**Thinking about times tables**



One of the oldest records of mathematics is a Babylonian times table grid.

**Q1**. Henry is writing out his 2 times table. He writes down

2, 4. What comes next?

**Q2**. The clay tablet shows the 30 times table. Write out the first six multiples of 30.

**Q3**. Each of these lists are lists of multiples of a whole number. They don’t necessarily start with “1 times” the number. They are in order, though.

Some of the digits have been replaced by stars. Fill in the gaps!

… …… …

18 345 1\*5

\*\* \*\*\* \*\*\*

30 351 \*\*\*

\*\* \*\*\* \*\*\*

42 357 38\*

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**Q4**. We have received a radio transmission from outer space – aliens have contacted our civilisation.

When it is decoded, we can see the following format. The people responsible for decoding it think that it is a times table. Each letter stands for a different digit. Can you work out which times table it is? Explain how you know. (Here, MH is a two digit number, where the first digit is encoded by the letter ‘M’ and the second digit is encoded by the letter ‘H’.)

R x D = MH

M x D = D

C x D = AR

D x D = HF

A x D = EH

H x D = FD

E x D = FK

F x D = JR

J x D = RF

**Q5**. The next transmission is even more complicated. Again, each letter stands for a different digit, and they are not the same as the previous transmission. Try to decode this times table. Once you have decoded it try to explain each step.



**Q6**. GCHQ have now automated the process of decoding the transmissions from the alien civilisation. The next transmission is a table like this:

|  |  |
| --- | --- |
| ??????? | \*\*\*\*\*\*\*\*\*\* |
| 910245 | 724773 |

What words could replace the ???????

What words could replace the \*\*\*\*\*\*\*\*

Explain how you know.

(Further times tables problems including Q5 can be found in *Decoding Mathematics*, published by the Association of Teachers of Mathematics <https://www.atm.org.uk/> )