

PUPIL'S BOOK

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BOOKWORLD AFRICA

Basic Mathematics

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BOOKWORLD
 Africa



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Numbers and notation

Hindu Arabic and Roman numerals

Roman numerals were first used around 500 B.C.

Some Roman numerals may have been based on hand signals.



I, V, X, L, C, D and **M** stand for themselves whatever their position. The seven Roman numerals do not show place value.

These examples show how the numerals make up numbers.

I 1	II $1+1=2$	III $1+1+1=3$	IV $5-1=4$	V 5	VI $5+1=6$	VII $5+1+1=7$	VIII $5+1+1+1=8$	IX $10-1=9$	X 10
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XX $10+10=20$	XXX $10+10+10=30$	XL $50-10=40$	L 50	IL $50-1=49$	VL $50-5=45$	IXL $50-9=41$	LX $50+10=60$	XC $100-10=90$	C 100
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CC $100+100=200$	CCL $100+100+50=250$	CD $500-100=400$	D 500	DC $500+100=600$	DXC $500+(100-10)=590$	DLX $500+50+10=560$	LM $1000-50=950$	CM $1000-100=900$	M 1000
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MMIV $1000+1000+(5-1)=2004$	MCMXCIX $1000+(1000-100)+(100-10)+(10-1)=1999$	MMDLXVIII $2000+500+50+10+8=2568$	MMLVI $2000+50+6=2056$
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Over 2000 years ago, the Hindus in India used these symbols for the numerals 1 to 9.

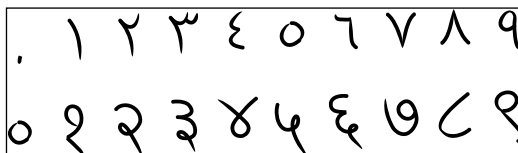


In Arabia, the system was developed when a zero was included.



These developments give us the **Hindu Arabic system** which is based on place value.

This system has been in use for 12 centuries.



1 Draw a clock face. Instead of the usual numbers, write the twelve numbers using Roman numerals.

2 Draw the arrangement of days in this calendar month. Write the dates in Roman numerals.

3 Write these Roman numeral values using the 0 to 9 Hindu Arabic numerals.

- | | | | |
|---------|----------|-----------|-----------|
| a XI | f XXVIII | k IIII | p CMXCIX |
| b IX | g IXX | l XVI | q MMXIV |
| c XXIII | h VIL | m CCC | r MMCMXCV |
| d XIV | i XXL | n CCLV | s MMI |
| e XVI | j IVL | o DCCLXVI | t MDXLIV |

4 Write these numbers using Roman numerals.

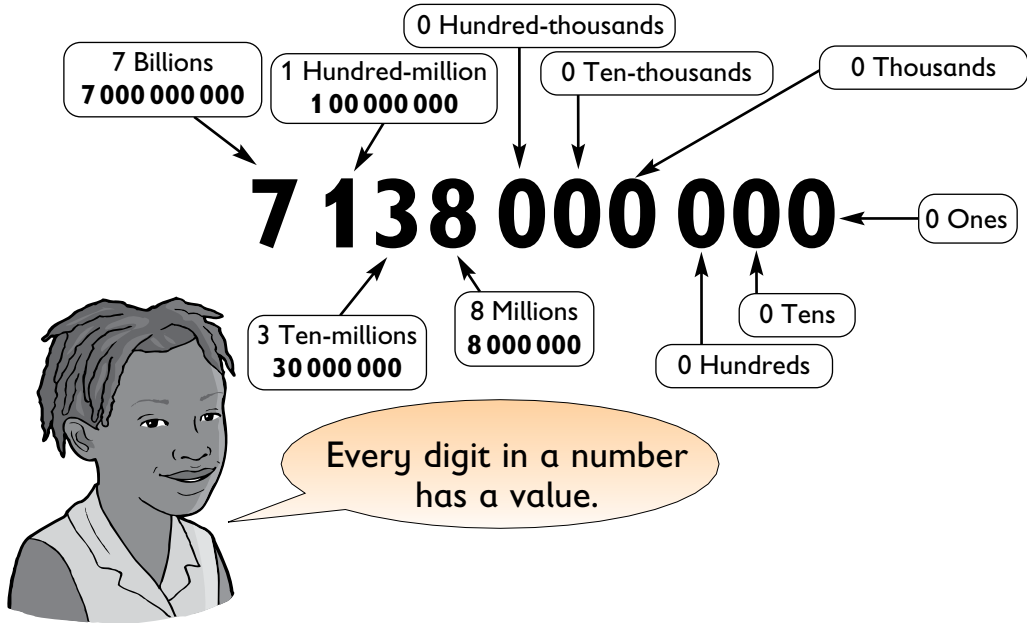
- | | | | |
|------|-------|--------|---------|
| a 24 | f 41 | k 326 | p 88 |
| b 34 | g 57 | l 1999 | q 6573 |
| c 43 | h 450 | m 2003 | r 7006 |
| d 11 | i 71 | n 2014 | s 10008 |
| e 39 | j 144 | o 2043 | t 94 |

5 Order these Roman number values from smallest to largest.

CCCL	ML	LIX	DXL	XC	CD	MDLXVI
MI	LX	VI	CCM	IL	LIII	XI
XXX	MMMDCXIV	DC	MMV	XL	CC	

Place value

The estimated population of the Earth is 7 138 000 000.
That is, 7 billion, 138 million people.



1 Write the value of the underlined digits.

a 4267

g 53546

m 257934

b 5469

h 29482

n 2309673

c 2534254203

i 4106526183

o 38475209

d 7125602100

j 349528

p 487983632

e 670480

k 456720

q 9032653201

f 3562485

l 1093265

r 5609063529

2 Write a number which has:

- a 5 digits with 7 in the Thousands position
- b 6 digits with 5 in the Ten-thousands position
- c 7 digits with 8 in the Millions position
- d 8 digits with 3 in the Hundred-thousands position
- e 9 digits with 4 in the Ten-millions position
- f 9 digits with 0 in the Hundred-millions position
- g 10 digits with 9 in the Billions position
- h 10 digits with 2 in the Ten-millions position
- i 9 digits with 4 in the Millions position
- j 10 digits with 1 in the Billions position
- k 7 digits with 9 in the Millions position
- l 10 digits with 4 in the Billions position.