## Issue 1: 2022 | Editor: Paul Swan MATHMAG

## 1. All the Answers

Place all of the answers on the table facts from $1 \times 1$ up to $10 \times 10$ in order of size on this board. Fill in the missing numbers.

| 1 | 2 | 3 |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  | 10 |  |  |
| 15 |  |  |  |  | 24 |
|  |  |  |  |  | 35 |
|  |  |  | 45 |  |  |
|  | 56 |  |  |  |  |
|  |  |  |  | 100 |  |

## 2. Five Times

In this maze you multiply the number of the spot you are on by 5 , and then follow the line which has the correct answer on to the next spot.
If you complete the maze correctly, you will have visited all the spots except one. Which one?


## 3. In the Six Times Table

How many of these number puzzles can you solve? All the answers are in the six times table. The first one is done for you.

1. My units digit is one more than my tens digit.
Answer: I am $6 \times 2=12$
2. My units digit is twice my tens digit. My digits add up to 12.
Answer: I am $6 \times \ldots=$ $\qquad$
3. My tens digit is twice my units digit.
Answer: I am $6 \times \ldots=\ldots$
4. My tens digit is one more than my units digit.
Answer: I am $6 \times \ldots=$ $\qquad$
5. My tens digit is odd. My units digit is three less than my tens digit. Answer: I am $6 \times \ldots=$
6. My digits add up to 9 . I have 9 factors.
Answer: I am $6 \times \ldots=\ldots$
7. If you reverse my digits I am worth 18 more. Answer: I am $6 \times$ $\qquad$ $=$

## 4. Add the Table Digits

The $8 x$ table begins 8,16 , 24, 32... Look what happens when you add the digits of each number:
$8,7(1+6), 6(2+4), 5(3+2) \ldots$
does this continue?
Remember that the digits of 48 add up to 3 ( $4+8=12$ and $1+2=3$ ).

In this multiplication table put the 'digit sums' of the answers. See how many patterns you can find.

| $x$ | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  | 5 |
| 5 |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |

## 5. Three Times Total

Follow the path and fill in the boxes


## ANSWERS

1: Several solutions are possible. For example:

| 1 | 2 | 3 | 4 | 5 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 | 8 | 9 | 10 | 12 | 14 |
| 15 | 16 | 18 | 20 | 21 | 24 |
| 25 | 27 | 28 | 30 | 32 | 35 |
| 36 | 40 | 42 | 45 | 49 | 50 |
| 54 | 56 | 60 | 63 | 64 | 70 |
| 72 | 80 | 81 | 90 | 100 |  |

2: The 4

$$
\begin{array}{ll}
\text { 3: 1. } & 6 \times 2=12 \\
\text { 2. } & 6 \times 7=42 \\
\text { 3. } & 6 \times 8=48 \\
\text { 4. } & 6 \times 9=54
\end{array}
$$

5. $6 \times 5=30$
6. $6 \times 6=36$

4:

| $\mathbf{x}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2}$ | 4 | 6 | 8 | 1 | 3 | 5 | 7 |
| $\mathbf{3}$ | 6 | 9 | 3 | 6 | 9 | 3 | 6 |
| $\mathbf{4}$ | 8 | 3 | 7 | 2 | 6 | 1 | 5 |
| $\mathbf{5}$ | 1 | 6 | 2 | 7 | 3 | 8 | 4 |
| $\mathbf{6}$ | 3 | 9 | 6 | 3 | 9 | 6 | 3 |
| $\mathbf{7}$ | 5 | 3 | 1 | 8 | 6 | 4 | 2 |
| $\mathbf{8}$ | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

5:


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