

AP Calculus AB

Glossary · · every term in the course, A–Z

English	Pinyin
absolute maximum	zuì dà zhí
absolute minimum	zuì xiǎo zhí
absolute value <i>/ˈæbsəlu:t ˈvælju:/</i>	jué duì zhí
 acceleration <i>/ək,selə'reɪʃn/</i>	jiā sù dù
 accumulated change <i>/əˈkju:mjələɪtɪd tʃeɪndʒ/</i>	lěi jī biàn huà
accumulates	lěi jī
 accumulation <i>/ə,kju:mjə'leɪʃn/</i>	lěi jī
 accumulation function <i>/ə,kju:mjə'leɪʃn ˈfʌŋkʃn/</i>	lěi jī hán shù
acres per week	yīng mǔ měi zhōu
additivity	kě jiā xìng
algebraic	dài shù de
algebraically	yòng dài shù fāng fǎ
alternate limit definition	bèi yòng jí xiàn dìng yì
analytical <i>/ˌænəˈlɪtɪkl/</i>	jiě xī
 analytically <i>/ˌænəˈlɪtɪkli/</i>	yòng jiě xī shì
 antiderivative <i>/ˌæntɪdɪˈrɪvətɪv/</i>	yuán hán shù
 antidifferentiation <i>/ˌæntɪˌdɪfəˌrenʃi'eɪʃn/</i>	qiú yuán hán shù
 approaches <i>/əˈprəʊtʃɪz/</i>	qū jìn
 arbitrarily <i>/ˌɑːbɪˈtrɛrɪli/</i>	rèn yì dì

English	Pinyin
arctangent	fǎn zhèng qiè
 area <i>/ˈeəriə/</i>	miàn jī
 at a single instant <i>/ætə ˈsɪŋɡl ˈɪnstənt/</i>	shùn jiān
 at rest <i>/æt rest/</i>	jìng zhǐ
 average rate of change <i>/ˈævriɜːrɪt ɒv tʃeɪndʒ/</i>	píng jūn biàn huà lǜ
 average value <i>/ˈævriɜːrɪt ˈvæljuː/</i>	píng jūn zhí
axis of revolution	xuán zhuàn zhóu
base region	dǐ miàn qū yù
 behavior <i>/bɪˈheɪvjə/</i>	xìng tài
biology <i>/baɪˈɒlədʒi/</i>	shēng wù xué
boundary points	fēn jiè diǎn
bounds <i>/baʊndz/</i>	jiè
 Candidates Test <i>/ˈkændɪdeɪts test/</i>	hòu xuǎn diǎn pàn bié fǎ
 Chain Rule <i>/tʃeɪn ruːl/</i>	liàn shì fǎ zé
 change <i>/tʃeɪndʒ/</i>	biàn huà
choosing the right rule	xuǎn zé zhèng què de fǎ zé
classifying	fēn lèi
 closed circle <i>/kləʊzd ˈsɜːkl/</i>	shí xīn yuán
combine fractions	tōng fēn
complete the square <i>/kəmˈpliːt ðə skweə/</i>	pèi fāng fǎ
 completing the square <i>/kəmˈpliːtɪŋ ðə skweə/</i>	pèi fāng fǎ

English	Pinyin
 composite /'kɒmpəzɪt/	fù hé de
 composite function /'kɒmpəzɪt 'fʌŋkʃn/	fù hé hán shù
composition /kɒmpə'zɪʃn/	fù hé
 concave down /kɒn'keɪv daʊn/	xià āo
 concave up /kɒn'keɪv ʌp/	shàng āo
 concavity /kən'kævɪti/	āo tū xìng
conditions	tiáo jiàn
 conjugate /'kɒndʒuːgeɪt/	gòng è
consistent /kən'sɪstənt/	yí zhì
* constant multiple /'kɒnstənt 'mʌltɪpl/	cháng shù bèi
+ constant of integration /'kɒnstənt ɒv ,ɪntɪ'greɪʃn/	jī fēn cháng shù
constant rule	cháng shù fǎ zé
 constraint /kən'streɪnt/	yuē shù tiáo jiàn
context /'kɒntekst/	qíng jìng
— continuous /kən'tɪnjuːəs/	lián xù
continuous extension	lián xù yán tuò
 continuous on an interval /kən'tɪnjuːəs ɒn ən 'ɪntəvl/	zài qū jiān shàng lián xù
 corner /'kɔːnə/	jiān jiǎo
counterexample	fǎn lì
 critical point /'krɪtɪkl pɔɪnt/	lín jiè diǎn

English	Pinyin
 cross section /krɒs 'sekʃn/ cubic /'kjuːbɪk/ curve	héng jié miàn sān cì fāng chéng qū xiàn
 cusp /kʌsp/ decision order decreases	jiān diǎn jué cè shùn xù dì jiǎn
 decreasing /'diːkriːsɪŋ/	jiǎn xiǎo
 definite integral /'defɪnət 'ɪntɪgrəl/ definite integral notation	dìng jī fēn dìng jī fēn jì hào
 degrees /di'ɡriːz/ denominator /di'nɒmɪneɪtə/ dependent variable /di'pendənt 'veəriəbl/	cì shù fēn mǔ yīn biàn liàng
 derivative /di'rɪvətɪv/ derivative notation	dǎo shù dǎo shù jì hào
 difference quotient /'dɪfrəns 'kwɒʃənt/ difference rule	chà shāng chà fǎ zé
 differentiable /'dɪfərənʃiəbl/ differentiable functions	kě wēi kě wēi hán shù
 differential equation /,dɪfə'renʃl r'kweɪʒn/ differentiate /,dɪfə'renʃiət/	wēi fēn fāng chéng qiú dǎo
 direct substitution /daɪ'rekt ,səbstɪ'tjuːʃn/	zhí jiē dài rù

English	Pinyin
direction <i>/daɪ'rekʃn/</i>	biàn huà fāng xiàng
 disc <i>/disk/</i>	yuán pán
 disc method <i>/disk 'meθəd/</i>	yuán pán fǎ
 discontinuity <i>/diskɒntɪ'nju:ɪti/</i>	jiàn duàn diǎn
 discontinuous <i>/diskən'tɪnju:əs/</i>	jiàn duàn
→ displacement <i>/di'spleɪsmənt/</i>	wèi yí
domain <i>/də'meɪn/</i>	dìng yì yù
↔ domain restrictions <i>/də'meɪn rɪ'strɪkʃnz/</i>	dìng yì yù xiàn zhì
↑ dominant <i>/'dɒmɪnənt/</i>	zhǔ dǎo
 economics <i>/,i:kə'nɒmɪks/</i>	jīng jì xué
 elementary derivatives <i>/,elɪ'mentəri dɪ'rɪvətɪvz/</i>	jī běn dǎo shù
elementary functions	jī běn chū děng hán shù
» end behavior <i>/end bɪ'hervjə/</i>	mò duān xíng wéi
endpoints	duān diǎn
equilibrium <i>/,i:kwɪ'libriəm/</i>	píng héng
= equivalent form <i>/ɪ'kwɪvələnt fɔ:m/</i>	děng jià xíng shì
equivalent rectangle	děng xiào jǔ xíng
 estimate <i>/'estɪmət/</i>	gū jì zhí
 existence theorem <i>/eg'zɪstəns 'θɪərəm/</i>	cún zài xìng dìng lǐ
exponent <i>/ek'spəʊnənt/</i>	zhǐ shù
$\times^2$ exponential <i>/,ekspə'nenʃl/</i>	zhǐ shù hán shù

English	Pinyin
 exponential decay <i>/ˌɛkspəˈnenʃl diˈkeɪ/</i>	zhǐ shù shuāi jiǎn
 exponential growth <i>/ˌɛkspəˈnenʃl grəʊθ/</i>	zhǐ shù zēng zhǎng
 exponential growth and decay <i>/ˌɛkspəˈnenʃl grəʊθ ænd diˈkeɪ/</i>	zhǐ shù zēng zhǎng yǔ shuāi jiǎn
 exponential model <i>/ˌɛkspəˈnenʃl ˈmɒdl/</i>	zhǐ shù mó xíng
 extrema <i>/ɛkˈstreɪmə/</i>	jí zhí
 Extreme Value Theorem <i>/ɛkˈstriːm ˈvæljuː θɪərəm/</i>	jí zhí dìng lǐ
factor <i>/ˈfæktə/</i>	tí qǔ gōng yīn shì
 factor and cancel <i>/ˈfæktə ænd ˈkænsəl/</i>	yīn shì fēn jiě yǔ yuē fēn
final value	zuì zhōng zhí
 First Derivative Test <i>/fɜːst dɪˈrɪvətɪv test/</i>	yī jiē dǎo shù pàn bié fǎ
 first principles <i>/fɜːst ˈprɪnsɪplz/</i>	yòng dìng yì qiú dǎo
 formula <i>/ˈfɔːmjələ/</i>	gōng shì
function value	hán shù zhí
 Fundamental Theorem of Calculus <i>/ˌfʌndəˈmentl θɪərəm ɒv ˈkælkjʊləs/</i>	wēi jī fēn jī běn dìng lǐ
 general solution <i>/ˈdʒenərəl səˈluːʃn/</i>	tōng jiě
geometrically	jǐ hé shàng
 geometry <i>/dʒɪˈɒmətri/</i>	jǐ hé
given	yǐ zhī
 graph <i>/græf/</i>	tú xiàng
graphical	tú xiàng

English	Pinyin
 graphically /'græfɪkli/	yòng tú xiàng
 higher-order derivatives /'haɪə 'ɔːdə di'rɪvətɪvz/	gāo jiē dǎo shù
 hole /həʊl/	kōng dòng
— horizontal asymptote /ˌhɒrɪ'zɒntl 'æsɪmptəʊt/	shuǐ píng jiàn jìn xiàn
— horizontal slices	shuǐ píng qiē piàn
(x) Implicit differentiation /ɪm'plɪsɪt ,dɪfə'renʃi'eɪʃn/	yǐn hán shù qiú dǎo
implicitly defined /ɪm'plɪsɪtli dɪ'faɪnd/	yǐn shì dìng yì de
 inconclusive /ɪŋkən'klʊːsɪv/	wú fǎ pàn dìng
increases	dì zēng
 increasing /ɪn'kriːsɪŋ/	zēng dà
 indefinite integral /ɪn'defɪnət 'ɪntɪgrəl/	bù dìng jī fēn
independent variable /ˌɪndɪ'pendənt 'veəriəbl/	zì biàn liàng
 indeterminate form /ˌɪndɪ'tɜːmɪnət fɔːm/	bù dìng shì
 infinite discontinuity /'ɪnfɪnət dɪskɒntɪ'njuːɪti/	wú qióng jiàn duàn diǎn
 infinite limits /'ɪnfɪnət 'lɪmɪts/	wú qióng jí xiàn
 initial condition /ɪ'nɪʃl kən'dɪʃn/	chū shǐ tiáo jiàn
initial value /ɪ'nɪʃl 'væljuː/	chū shǐ zhí
inner function	nèi hán shù
 inner radius /ɪnə 'reɪdiəs/	nèi bàn jìng
 instantaneous /ˌɪnstən'teɪniəs/	shùn shí

English	Pinyin
 instantaneous rate of change <i>/ˌɪnstənˈteɪniəs reɪt ɒv tʃeɪndʒ/</i>	shùn shí biàn huà lǜ
 integral <i>/ˈɪntɪgrəl/</i>	jī fēn
integrand	bèi jī hán shù
integrate <i>/ˈɪntɪgreɪt/</i>	jī fēn
integration <i>/ˌɪntɪˈɡreɪʃn/</i>	jī fēn
 Intermediate Value Theorem <i>/ˌɪntəˈmiːdiət ˈvæljuː θɪərəm/</i>	jiè zhí dìng lǐ
intersect <i>/ˌɪntəˈsekt/</i>	xiāng jiāo
intersection points	jiāo diǎn
 interval <i>/ˈɪntəvl/</i>	qū jiān
 inverse function <i>/ɪnˈvɜːs ˈfʌŋkʃn/</i>	fǎn hán shù
 inverse trigonometric functions <i>/ɪnˈvɜːs ˌtrɪɡənəθˈmetrɪk ˈfʌŋkʃnz/</i>	fǎn sān jiǎo hán shù
 jump <i>/dʒʌmp/</i>	tiào yuè
 jump discontinuity <i>/dʒʌmp dɪskɒntɪˈnjuːtɪ/</i>	tiào yuè jiàn duàn diǎn
 L'Hospital's Rule <i>/ˈelɦɒspɪtlz ruːl/</i>	luò bì dá fǎ zé
layered	fēn céng de
 left-hand limit <i>/left hænd ˈlɪmɪt/</i>	zuǒ jí xiàn
Leibniz notation	lái bù ní cí jì hào
 limit <i>/ˈlɪmɪt/</i>	jí xiàn
limit at infinity	wú qióng yuǎn chù de jí xiàn
limit definition	jí xiàn dìng yì

English	Pinyin
 limit laws <i>/ˈlɪmɪt lɔːz/</i>	jí xiàn fǎ zé
 limit theorems <i>/ˈlɪmɪt ˈθɪərəməz/</i>	jí xiàn dìng lǐ
[] limits of integration <i>/ˈlɪmɪts ɒv ˌɪntɪˈɡreɪʃn/</i>	jī fēn xiàn
line segment <i>/laɪn ˈseɡmənt/</i>	xiàn duàn
 linear approximation <i>/ˈlɪniə əˌprɒksɪˈmeɪʃn/</i>	xiàn xíng jìn sì
 linearity <i>/lɪˈnɪərɪti/</i>	xiàn xíng xìng zhì
 linearization <i>/ˌlɪniəraɪˈzeɪʃn/</i>	xiàn xíng huà
↕ local (relative) extrema <i>/ˈləʊkl ekˈstreɪmə/</i>	jú bù jí zhí
 local linearity <i>/ˈləʊkl lɪˈnɪərɪti/</i>	jú bù xiàn xíng xìng
 local maximum <i>/ˈləʊkl ˈmæksɪmə/</i>	jí dà zhí
 local minimum <i>/ˈləʊkl ˈmɪnɪmə/</i>	jí xiǎo zhí
 logarithmic <i>/ˌlɒɡəˈrɪθmɪk/</i>	duì shù
long division	zhǎng chú fǎ
» long-term behavior <i>/lɒŋ tɜːm biˈheɪvjə/</i>	cháng qī xíng wéi
marginal cost <i>/ˈmɑːdʒɪnl kɒst/</i>	biān jì chéng běn
 Mean Value Theorem <i>/miːn ˈvæljuː ˈθɪərəm/</i>	zhōng zhí dìng lǐ
Mean Value Theorem for Integrals	jī fēn zhōng zhí dìng lǐ
memorizing	jì yì
method <i>/ˈmeθəd/</i>	fāng fǎ
• midpoint <i>/ˈmɪdpɔɪnt/</i>	zhōng diǎn

English	Pinyin
Multiply by the conjugate	gòng è
$\rightleftarrows$ net change <i>/net tʃeɪndʒ/</i>	jìng biàn huà
$\mathbb{T}$ notations <i>/nəʊ'teɪʃnz/</i>	jì hào
numerator <i>/'nju:məreɪtə/</i>	fēn zǐ
numerical	shù zhí
$\mathbb{R}$ numerically <i>/nju:'merikli/</i>	yòng shù zhí
$\langle \rangle$ one-sided limits <i>/wʌn 'saɪdɪd 'lɪmɪts/</i>	dān cè jí xiàn
$\bigcirc$ open circle <i>/'əʊpən 'sɜ:kl/</i>	kōng xīn yuán
operator <i>/'ɒpəreɪtə/</i>	yùn suàn fú
$\odot$ optimization <i>/'ɒptɪmaɪ'zeɪʃn/</i>	zuì yōu huà
order <i>/'ɔ:də/</i>	shùn xù
$\approx$ oscillates <i>/'ɒsɪleɪts/</i>	zhèn dòng
outer function	wài hán shù
$\bigcirc$ outer radius <i>/'aʊtə 'reɪdɪəs/</i>	wài bàn jìng
$\wedge$ overestimate <i>/'əʊvə'restɪmət/</i>	gāo gū
$()$ parameter <i>/'pə'ræmɪtə/</i>	cān shù
$\odot$ particular solution <i>/'pɑ:tɪkjələ sə'lu:ʃn/</i>	tè jiě
piecewise functions	fēn duàn hán shù
$\nearrow$ piecewise-defined function <i>/'pi:swaɪz dɪ'faɪnd 'fʌŋkʃn/</i>	fēn duàn hán shù
point	diǎn

English	Pinyin
 point of inflection <i>/pɔɪnt ɒv ɪn'flekʃn/</i>	guǎi diǎn
$\times^2$ polynomial <i>/ˌpɒlɪ'nəʊmɪəl/</i>	duō xiàng shì
$\div$ polynomial long division <i>/ˌpɒlɪ'nəʊmɪəl lɒŋ dɪ'vɪʒn/</i>	duō xiàng shì zhǎng chú fǎ
population growth	zhǒng qún zēng zhǎng
 position <i>/pə'zɪʃn/</i>	wèi zhì
 power <i>/'paʊə/</i>	mì
power / root	mì yǔ gēn
 Power Rule <i>/'paʊə ru:l/</i>	mì fǎ zé
power rule for integration	jī fēn mì fǎ zé
prime notation	piē hào jì hào
 procedure <i>/prə'si:dʒə/</i>	bù zhòu
product <i>/'prɒdʌkt/</i>	chéng jī
$\times$ Product Rule <i>/'prɒdʌkt ru:l/</i>	chéng jī fǎ zé
proportional <i>/prə'pɔ:ʃənəl/</i>	chéng zhèng bǐ
quotient <i>/'kwɒʃənt/</i>	shāng
$\div$ Quotient Rule <i>/'kwɒʃənt ru:l/</i>	shāng fǎ zé
radians <i>/'reɪdiənz/</i>	hú dù
$\sqrt{\quad}$ radical <i>/'rædɪkl/</i>	gēn shì
radioactive decay <i>/ˌreɪdɪəʊ'æktɪv dɪ'keɪ/</i>	fàng shè xìng shuāi biàn
radius <i>/'reɪdiəs/</i>	bàn jìng

English	Pinyin
rate <i>/reit/</i>	biàn huà lǚ
 rate of change <i>/reit ɒv tʃeɪndʒ/</i>	biàn huà lǚ
ratio of leading coefficients	shǒu xiàng xì shù zhī bǐ
$\div$ ratio of the leading coefficients <i>/ˈreɪʃiəʊ ɒv ðə ˈliːdɪŋ ˌkəʊɪˈfɪʃənts/</i>	shǒu xiàng xì shù zhī bǐ
$\div$ rational expression <i>/ˈræʃənəl ekˈspresjən/</i>	yǒu lǐ shì
$\div$ rational function <i>/ˈræʃənəl ˈfʌŋkʃən/</i>	yǒu lǐ hán shù
rationalize	yǒu lǐ huà
reasonable <i>/ˈriːzənəbl/</i>	hé lǐ
reasonableness	hé lǐ xìng
$\div$ reciprocal <i>/rɪˈsɪprəkl/</i>	dào shǔ
redefine	chóng xīn dìng yì
reflection <i>/rɪˈflekʃən/</i>	fǎn shè
 related rates <i>/rɪˈleɪtɪd reɪts/</i>	xiāng guān biàn huà lǚ
 relative magnitudes <i>/ˈrelətɪv ˈmæɡnɪtjuːdz/</i>	xiāng duì dà xiǎo
relative maximum	jí dà zhí
relative minimum	jí xiǎo zhí
 removable discontinuity <i>/rɪˈmuːvəbl dɪskɒntɪˈnjuːtɪ/</i>	kě qù jiàn duàn diǎn
representation	biǎo shì xíng shì
rewrite	gǎi xiě
rewrite them with identities	héng děng shì

English	Pinyin
 Riemann sum <i>/ˈri:mən sʌm/</i>	lí màn hé
 right-hand limit <i>/raɪt hænd ˈlɪmɪt/</i>	yòu jí xiàn
rightmost curve	zuì yòu qū xiàn
root <i>/ru:t/</i>	gēn
rule <i>/ru:l/</i>	fǎ zé
sanity check	kuài sù jiǎn yàn
 scale <i>/skeɪl/</i>	bǐ lì
 secant line <i>/ˈsi:kənt laɪn/</i>	gē xiàn
 second derivative <i>/ˈsekənd dɪˈrɪvətɪv/</i>	èr jiē dǎo shù
 Second Derivative Test <i>/ˈsekənd dɪˈrɪvətɪv test/</i>	èr jiē dǎo shù pàn bié fǎ
 semicircle <i>/ˈsemɪs:kl/</i>	bàn yuán
 separable <i>/ˈsepərəbl/</i>	kě fēn lí de
 separation of variables <i>/ˌsepəˈreɪʃn ɒv ˈveəriəblz/</i>	fēn lí biàn liàng fǎ
sign	fú hào
sign analysis	fú hào fēn xī
 sign chart <i>/saɪn tʃɑ:t/</i>	fú hào biǎo
 signed area <i>/saɪnd ˈeəriə/</i>	dài fú hào miàn jī
 slope <i>/sləʊp/</i>	xié lǚ
 slope field <i>/sləʊp fi:ld/</i>	xié lǚ chǎng
slowing down	yuè lái yuè màn
 solid of revolution <i>/ˈsɒlɪd ɒv ˌrevəˈlu:ʃn/</i>	xuán zhuǎn tǐ

English	Pinyin
 solution <i>/sə'lu:ʃn/</i>	jiě
 solution curve <i>/sə'lu:ʃn kɜ:v/</i>	jiě qū xiàn
 speed <i>/spi:d/</i>	sù lǚ
speeding up	yuè lái yuè kuài
 Squeeze Theorem <i>/skwi:z 'θiərəm/</i>	jiā bī dīng lǐ
strategy <i>/'strætədʒi/</i>	cè lüè
 subintervals <i>/,sʌbɪn'tɜ:vlz/</i>	zì qū jiān
substitute <i>/'sʌbstɪtju:t/</i>	dài rù
✓ sufficiently <i>/sə'fɪʃəntli/</i>	zú gòu
sum	tī xíng fǎ
sum / difference	hé chà
sum of integrals	jī fēn zhī hé
sum or difference	hé huò chà
sum rule	hé fǎ zé
Σ summation notation <i>/sʌ'meɪʃn nəʊ'teɪʃn/</i>	qiú hé jì hào
symmetric difference	duì chèn chà shāng
quotient	
 table <i>/'teɪbl/</i>	biǎo gé
 tangent line <i>/'tændʒənt laɪn/</i>	qiè xiàn
 time <i>/taɪm/</i>	shí jiān
toolbox	gōng jù xiāng
total distance traveled	zǒng lù chéng

English	Pinyin
 Total distance travelled <i>/ˈtəʊtl ˈdɪstəns ˈtrævld/</i>	zǒng lù chéng
 trapezoidal rule <i>/ˈtræpɪzɔɪdl ru:l/</i>	tī xíng fǎ zé
 triangle <i>/ˈtraɪæŋɡl/</i>	sān jiǎo xíng
 trigonometric <i>/ˌtrɪɡənəvˈmetrɪk/</i>	sān jiǎo hán shù
 two-sided limit <i>/tu: ˈsaɪdɪd ˈlɪmɪt/</i>	shuāng cè jí xiàn
 u-substitution <i>/ju: ˌsʌbstɪˈtju:ʃn/</i>	huàn yuán fǎ
 unbounded <i>/ʌnˈbəʊndɪd/</i>	wú jiè
underestimate <i>/ˌʌndəˈrestɪmət/</i>	dī gū
 units <i>/ˈju:nɪts/</i>	dān wèi
upper curve	shàng qū xiàn
(x) variable <i>/ˈveəriəbl/</i>	biàn liàng
variable upper limit	kě biàn shàng xiàn
 velocity <i>/vəˈlɒsɪti/</i>	sù dù
verbal	wén zì
verify	yàn zhèng
 vertical asymptote <i>/ˈvɜ:tɪkl ˈæsɪmptəʊt/</i>	shù zhí jiàn jìn xiàn
 vertical tangent <i>/ˈvɜ:tɪkl ˈtændʒənt/</i>	shù zhí qiè xiàn
volume <i>/ˈvɒljʊ:m/</i>	tǐ jī
 washer <i>/ˈwɒʃə/</i>	diàn juàn
 washer method <i>/ˈwɒʃə ˈmeθəd/</i>	diàn juàn fǎ
with respect to	guān yú

English	Pinyin
zeros <i>/ˈzɪərəʊz/</i>	líng diǎn