6\right)$ $H\left(1;2;6\right)$ $H\left(1;-2;-6\right)$ $H\left(1;-2;6\right)$

$y = e^{\sqrt{x}} +$

$\$$ $y = \dfrac{e^{\sqrt{x}}}{\sqrt{x}\ e^{\sqrt{x}}}$ $\%$ $y = \dfrac{\sqrt{x}\ e^{\sqrt{x}}}{e^{\sqrt{x}}}$

$\&$ $y = \dfrac{e^{\sqrt{x}}}{\sqrt{x}\ e^{\sqrt{x}}}$ $'$ $y = \dfrac{\sqrt{x}\ e^{\sqrt{x}}}{e^{\sqrt{x}}}$

[illegible] $\sqrt{x}$ x

$\$$ x $\%$ x $\&$ x $'$ x

[illegible] $P = mx + y + z$ [illegible]

$\begin{cases} x \\ y = t \\ z = t \end{cases}$ [illegible]

[illegible]

$\$$ [illegible] $\%$ m $\&$ m z $'$ m

[illegible] A B C [illegible]

[illegible]

$\$$ x y z $\%$ x y z $\&$ x y z $'$ x y z

[illegible] z $\bar{z}$ [illegible]

$\$$ [illegible] i $\%$ [illegible]

$\&$ [illegible] $'$ [illegible] i

[illegible] z z [illegible] z

[illegible] z z

$\$$ i $\%$ i $\&$ i $'$ i

[illegible] $y = f(x)$ [illegible] a [illegible]

C $y = f(x)$ [illegible]

[illegible] [illegible]

[illegible]

$\$$ $S = \int_a^b f(x)\,dx = \int_a^b f(x)\,dx$ $\%$ $S = \int_a^b f(x)\,dx = \int_a^b f(x)\,dx$

$\&$ $S = \int_a^b f(x)\,dx = \int_a^b f(x)\,dx$ $'$ $S = \int_a^b f(x)\,dx = \int_a^b f(x)\,dx$

[illegible]

$\frac{Sa^2\sqrt{2}}{4}$ $\frac{Sa^2\sqrt{2}}{3}$ $2Sa^2$ $\frac{Sa^2\sqrt{2}}{2}$

$0\backslash\backslash$ $s \quad -t \quad t$

$\$$ PV $\%$ PV $\&$ PV $'$ PV

$\$$ x $\%$ x $\&$ $x \quad \sqrt{}$ $'$ $x \quad \sqrt{}$

$V_1,\ V_2$ OOOy

z V $y = -2x + 2$

$y = 2\sqrt{1-x^2}$ Ox. VV $V_1,\ V_2$.

$V_1 > V_2$. $V_1 < V_2$. $V_1 = V_2$. $V_1 = 2V_2$.

$<$ $SA\ A\ (ABC)$ $'$ ABC $SB \quad a\sqrt{}$ $SC \quad a\sqrt{}$

a .

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

w

$\$$ SW $\%$ SW $\&$ SW $'$ SW

$I \quad 3\sqrt{\quad x}\ dx\ 0$

%FW x VQt dx FRY tdt

%F9± $I \quad \sqrt{\quad x}\ dx \quad 3\sqrt{\quad t} \quad tdt \quad 3 \quad V \quad L \quad Q$

s

%F Ry $I \quad 3FRVtdt$

s

%F Ry $I \quad -3 \quad F\ t \quad t \quad V \ -\ t \quad \frac{ts}{\quad}\Big|_{s} \quad S \quad . \quad V$

s

©

1

$P = \log^2_{\frac{a}{b}} a^2 + 3\log_b \frac{a}{b}$

A. $P_{min} = 4$ B. $P_{min} = 9$ C. $P_{min} = 3$ D. $P_{min} = 5$

$F(x)$ ... $f(x) = \frac{e^x}{x}$ ... $I = \int 3\frac{e^x}{x}dx$

$ I F F % I F F & I F F ' I F F

... a% ... $a\sqrt{\ }$ ...

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

... $f(x)$ ... $\frac{}{x}$ ... $\frac{}{x}$ ... $\frac{}{x}$

$ $F(x)$ ... $\frac{}{x}$ % $F(x)$ ... $\frac{}{x}$ & $F(x)$ ... $\frac{}{x}$ ' $F(x)$ ... $\frac{}{x}$

... $y = \frac{x}{x - \sqrt{mx}}$ ...

$ m ! % m & m ' m !

... $y = \frac{ax + b}{cx + d}$ ...

$ ad ! bc % ad bc ! & ad ! bc ! ' ad bc

... z z ... $|z - i|$ ... $|z - z|$ ... $P = |z - z|$

$ $P = \sqrt{\ }$ % $P = \frac{\sqrt{\ }}{}$ & $P = \sqrt{\ }$ ' $P = \frac{\sqrt{\ }}{}$

... $y = f(x)$ ... R ...

... $f(x) = m$ ...

$ > f % f & > ' f

Oxyz PPPO

VPPP *P*

y *S ABCD* *ABCD* $2a\sqrt{3}$ *BAD* *(SAB)* *(SAD)* *(SBC)* *(SBC)* *(ABCD)* *h* *(SBC)*

$ $h = 2a\sqrt{2}$. $ $h = \frac{2a\sqrt{2}}{3}$. $ $h = a\sqrt{3}$. $ $h = \frac{3a\sqrt{2}}{2}$.

M *N* *y* $ax + b - \frac{c}{x}$

$ *y* — % *y* — & *y* — ' *y* —

$I = \int \left(\frac{3}{x} - \frac{}{x}\right) dx$ *a* *b* *c*

$ *S* % *S* & *S* ' *S*

A *B*

x *y* *z* ' $\frac{AM}{MB}$

$ $\frac{AM}{MB}$ % $\frac{AM}{MB}$ – & $\frac{AM}{MB}$ – ' $\frac{AM}{MB}$

x *m* *x* *m* *Fy*

$ % > (& ' > (

ABCD *A* *BCD*

V *ABCD*

$ $V = \frac{\sqrt{}}{}$ % $V = \sqrt{}$ & $V = \frac{\sqrt{}}{}$ ' $V = \sqrt{}$

z *i* $|z| - \frac{}{z}$ *i*

$ $|z| = \sqrt{}$ % $|z|$ & $|z|$ ' $|z|$

R

$ $R = \frac{a\sqrt{}}{}$ % $R = \frac{a\sqrt{}}{}$ & $R = \frac{a\sqrt{}}{}$ ' $R = \frac{a\sqrt{}}{}$

y *x* *mx*

f *f*

$ > *f* % *f* & > (' *f* (

Thei gian làm bài: 90 phút.

0m

y f x a b C y f x

D.

$\$$ $\int_a^b f(x)\,dx = \int_a^b f(x)\,dx$ $\%$ $\int_a^b f(x)\,dx = \int_a^b f(x)\,dx$

$\&$ $\int_a^b f(x)\,dx = \int_a^b f(x)\,dx$ $'$ $\int_a^b f(x)\,dx = \int_a^b f(x)\,dx$

$y = f(x)$ $\mathbb{R} \setminus \{-1;1\}$

$\mathbb{R}$

$y = -2$ $y = 2$

$x = 0$

$x = -1$ $x = 1$

$x = 0$

$<$ *y x x x 0*

$\$$ $\%$

$\&$ $'$

f x ^{x}

$\$$ $\int f(x)\,dx = \frac{^x}{Q} + C$ $\%$ $\int f(x)\,dx = \frac{^x}{Q} + C$

$3f\ x\ dx = \frac{x}{} + C$ ' $3f\ x\ dx = \frac{x}{Q} + C$

$s = -t \quad t$

$\$\ PV \quad \%\ PV \quad \&\ PV \quad '\ PV$

$mp\ D\ x\ y\ z \quad I$

$D\ D$

$\$\ x\ y\ z\ —$ $\%\ x\ y\ z$

$\&\ x\ y\ z$ ' $x\ y\ z\ —$

$P\ \sqrt{x\ \sqrt{x\sqrt{x}}}$

$\$\ P\ x^{-}$ $\%\ P\ x^{-}$ $\&\ P\ x^{-}$ ' $P\ x^{-}$

$Q\ x\ Q\ x\ D$

$\$\ S\ ?\ \wedge\ `f$ $\%\ S\ f$ $\&\ 3\ \wedge\ `$ ' $S\ f$

$P\ x\ y\ z$

$\$\ n$ $\%\ n$ $\&\ n$ ' n

$Oxyz \quad P \quad A(-1;3;2)$

$(P): 2x - 5y + 4z - 36 = 0$ $H\ A\ (P)\ O$

$H(-1;-2;6) \quad H(1;2;6) \quad H(1;-2;-6) \quad H(1;-2;6)$

$< \quad z \quad i\ z = \quad i\ z \quad = \quad i\ z \quad = i$

$z\ z\ z\ z$

$\$$ $\%$ $\&$ ' $A \quad B \quad C$

$\$\ x\ y\ z$ $\%\ x\ y\ z$ $\&\ x\ y\ z$ '$\ x\ y\ z$

$P\ mx\ y\ z$

$d\ \begin{matrix} x \\ y \\ z \end{matrix}\ t$

$\$\ 0$ $\%\ m$ $\&\ m$ '$\ m\ z$

$a\ b$

$\$$ ab $a\ b$ $\%$ ab b

$\&$ $\frac{a}{b}$ $_{b}\ a$ ' $\frac{a}{b}$ $a\ b$

$\$$ $\%$ $\&$ '

$ x % x & x ' x

y = e^√x

$ y = e^√x / (√x · e^√x) % y = (√x · e^√x) / e^√x

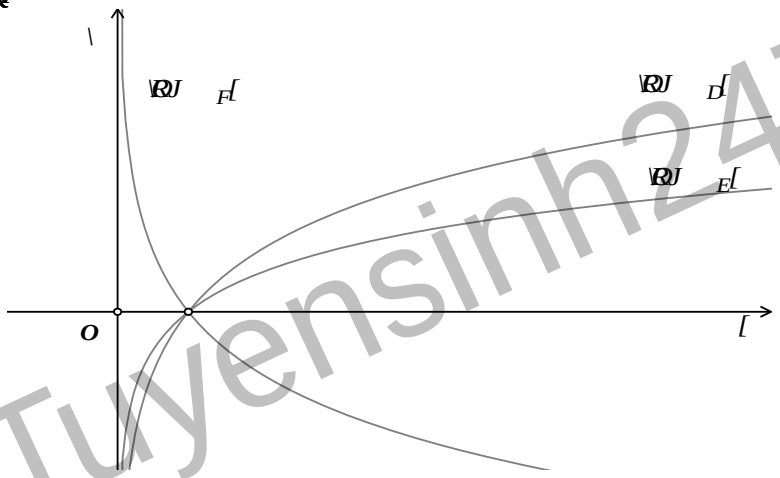
& y = e^√x / (√x · e^√x) ' y = (√x · e^√x) / e^√x

z z̄ i

$ % i

& i ' i

a b c



$ a c b % c b a & b c a ' c a b

y = −x − x

y = x/x

$ y % x & y ' x

z z z z z

z z

$ i % i & i ' i

x •

$\frac{\pi a^2\sqrt{2}}{4}$ $\frac{\pi a^2\sqrt{2}}{3}$ $2\pi a^2$ $\frac{\pi a^2\sqrt{2}}{2}$

5 i z $\bar{z}$ i tQE

$ P % P – & P – ' P

Kz jQRQFDFiFjWÕ y x y x x pQ

$ – % & $\sqrt{\ }$ '

Kz uWKQ I 3$\sqrt{\ }$ x dx 0ÑWjQVDX

%FW x VQt dx FRV tdt

%F9± I $\sqrt{\ }$ x dx 3 $\sqrt{\ }$ t tdt 3 V L Q

%FRÿ I 3FRVtdt

%FRÿ I –3 F t Rt V – t §|© π · V

jVDQDKDWP©

$ jQ % %F & %F ' %F

Kz W I 3 dx aQ Qb c KHiFVQ a b c

$ S % S & S ' S

Kz RQS $S.ABCD$ Fy $ABCD$ QEQ $2a\sqrt{3}$ BAD D
P (SAB) y (SAD) FQFjFDPSQ (SBC) y (ABCD) Q
tQRQiFK h A jSQ (SBC)

$ $h = a\sqrt{3}.$ $h = 2a\sqrt{2}.$ $h = \frac{3a\sqrt{2}}{2}.$ $h = \frac{2a\sqrt{2}}{3}.$

z QVKPmQKW $|z \; i|$ $|iz|$ W $|z \; z|$ uD
W P $|z \; z|$

$ P $\sqrt{\ }$ % P $\sqrt{\ }$ & P $\sqrt{\ }$ ' P $\sqrt{\ }$

Kz KQ $ABCD$ WRQiFW A jSQ BCD FWK
V W $ABCD$

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

Kz KQP1FyjP1FY W a %
$a\sqrt{\ }$ yFDKPSQ tKQ

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

$V_1,\ V_2$ OOOy

z V $y = -2x + 2$

$y = 2\sqrt{1-x^2}$ Ox. VV $V_1,\ V_2$.

$V_1 = V_2$. $V_1 < V_2$. $V_1 = 2V_2$. $V_1 > V_2$.

< $y \quad \frac{x}{x\ \sqrt{mx}}$ FyÐ

FQ

$ m ! % m z & m ' m !

$y \quad \frac{ax \quad b}{cx \quad d}$ Fy

.

$ $\frac{-ad\ !}{bc}$ % $\frac{-ad}{bc\ !}$

& $\frac{-ad\ !}{bc\ !}$ ' $\frac{-ad}{bc}$

pW

PQ

$P \quad log_{\frac{a}{b}}^{2} a^2 \quad 3 log_b \frac{a}{b}$.

P_{min} 3 P_{min} 4 P_{min} 5 P_{min} 9

$\frac{}{}$ $\frac{}{}$ $\frac{}{}$ $\frac{}{}$

A B

$\frac{x}{} \quad \frac{y}{} \quad \frac{z}{}$ ' $\frac{AM}{MB}$

$ $\frac{AM}{MB}$ % $\frac{AM}{MB}$ – & $\frac{AM}{MB}$ – ' $\frac{AM}{MB}$

Oxyz PPPO

VPPP P

$\sqrt{\ }$ $\sqrt{\ }$ $\sqrt{\ }$ $\sqrt{\ }$

PPV $f\ x \quad \frac{}{x} V \frac{}{x} V \frac{}{x} Ð$

$ F x – V LQC % F x – F RCV & F x – V LQC ' F x – F RCV

$\frac{}{x}$ $\frac{}{x}$ $\frac{}{x}$ $\frac{}{x}$

M N $y \quad ax \quad b \quad \frac{c}{x}$ t

$ y — % y — & y — ' y —

z i $|z| \quad \frac{}{z}$ i 0

$|z|$ $\sqrt{\ }$ % $|z|$ & $|z|$ ' $|z|$

¶ ¶ ¶ ¶ ¶

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

$ x $\sqrt{\ }$ % x & x $\sqrt{\ }$ ' x

$SA\ A\ (ABC)$ ' ABC SB $a\sqrt{\ }$ SC $a\sqrt{\ }$

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

$f\ x$ $\frac{e^x}{x}$ f I $3\frac{e^x}{x}dx$

$ I F F % I F F & I F F ' I F F

y Q x mx

$ f % > f & > (' f (

y $f\ x$ [

$f\ x$ m Fy

$ > f % f & > ' f

x m m Fy

$ > (% & ' > (

Thei gian làm bài: 90 phút.

0myÃ W

&z 9EiFVÕÑGiQ a b ÑW0yÃ ÑGiQ

$ ÐJ ab ÐJ a b % ÐJ ab ÐJ ÐJ b

& ÐJ $\frac{a}{b}$ ÐJ a b ' ÐJ $\frac{a}{b}$ ÐJ $_b a$

&z 5ÑFÐÑKÑW $Q\ x\ Q$ x O

$ S ? ^ `f % S f & 5 ^ ` ' S f

&z ÐQNKÐQ ÑKÑW ý $Oxyz$ P $A(-1;3;2)$

$(P): 2x-5y+4z-36=0$ H A (P) O

$H(1;2;6)$ $H(1;-2;-6)$ $H(-1;-2;6)$ $H(1;-2;6)$

< + − $i\ z+\bar{z}$ i ÐQE

$ P % P − & P − ' P

&z ÑQFÐFVÕ y Q $e^{\sqrt{x}}$

$ y $\frac{e^{\sqrt{x}}}{\sqrt{x}\quad e^{\sqrt{x}}}$ % y $\frac{\sqrt{x}\quad e^{\sqrt{x}}}{e^{\sqrt{x}}}$

& y $\frac{e^{\sqrt{x}}}{\sqrt{x}\quad e^{\sqrt{x}}}$ ' y $\frac{\sqrt{x}\quad e^{\sqrt{x}}}{e^{\sqrt{x}}}$

&z ShÑW ÐJ ÐJ x

$ x % x & x ' x

&z ÑyyVÕFÑÕVDX

$ % & '

&z ÑFVÕ y x x x 0ÑÃGQ

$ FVÑKQ % FVÑÑKQ f

& FVÑÑKQ ' FVÑÑKQ f

&z ÑFVÕ $y=f(x)$ $\mathbb{R}\setminus\{-1;1\}$

$\mathbb{R}$

$x = -1 \quad x = 1$

$x = 0$

$x = 0$

$y = -2 \quad y = 2$

< P $\sqrt{x\sqrt{x\sqrt{x}}}$

$ P x̄ % P x̄ & P x̄ ' P x̄

y f x y f x a b

C y f x

$ S f x dx 3 f x dx 3 % S f x dx 3 f x dx 3

a b a b

& S f x dx 3 f x dx 3 ' S f x dx 3 f x dx 3

a a

z i z i z i z i

z z z z

$ % & '

z z z z

z z

$ i % i & i ' i

A B C

P x y z

$ x y z % x y z & x y z ' x y z

f x x

$ 3 f x dx $\frac{}{Q}$ C % 3 f x dx $\frac{}{Q}$ C

x x

& 3 f x dx $\frac{}{Q}$ C ' 3 f x dx $\frac{}{Q}$ C

x x

z $\bar{z}$ i

$ % & ' i

P x y z

$ n % n & n ' n

$mp\ D\quad x\quad y\quad z\qquad I\qquad 9$

$D\ Þ$

$\$\ x\quad y\qquad z$ $\%\ x\quad y\qquad z$

$\&\ x\quad y\qquad z\qquad —$ $'\ x\quad y\qquad z\qquad —$

$y\quad -x\quad -x$

$y\ \dfrac{x}{x}$ "

$\$\ y$ $\%\ x$ $\&\ y$ $'\ x$

$P\quad mx\quad y\quad z$

$d\ \begin{cases} x \\ y\qquad t\quad t \\ z\qquad t \end{cases}$

$\$\ m$ $\%\ 0$ $\&\ m\,z$ $'\ m$

x•

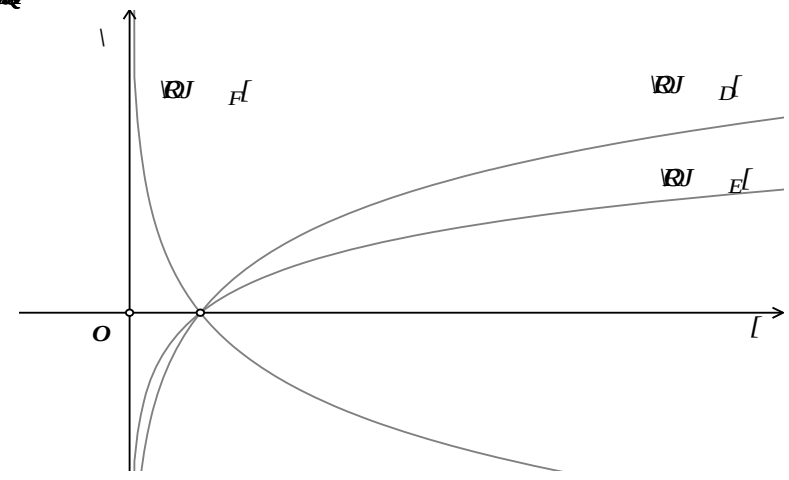
$\$$ $\%$ $\&$ $'$

$\$\ \dfrac{Sa^2\sqrt{2}}{4}$ $\dfrac{Sa^2\sqrt{2}}{3}$ $2Sa^2$ $\dfrac{Sa^2\sqrt{2}}{2}$

$y\quad x\quad y\quad x\quad x$

$\$\ -$ $\%$ $\&\ \sqrt{\ }$ $'$

$a\ b\ c$ $y\quad {}_a x\ y\quad {}_b x\ y\quad {}_c x$



a c b % c b a & b c a ' c a b

0 s −t t

$ PV % PV & PV ' PV

y x / x √mx

$ m z % m ! & m ! ' m

V1, V2 OOOy

z V y = −2x + 2

y = 2√1 − x² Ox. VV V1, V2.

V1 = V2. V1 < V2. V1 = 2V2. V1 > V2.

< SA A (ABC) ' ABC SB a√ SC a√

a .

$ a % a√ & a√ ' a

y Q x mx

f f

$ f % > (& f (' > f

z z | z i | | iz | | z z |

P |z z |

$ P √ % P √ & P √ ' P √

y ax b / cx d

- ad ! - ad ! - ad ! - ad

$ bc ! % bc & bc ! , bc

¶ ¶ ¶ ¶

$ R a√ % R a√ & R a√ ' R a√

ABCD A BCD

V ABCD

$ V √ % V √ & V √ ' V √

I 3 dx a Q Qb a b c

$ S % S & S ' S

Oxyz PPPO

VPPP *P*

P *A* *B*

AM / *MB*

$ *AM* / *MB* % *AM* / *MB* & *AM* / *MB* ' *AM* / *MB*

$ *x* % *x* & *x* ' *x*

$ |*z*| % |*z*| & |*z*| ' |*z*|

M *N* *y* = *ax* + *b* + *c* / *x*

$ *y* = % *y* = & *y* = ' *y* =

P = $\log_{\frac{a}{b}}^{2} a^2 + 3\log_b \frac{a}{b}$

$P_{min} = 3$ $P_{min} = 5$ $P_{min} = 9$ $P_{min} = 4$

$a\sqrt{\ }$

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

y = *f*(*x*)

