Mayan Maths

The ancient Maya developed a unique number system, based on the number 20 (unlike ours, which is based on the number 10). Archaeologists have found examples of Mayan maths all over surviving codices and ceramics.

The Mayan number system is sometimes called a *vigesimal* number system and it's likely the system developed from counting on fingers and toes!

Symbols

The Maya used three symbols to represent numbers: a shell for zero, a dot for one, and a line for five.

Using these symbols they could write any number, no matter how large.

🔎⊕ **Enlarge image**
Mayan maths symbols: a shell, a dot and a line

Some sources refer to the line and dot as a 'stick' and a 'stone'. These objects may have been used as the original counters!

0   1   5

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Numbers 0–19

Numbers 1–4 were written with individual dots. The number 5 was represented by a line. To make 6, a dot was placed above the line (5+1).

10 was written as two lines (5+5).

And so on, until 19 which was written as three lines with four dots (5+5+5+1+1+1+1).

Write these numbers:

3	8
11	15
20	29

Numbers 20+

As the Mayan number system was a base–20 system, there could be no more than 19 in the 'ones' place.

At 20, a dot was written in the 'twenties' place, just as we place a '1' in the 'tens' place when we count higher than 10.

What number is this?

Historians think the Maya were the first civilisation to use a symbol for zero – a great achievement!

0

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Number Chart

0	**1**	**2**	**3**	**4**
5	**6**	**7**	**8**	**9**
10	**11**	**12**	**13**	**14**
15	**16**	**17**	**18**	**19**
20	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**

Copy and complete the calculations:

$$6 + 11 = \underline{}$$

$$7 - 6 = \underline{}$$

$$8 \times 2 = \underline{}$$

$$16 \div 8 = \underline{}$$