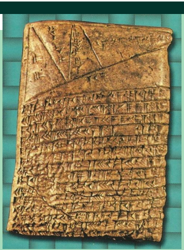
Epoques mésopotamiennes et égyptiennes | **Epoque archaï**

Mathématiques autour de la Méditerranée

-1800 ; -1600 **Tablettes d'argile babyloniennes**

-1650 **Papyrus de Rhind**



-1850 **Papyrus de Moscou**

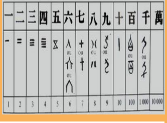
… -2400 -2200 -2000 -1800 -1600 -1400 -1200 -1000 -880 -840 -800 -760 -720 -680 -64

IXe siècle av. J.C. VIIIe siècle av. J.C. VIIe siècle av. J.

Mathématiques hors de la Méditerranée

irem Aix-Marseille

http://www.irem.univ-mrs.fr/expo2013



一	二	三	四	五	六	七	八	九	十	百	千	萬
1	2	3	4	5	6	7	8	9	10	100	1 000	10 000

Système décimal chinois

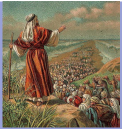
Hors des Mathématiques

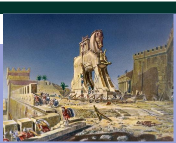
-2800 : 1ère Pyramide

-2500 : Sphinx

-1850 : Abraham

env. -1250 : Guerre de Troie ; Ramsès II ; Moïse





-753 : Fondation de Rome

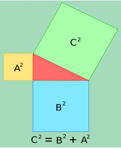
-776 : 1ers jeux olympiques

UNE CHRONOLOGI

que | Epoque classique | Période helléniste

Thales de Milet (-624 ; -548)

Pythagore de Samos (-580 ; -500)



Anaximandre (-611 ; -547)

Zénon d'Elée (-480 ; -420)

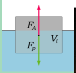
Hippocrate de Chios (-460 ; -370)

Théétète(-415 ; -395)

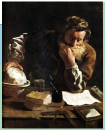
Platon (-428 ; -348)

Menechme (-380 ; -320)

Aristote le starigite(-384 ;-322)



Archimède de Syracuse (-287 ; -212)



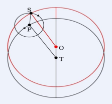
Aristarque de Samos (-310 ; -230)

Euclide d'Alexandrie (-325 ; -265)

Apollonius de Pergé (-262 ; -180)

Eratosthène de Cyrène (-276 ; -195)

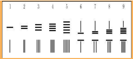
Hipparque de Nicée (-190 ; -120)



40	-600	-560	-520	-480	-440	-400	-360	-320	-280	-240	-200	-160	-120	-80	-40

C. | VIe siècle av. J.C. | Ve siècle av. J.C | IVe siècle av. J.C | IIIe siècle av. J.C | IIe siècle av. J.C | Ier siècle av. J.C

Le calcul à baguettes chinoises



Chine : les n

-624 : Bouddha

-600 : Fondation de Massilia

VILLE DE MARSEILLE

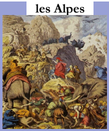
Confucius † -479

- 432 : Parthénon

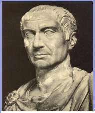
-323 : Alexandre le grand

-332 : Phare d'Alexandrie

-218 : Hannibal traverse les Alpes



Cléopâtre (-69



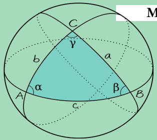
Jules César (-100 ; -44)

E DES MATHEMATIQUES MEDITERRANEENNES, DES PYRAMIDES A GALILEE.

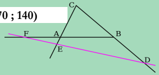
Epoque impériale

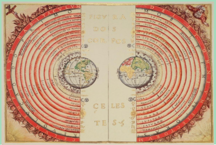
Antiquité tardive

Héron d'Alexandrie (1er siècle)



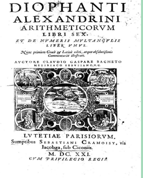
Menelaus (70 ; 140)





Ptolémée d'Alexandrie (100 ; 178)

Diophante d'Alexandrie (200 ; 284)



DIOPHANTI
ALEXANDRINI
ARITHMETICORVM
LIBRI SEX.
ET DE NVMERIS MVLTANGVLIS
LIBER VNVS.
Nunc primùm Græcè & Latinè editi, atque abſolutiſſimis
Commentariis illuſtrati.
AVCTORE CLAVDIO GASPARE BACHETO
MEZIRIACO SEBVSIANO, V.C.

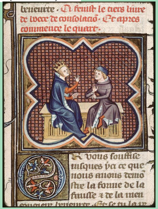
LVTETIAE PARISIORVM,
Sumptibus SEBASTIANI CRAMOISY, via
Iacobæa, ſub Ciconiis.
M. DC. XXI.
CVM PRIVILEGIO REGIS.

Hypatie (370 ; 415)

Théon d'Alexandrie (335 ; 405)

Pappus d'Alexandrie (vers 300)

Boèce (470 ; 525)



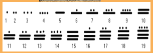
beneurte · Ci feniſt le tiers liure de boece de conſolacio · Et apres commence le quart ·

vous ſouffiſe iuſques ýci ce que nous auons demo ſtre la fourme de la fauſſe ⁊ de la uen

0 40 80 120 160 200 240 280 320 360 400 440 480 520 560 600

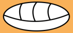
Ier siècle ap. J.C — IIe siècle ap. J.C — IIIe siècle ap. J.C — IVe siècle ap. J.C — Ve siècle ap. J.C — VIe siècle ap. J.C — VIIe

eufs chapitres



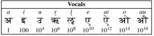
Numération Maya

Zéro des Mayas

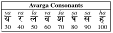


471 : Calendrier astronomique Maya

Aryabhata (476 ; 550)

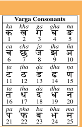


Vocals								
a	*i*	*u*	*ṛ*	*ḷ*	*e*	*ai*	*o*	*au*
अ	इ	उ	ऋ	ऌ	ए	ऐ	ओ	औ
1	100	10^4	10^6	10^8	10^{10}	10^{12}	10^{14}	10^{16}

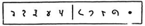


Avarga Consonants							
ya	*ra*	*la*	*va*	*śa*	*ṣa*	*sa*	*ha*
य	र	ल	व	श	ष	स	ह
30	40	50	60	70	80	90	100

Brahmagupta (5

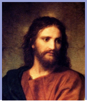


Varga Consonants				
ka	*kha*	*ga*	*gha*	*ṅa*
क	ख	ग	घ	ङ
1	2	3	4	5
ca	*cha*	*ja*	*jha*	*ña*
च	छ	ज	झ	ञ
6	7	8	9	10
ṭa	*ṭha*	*ḍa*	*ḍha*	*ṇa*
ट	ठ	ड	ढ	ण
11	12	13	14	15
ta	*tha*	*da*	*dha*	*na*
त	थ	द	ध	न
16	17	18	19	20
pa	*pha*	*ba*	*bha*	*ma*
प	फ	ब	भ	म
21	22	23	24	25



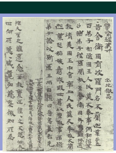
Numération indienne avec zero

; -30)



Jésus Christ

79 : Eruption du Vésuve

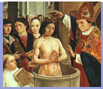


145 : Invention du papier,
en Chine

La Gaule est romaine

451 : Attila, roi des Huns,
devant Paris

486 : Clovis roi des francs



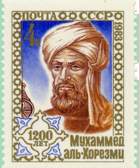
61

593 : Pr

VIe siècle : Sainte Sophie
à Constantinople

Haut moyen-âge

Moyen-âge central



Al-Khwarizmi (783 ; 850)

Tabhit Ibn Qurra (826 ; 901)

790 : Aristote traduit en arabe

Al Wafa (940 ; 998)

Al Karaji (953 ; 1030)

Al Biruni (973 ; 1048)

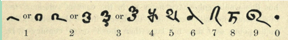
Gerbert d'Aurillac (945 ; 1003)

Avicenne (980 ; 1037)

Al Khayyam (1048 ; 1131)

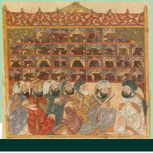
Fi

814 : Les arabes utilisent les chiffres indiens



Adélard de Bath (1070 ; 1150)

Al Samawal (1130 ; 1180)



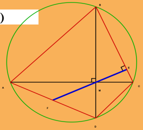
830 : Maison de la Sagesse à Bagdad

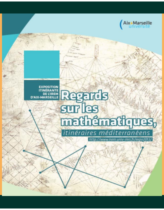
Gérard de Crémone (1114 ; 1187)

640	680	720	760	800	840	880	920	960	1000	1040	1080	1120	1160

siècle ap. J.C — VIIIe siècle ap. J.C — IXe siècle ap. J.C — Xe siècle ap. J.C — XIe siècle ap. J.C — XIIe siècle ap. J.C

98 ; 668)

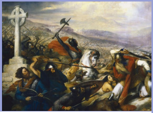



Aix-Marseille université
EXPOSITION ITINÉRANTE DE L'IREM D'AIX-MARSEILLE
Regards sur les mathématiques,
itinéraires méditerranéens
http://www.irem.univ-mrs.fr/expo2013/

0 : Fondation de l'Islam

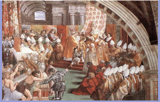
emier livre imprimé en Chine

653 : Coran



732 : Bataille de Charles Martel à Poitiers

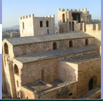
800 : Sacre de Charlemagne



971 : Feux d'artifice en Chine

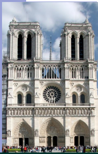
Saint empire
romain germanique

Abbaye
St Victor



1075 : Chanson
de Roland

1163 : N



Moyen-âge tardif | **Renaissance** | **Baroque**

Sacrobosco († 1250)

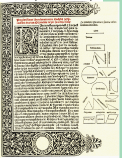
Levi ben Gerson (1288 ; 1344)

bonacci (1175 ; 1250)

Campanus de Novare (1220 ; 1296)

Oresme (1325 ; 1382)

Al Tusi (1201 ; 1274)



Della Franscesca (1396 ; 1492)

Alberti (1404 ; 1472)

Al Kashi (1429 ; ?)

Pacioli (1445 ; 1517)

Regiomontanus (1436 ; 1476)

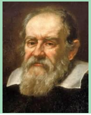
Bombelli (1526 ; 1572)

$\sqrt{-1}$

Cardan (1501 ; 1576)

Tartaglia (1499 ; 1557)

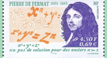
QVESITI
ET INVENTIONI
DIVERSE
DE NICOLO TARTAGLIA,



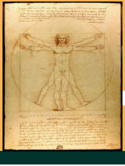
Galilée (1546 ; 1642)

Clavius (1537 ; 1612)

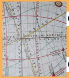
Fermat (1600 ; 1665)


PIERRE DE FERMAT 1601-1665
RF
$x^n + y^n = z^n$
4,50 F
0,69 €
n'a pas de solution pour des entiers n > 2

1200 1240 1280 — **XIIIe siècle ap. J.C**
1320 1360 — **XIVe siècle ap. J.C**
1400 1440 1480 — **XVe siècle ap. J.C**
1520 1560 — **XVIe siècle ap. J.C**
1600 1640 1680 1700 — **XVIIe siècle ap. J.C**



Léonard de Vinci (1452 ; 1519)



Copernic (1473 ; 1543)

Gemma Frisius (1508 ; 1555)

Dürer (1471 ; 1528)

Peletier du Mans (1517 ; 1582)

Apian (1495 ; 1552)

Neper (1550 ; 1617)

Viète (1540 ; 1603)

Tycho-Brahé (1546 ; 1601)

Descartes (1596 ; 1650)

Pascal (1623 ; 1662)

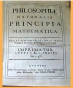
Huygens (1629 ; 1695)

Kepler (1571 ; 1630)

Desargues (1593 ; 1661)

Snell (1580 ; 1626)

Newton (1642 ; 1727)



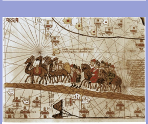
PHILOSOPHIÆ
NATURALIS
PRINCIPIA
MATHEMATICA

IMPRIMATUR
S. PEPYS, Reg. Soc. PRÆSES.

LONDINI,

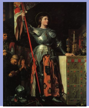
Notre-Dame
de Paris

1256 : L'empire arabe
détruit par les mongols



Voyages de Marco Polo

1355 : Alhambra à Grenade



1431 : Jeanne d'Arc

1450 : Gutenberg

1492 : Colomb découvre l'Amérique

Michel-Ange (1475 ; 1564)

1635 : Fondation de l'Académie
Française

Académie française