

## NOTES TO TEACHERS

This resource is intended to give you activities for students to reinforce the times tables while introducing students to various aspects of Maori culture.

There are 10 pictures:

- ❖ Puzzles 1 and 2 are in single colours.
- ❖ Puzzles 3 to 10 involve 2 or 3 tables which must be done in the correct order because of the **common multiples**. Common multiples are used in the first table only.
- ❖ Puzzle 9 (The Waka) is in 2 parts and is intended as an activity for 2 students or a 2 part activity for one student.
- ❖ Puzzle 10 (Whare Runanga) is in 4 parts and would be ideal as a group activity.

### ACKNOWLEDGEMENTS

The authors gratefully acknowledge the following websites for the translations of Maori words:

The Maori Online Dictionary <http://www.maoridictionary.co.nz>

Wikipedia <http://en.wikipedia.org>

### NEW CURRICULUM

This resource has also been developed to assist teachers meet some of the needs of the new curriculum:

#### **Treaty of Waitangi**

The curriculum acknowledges the principles of the Treaty of Waitangi, and the bicultural foundations of Aotearoa New Zealand. All students have the opportunity to acquire knowledge of Te reo Māori me ōna tikanga.

#### **Cultural diversity**

The curriculum reflects New Zealand's cultural diversity and values the histories and traditions of all its people.

#### **Community engagement**

The curriculum has meaning for students, connects with their wider lives, and engages the support of their families, whānau, and communities.

[http://nzcurriculum.tki.org.nz/the\\_new\\_zealand\\_curriculum/principles](http://nzcurriculum.tki.org.nz/the_new_zealand_curriculum/principles)

## STUDENT WORKSHEET: PUZZLE 1

### *Instructions*

Complete the 4x table below, then colour in all the answers to reveal the hidden picture.

$1 \times 4 =$

$2 \times 4 =$

$3 \times 4 =$

$4 \times 4 =$

$5 \times 4 =$

$6 \times 4 =$

$7 \times 4 =$

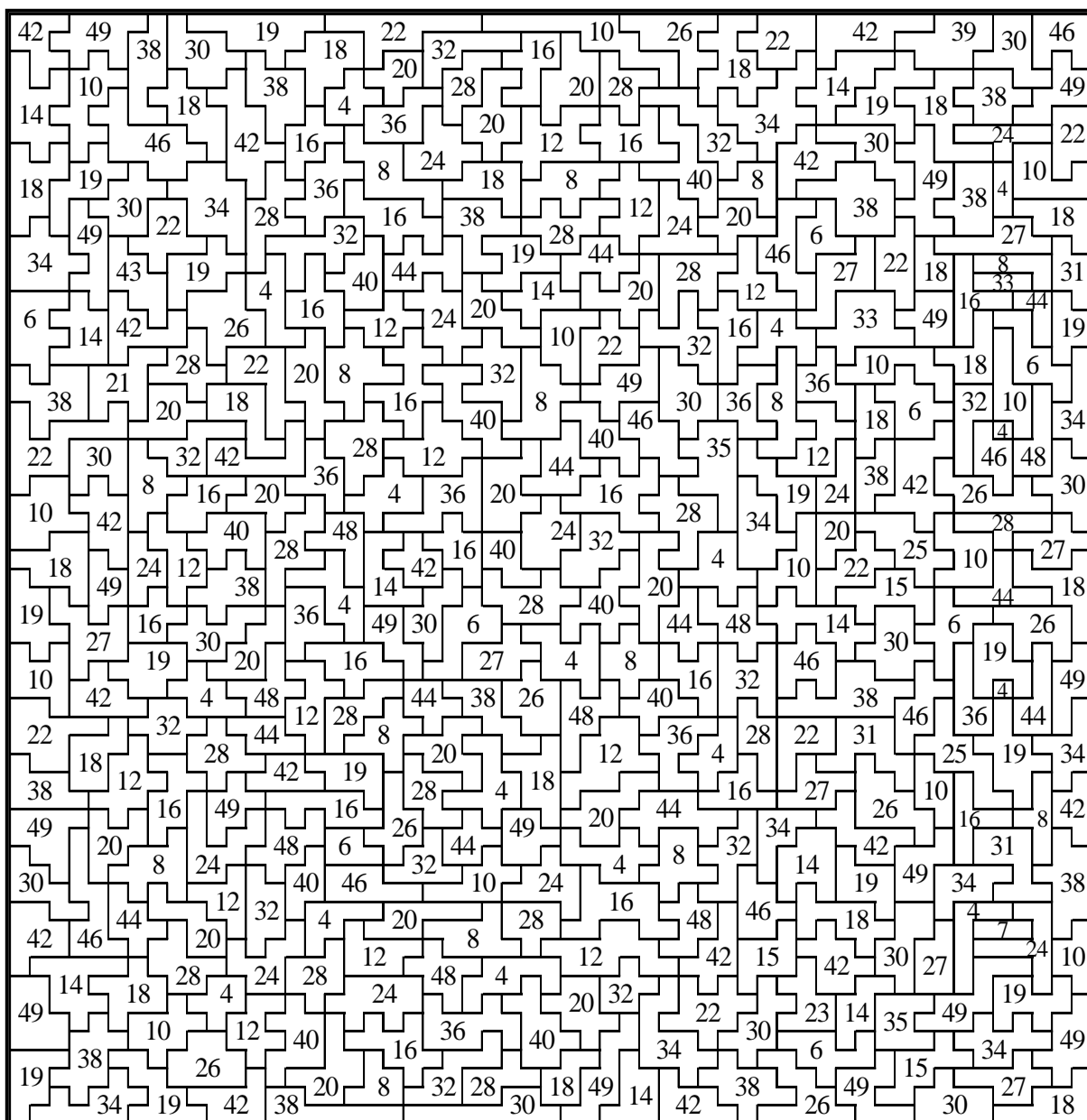
$8 \times 4 =$

$9 \times 4 =$

$10 \times 4 =$

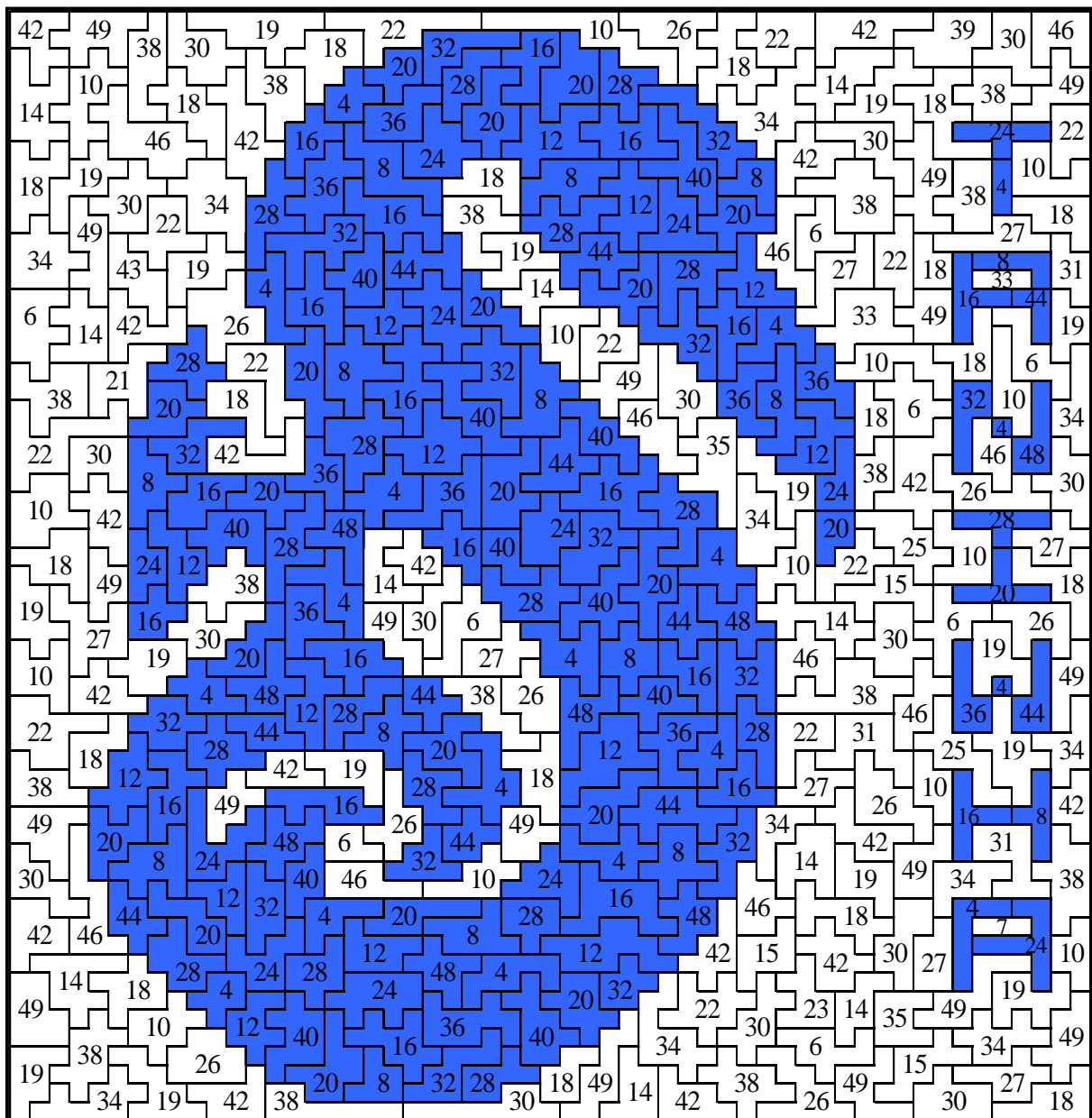
$11 \times 4 =$

$12 \times 4 =$



### SOLUTION PUZZLE 1: 4X TABLE DEPICTING THE TANIWHA: A MYTHICAL WATER SPIRIT

In Māori mythology, Taniwha are beings that live in deep pools in rivers, dark caves, or in the sea, especially in places with dangerous currents or deceptive breakers (Wikipedia). It is a water spirit, monster, chief, something or someone awesome - *taniwha* take many forms from logs to reptiles and whales and often live in lakes, rivers or the sea. They are often regarded as guardians by the people who live in their territory (Maori Online Dictionary).



## STUDENT WORKSHEET: PUZZLE 2

### *Instructions*

Complete the 12x table below, then colour in all the answers to reveal the hidden picture.

$1 \times 12 =$

$2 \times 12 =$

$3 \times 12 =$

$4 \times 12 =$

$5 \times 12 =$

$6 \times 12 =$

$7 \times 12 =$

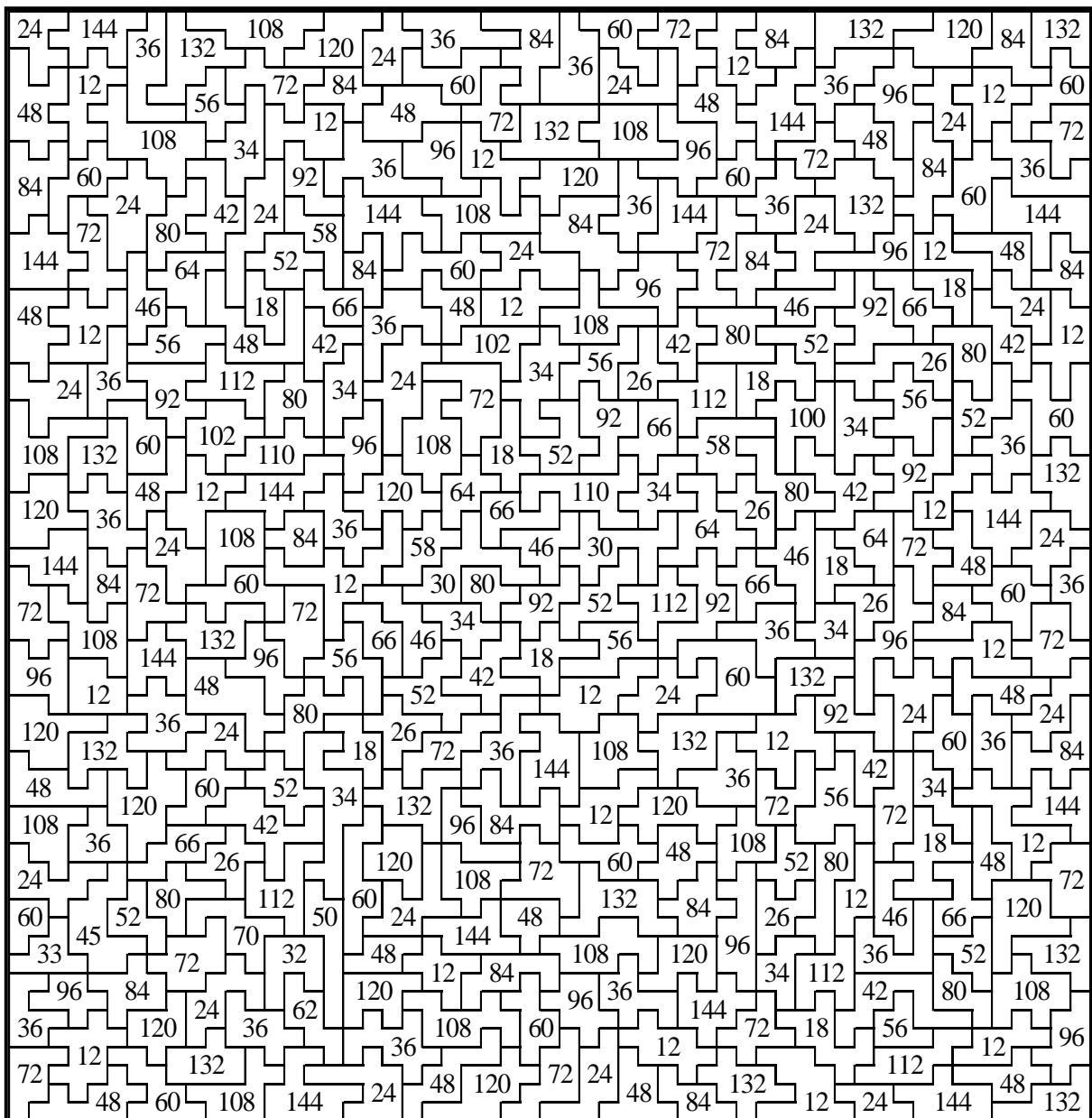
$8 \times 12 =$

$9 \times 12 =$

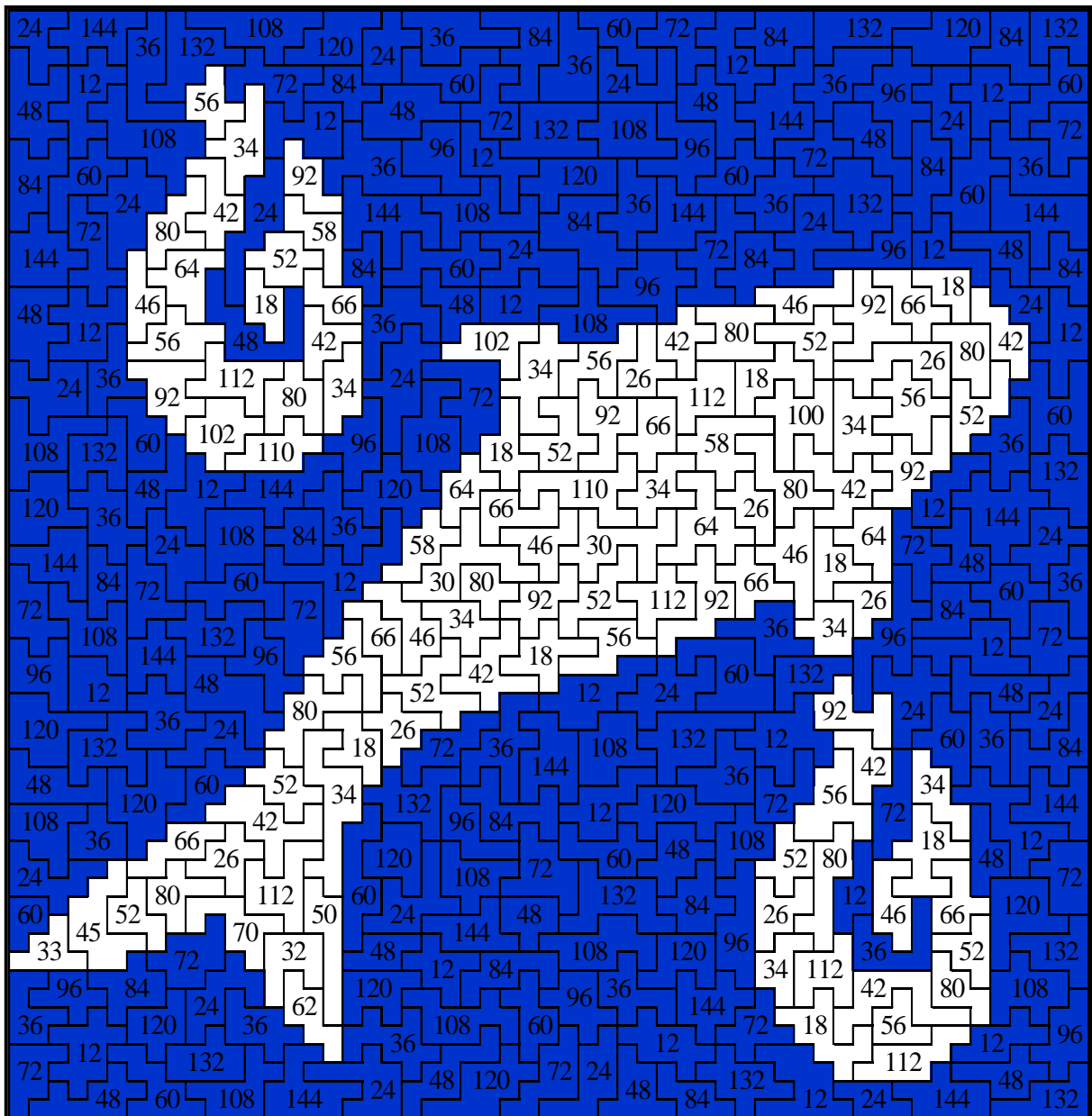
$10 \times 12 =$

$11 \times 12 =$

$12 \times 12 =$



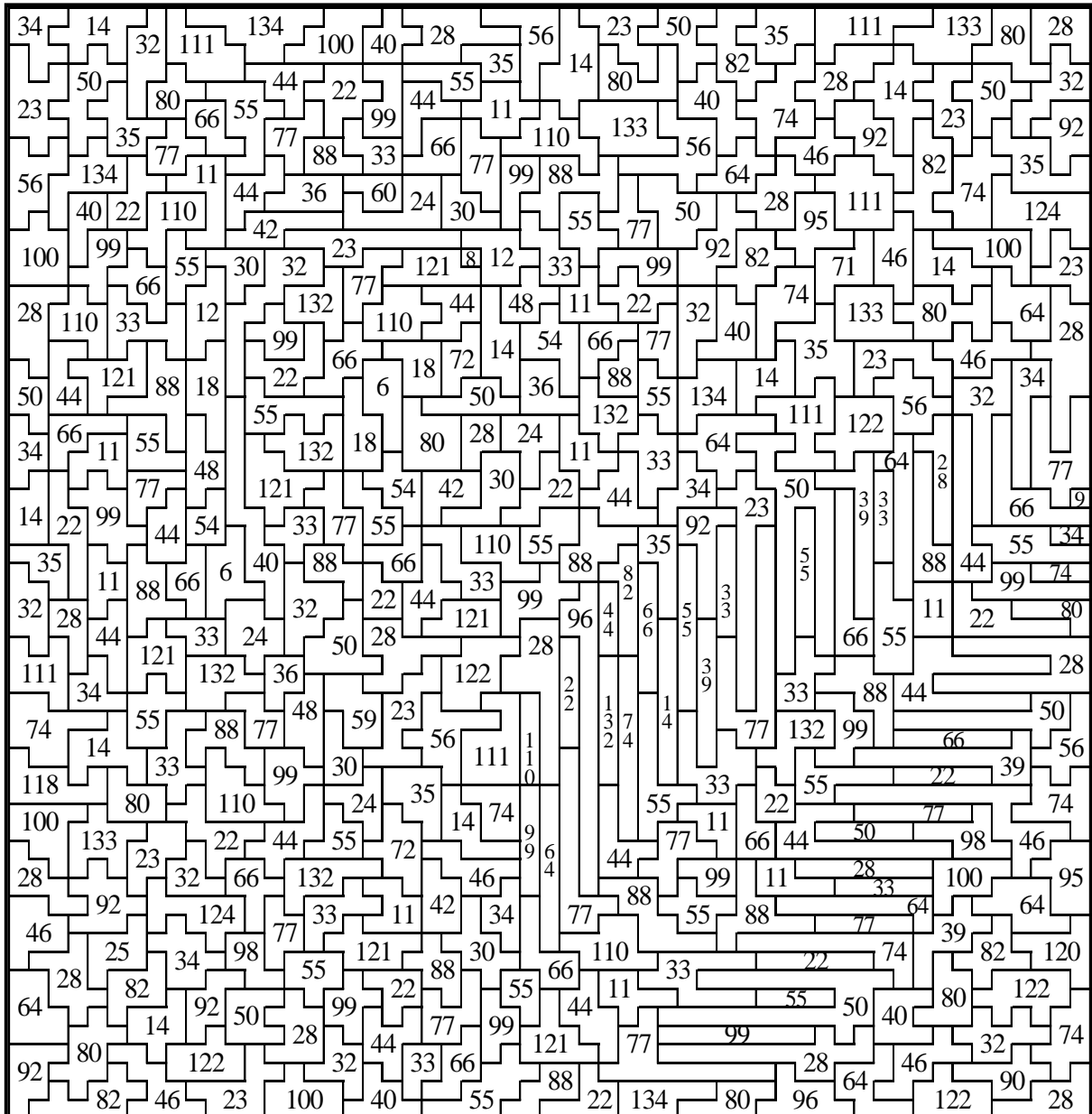
## SOLUTION PUZZLE 2: 12X TABLE DEPICTING WHALE AND WHALE BONE CARVINGS



### STUDENT WORKSHEET: PUZZLE 3

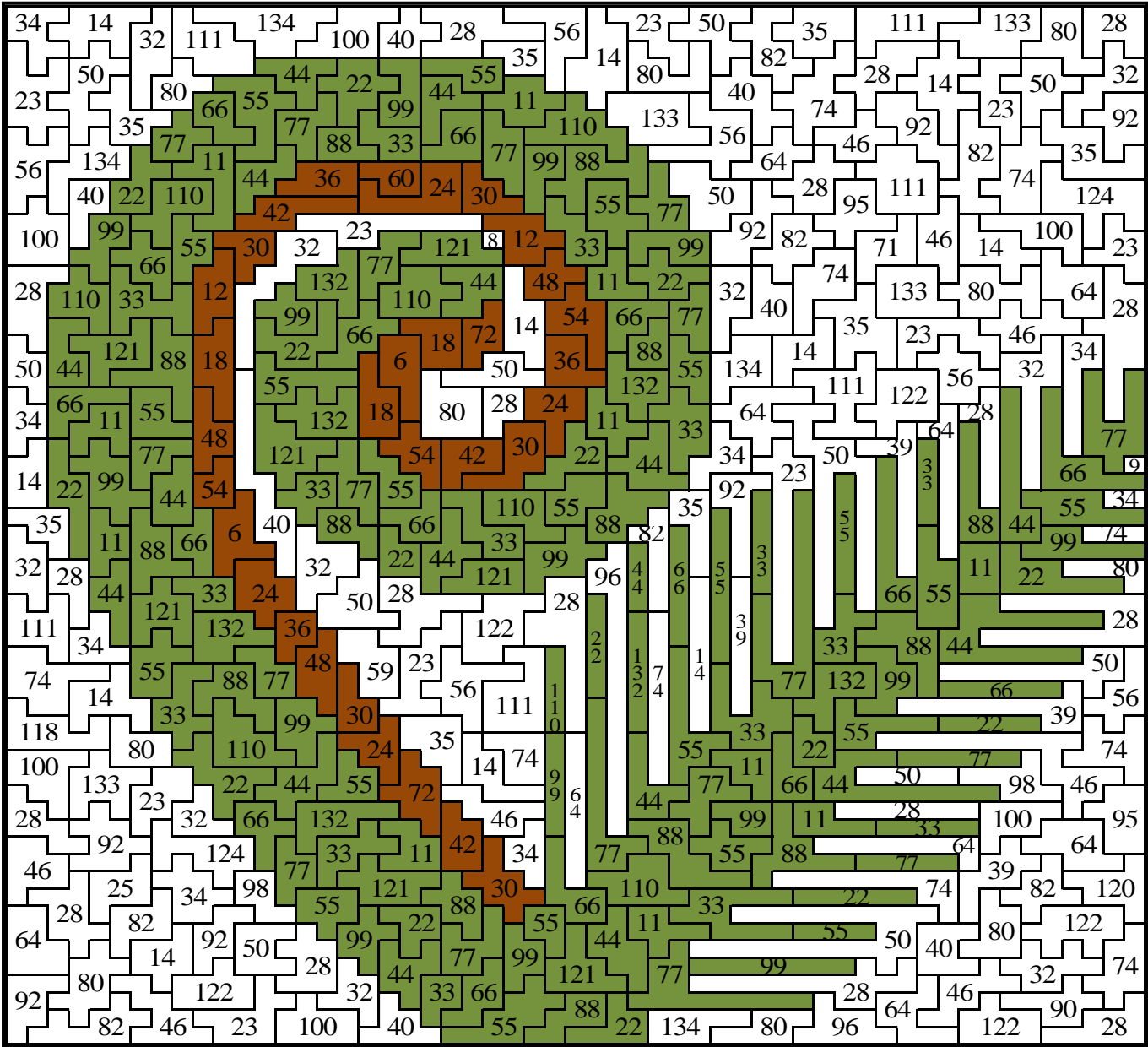
#### Instructions

First write out the 11x table from 1 x 11 to 12 x 11. Then colour all the answers in green. Second write out the 6x table from 1 x 6 to 12 x 6 and colour in all the answers in brown.



**SOLUTION PUZZLE 3: 11X AND 6X TABLES DEPICTING THE KORU**

The Koru is the Maori name given to the new unfurling fern frond and symbolises new life, growth, strength and peace. It is an integral symbol in Maori carving and tattoos (Wikipedia).

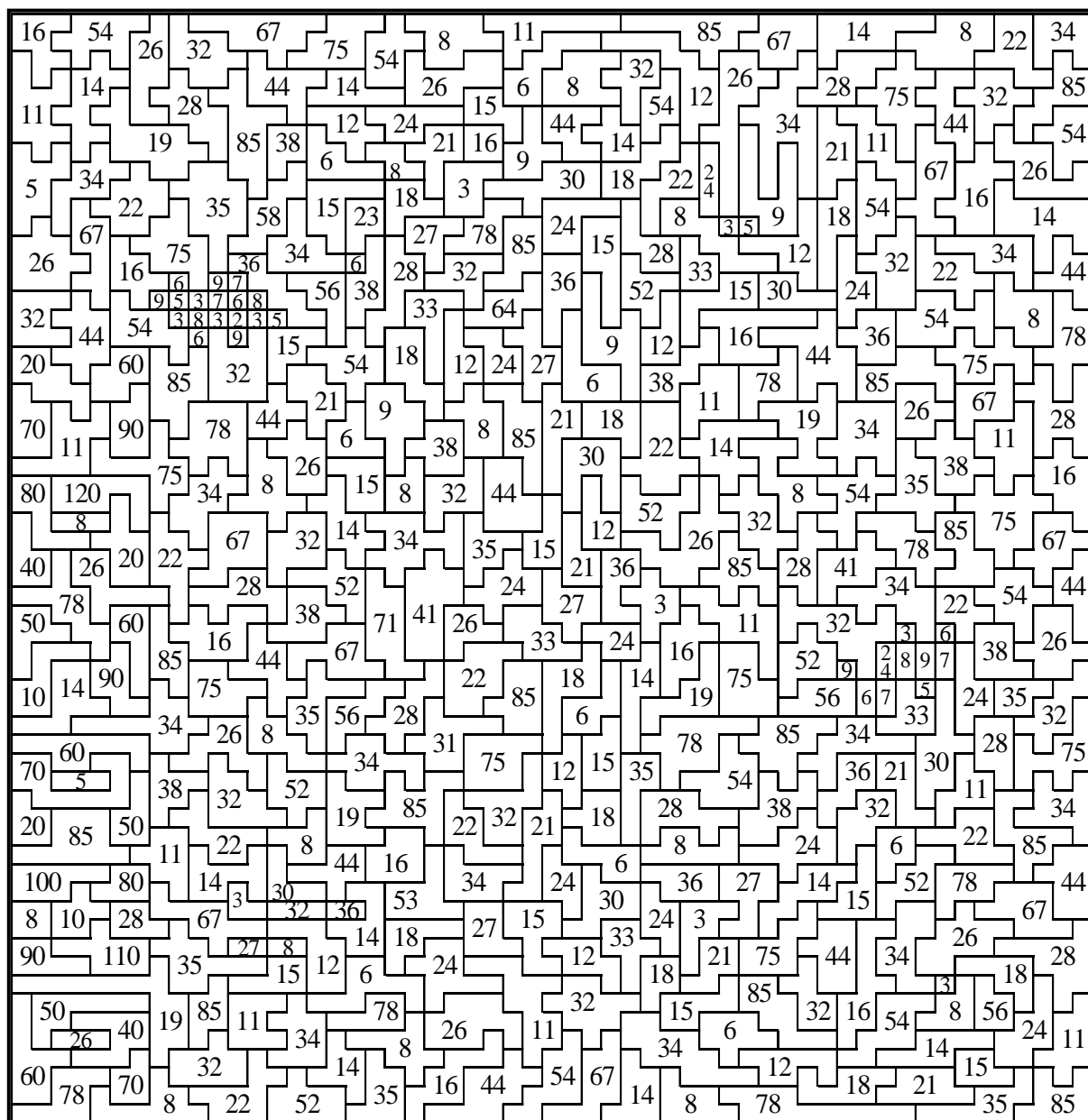


## STUDENT WORKSHEET: PUZZLE 4

### Instructions

First write out the 3x table from 1 x 3 to 12 x 3. Then colour all the answers in a colour of your choice.

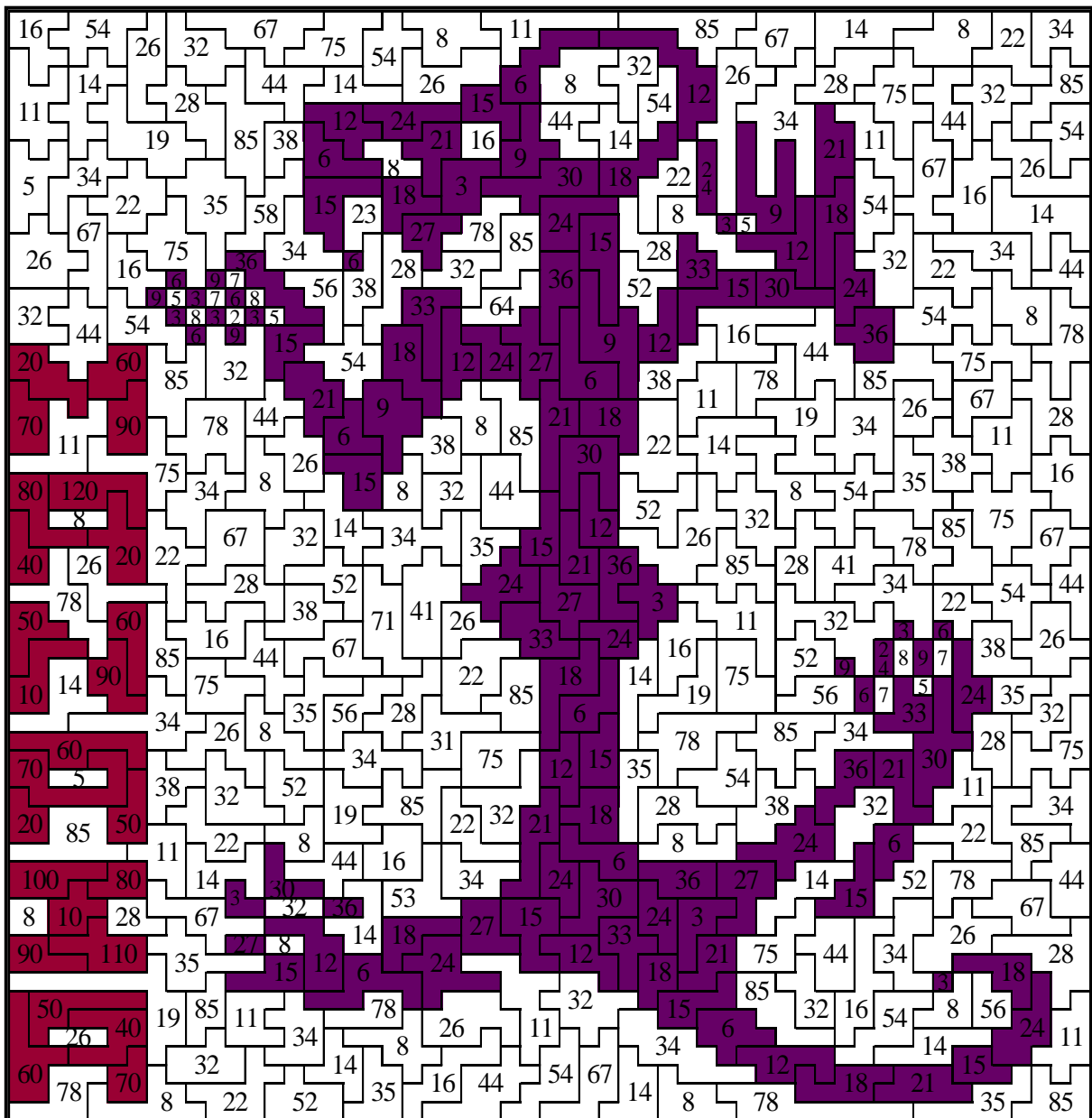
Second write out the 10x table from 1 x 10 to 12 x 10 and colour in all the answers in a different colour.





### SOLUTION PUZZLE 4: 3X AND 10X TABLES DEPICTING THE MANAIA

The Manaia is a stylised figure used in carving - a quaint little fish usually mottled in browns. The body is narrow and strongly cross ridged on the sides. The head resembles a horse, but the tail is curled (Maori Online Dictionary).

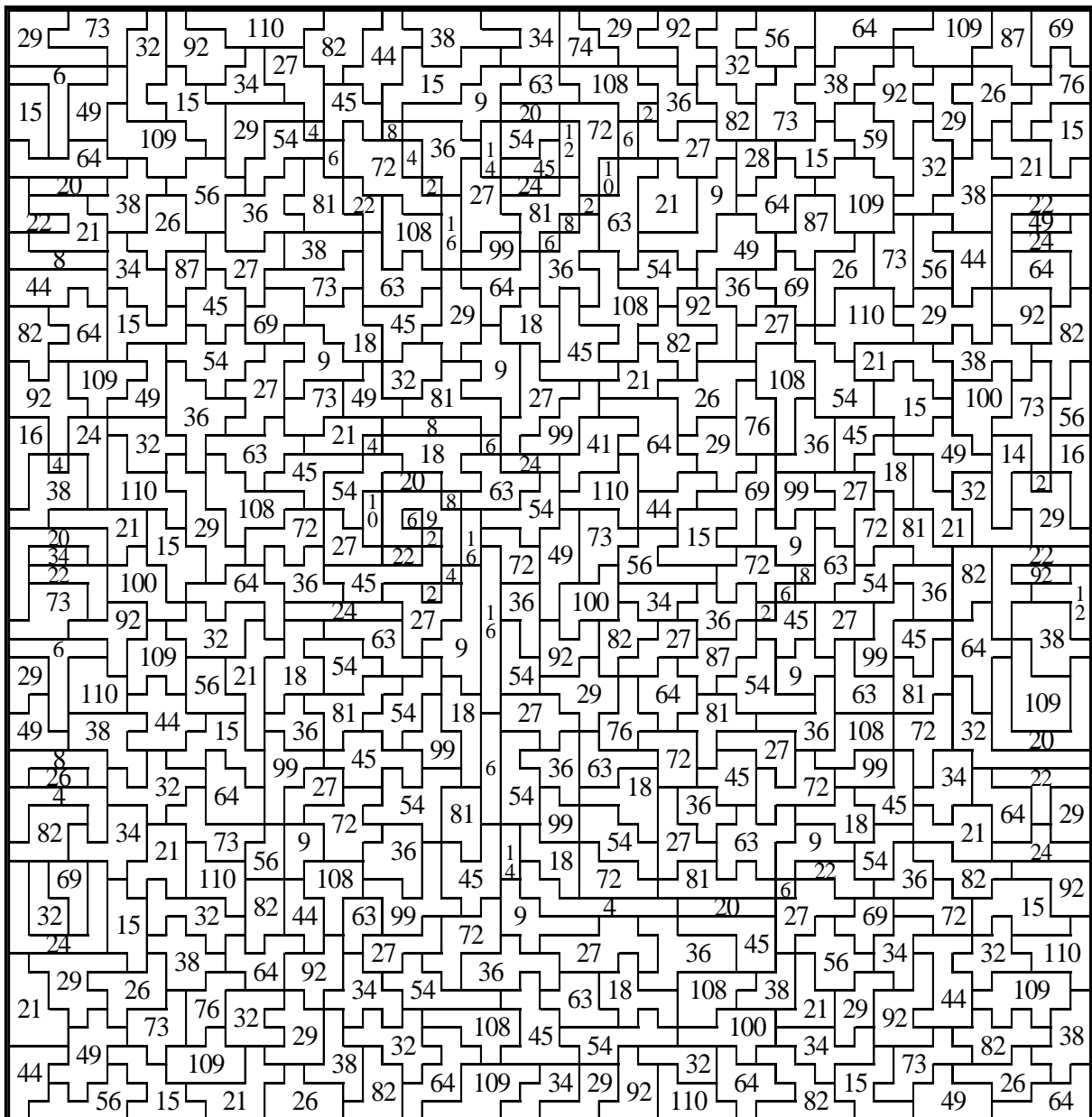


## STUDENT WORKSHEET: PUZZLE 5

### Instructions

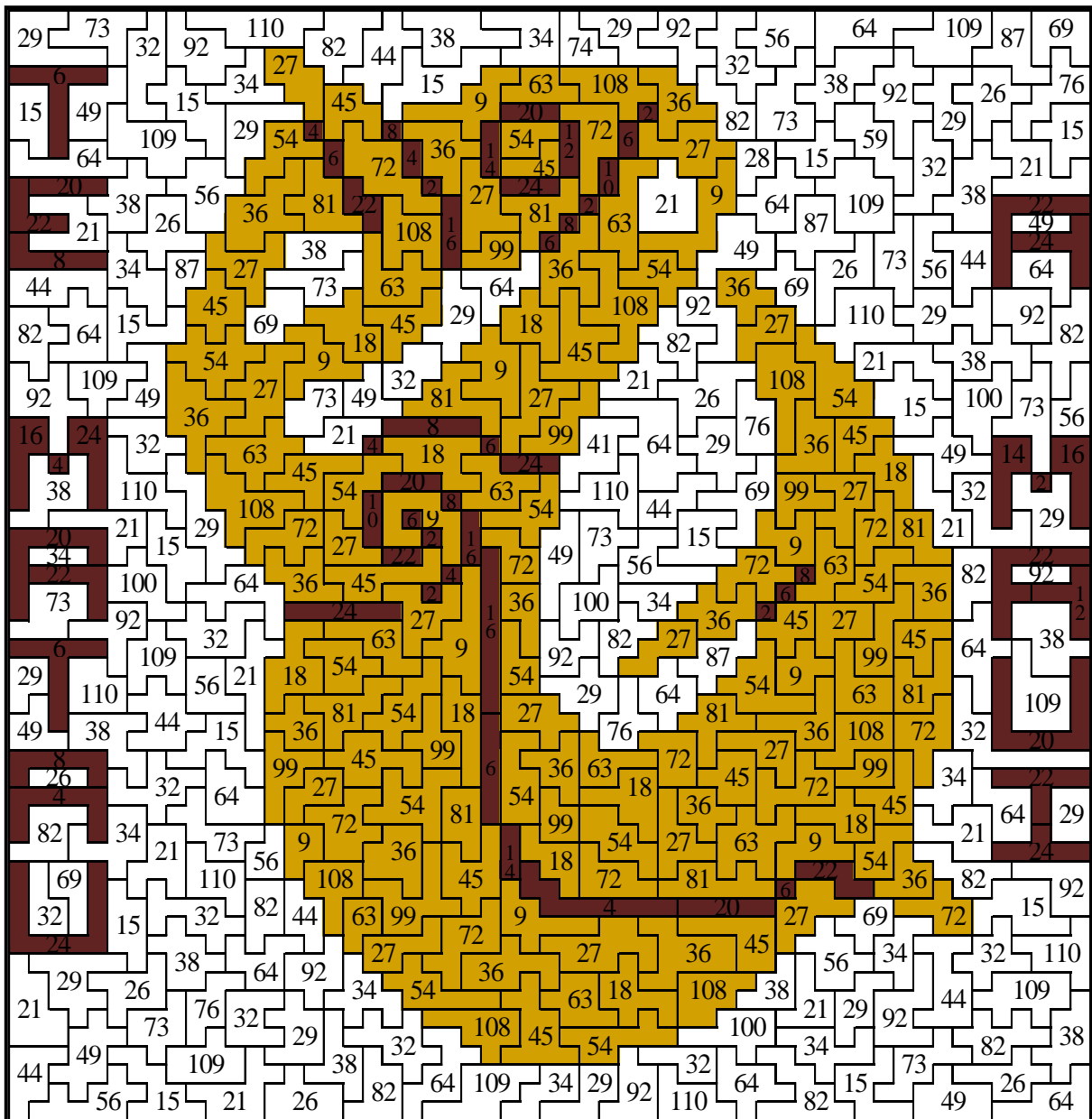
First write out the 9x table from 1 x 9 to 12 x 9. Then colour all the answers in a colour of your choice.

Second write out the 2x table from 1 x 2 to 12 x 2 and colour in all the answers in a second colour.



**SOLUTION PUZZLE 5: 9X AND 2X TABLES DEPICTING  
TE MATAU A MAUI – THE HOOK OF MAUI**

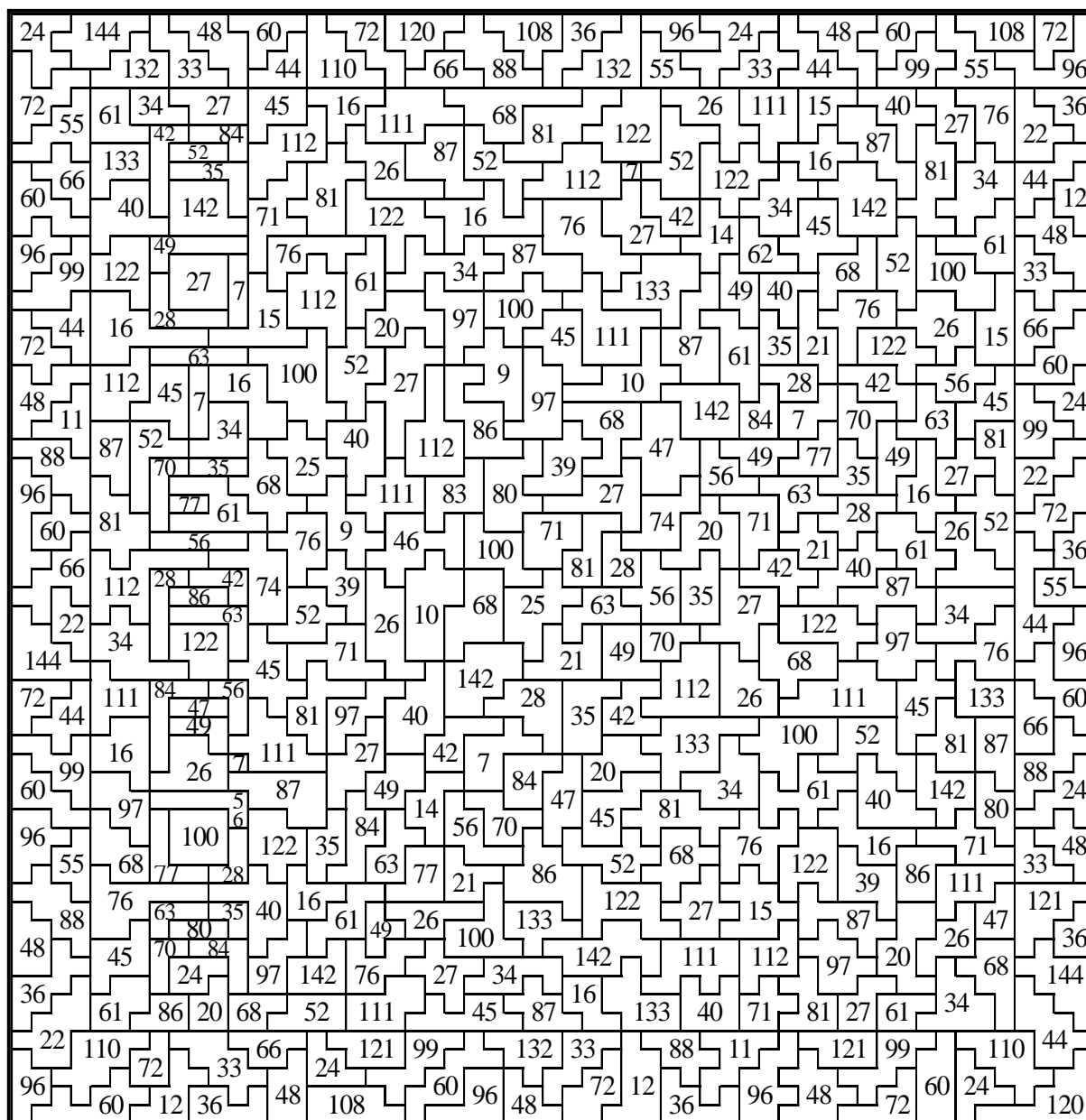
Te Matau a Maui or The Fish Hook of Maui is from an ancient Maori folklore in which Maui fishes up the islands of New Zealand.



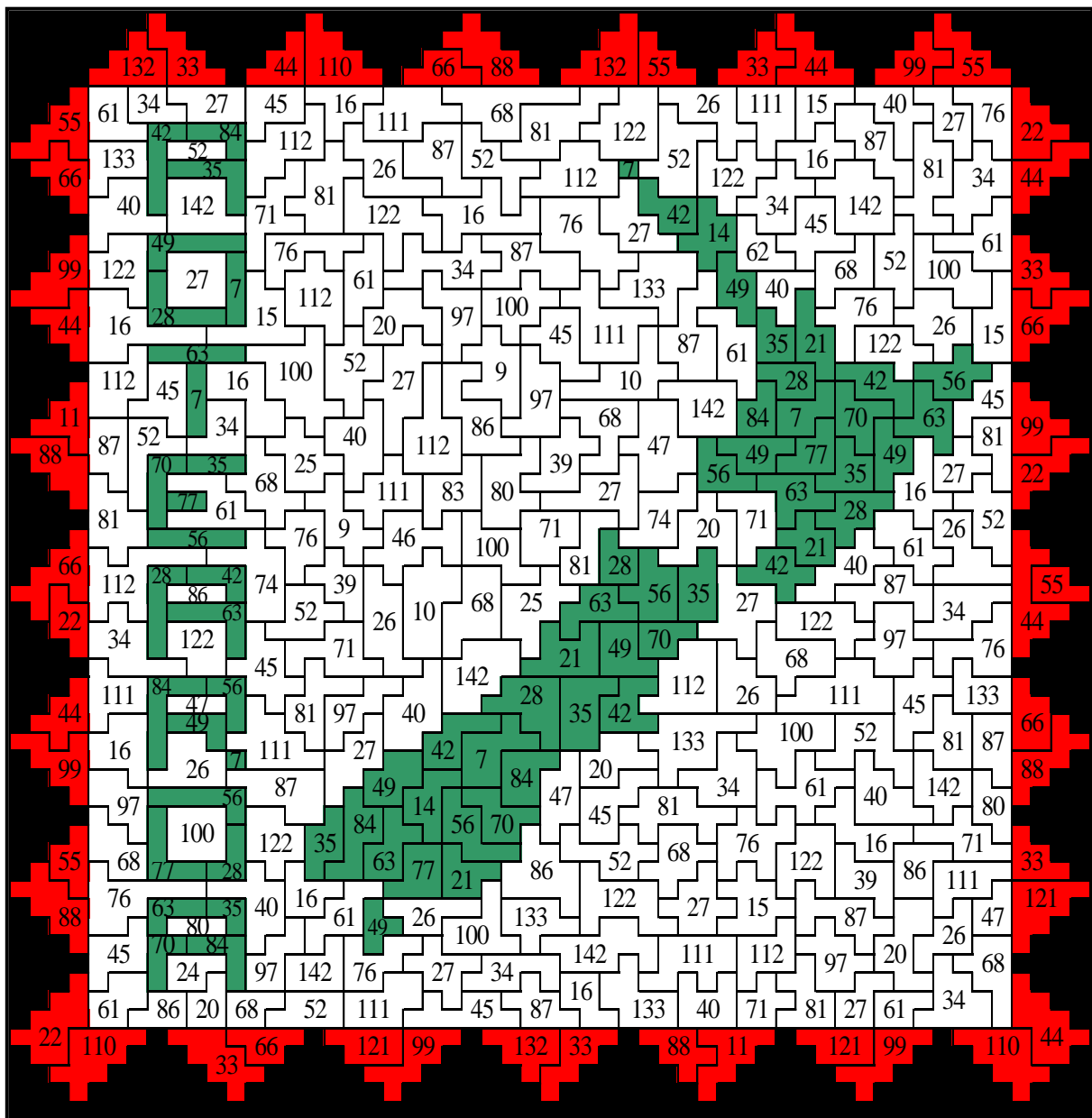
## STUDENT WORKSHEET: PUZZLE 6

### *Instructions*

First write out the 7x table from 1 x 7 to 12 x 7. Then colour all the answers in green.  
 Second write out the 11x table from 1 x 11 to 12 x 11 and colour in all the answers in red.  
 Third write out the 12x table from 1 x 12 to 12 x 12 and colour all the answers in black.



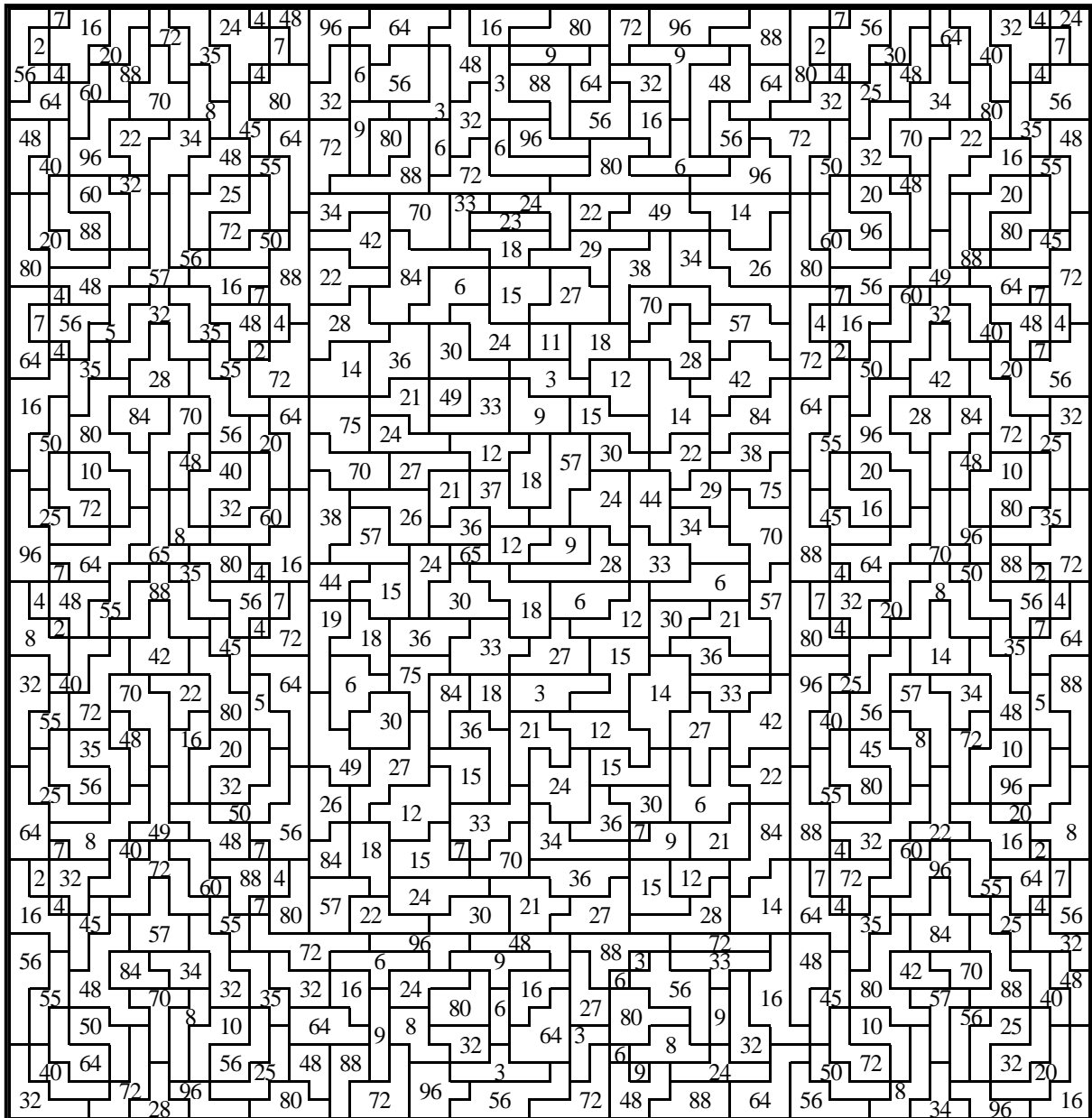
**SOLUTION PUZZLE 6: 7X, 11X AND 12X TABLES DEPICTING THE MAP OF NEW ZEALAND -  
AOTEAROA**



## STUDENT WORKSHEET: PUZZLE 7

### Instructions

First write out the 3x table from 1 x 3 to 12 x 3. Then colour all the answers in green.  
Second write out the 5x table from 1 x 5 to 12 x 5 and colour in all the answers in red.  
Third write out the 8x table from 1 x 8 to 12 x 8 and colour in all the answers in black.



## SOLUTION PUZZLE 7: 3X, 5X AND 8X TABLES DEPICTING HEI TIKI

The Tiki is a carved figure or image. It is worn around the neck as an ornament and is usually made of greenstone and carved in an abstract form of a human (Maori Online Dictionary). Hei means to tie round the neck.

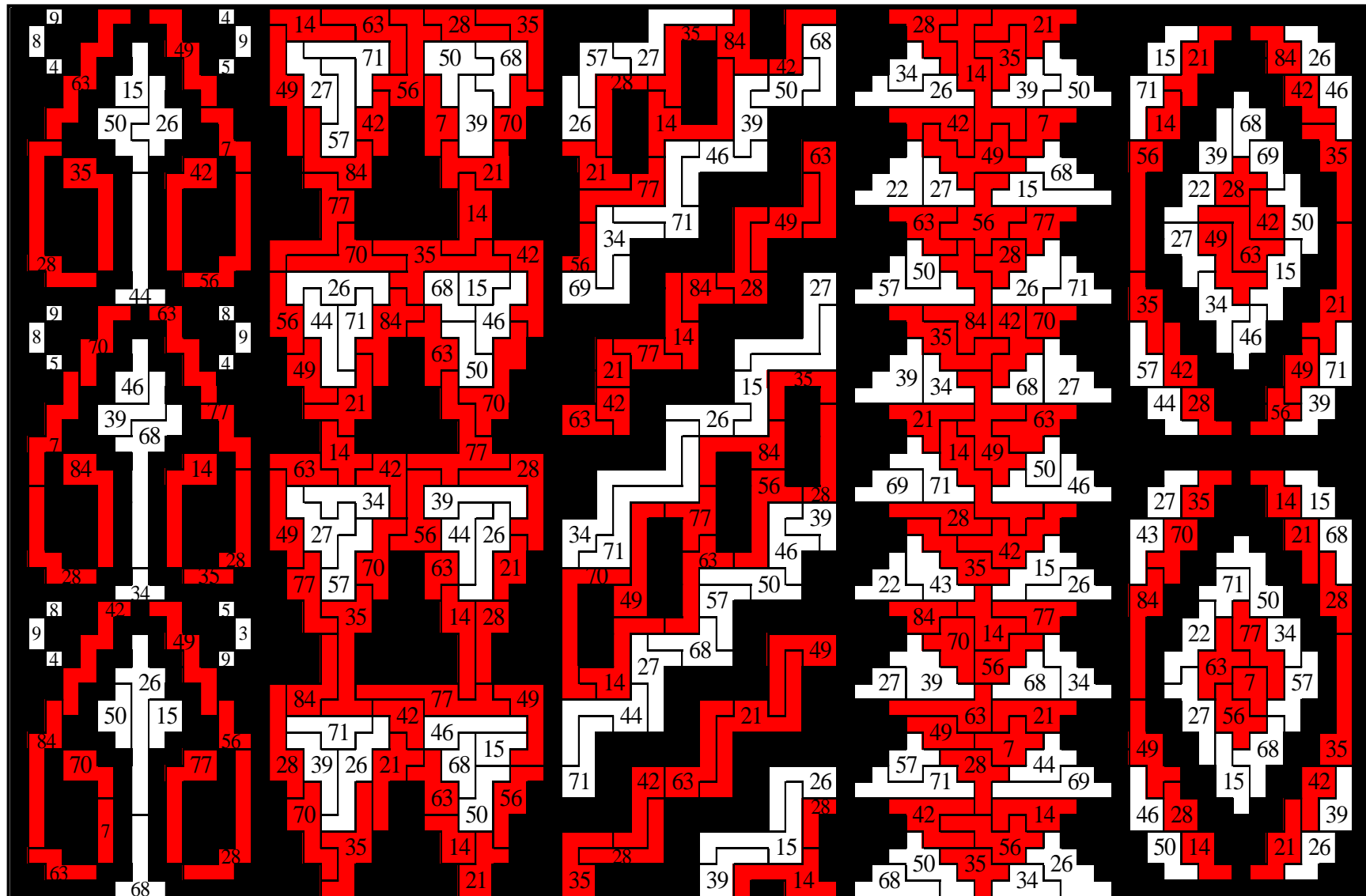






**SOLUTION PUZZLE 8: 7X AND 6X TABLES DEPICTING MAORI DESIGNS AND WEAVING PATTERNS**

When completed, puzzles can be joined together to form a border around the classroom.  
The pattern matches up horizontally and vertically.

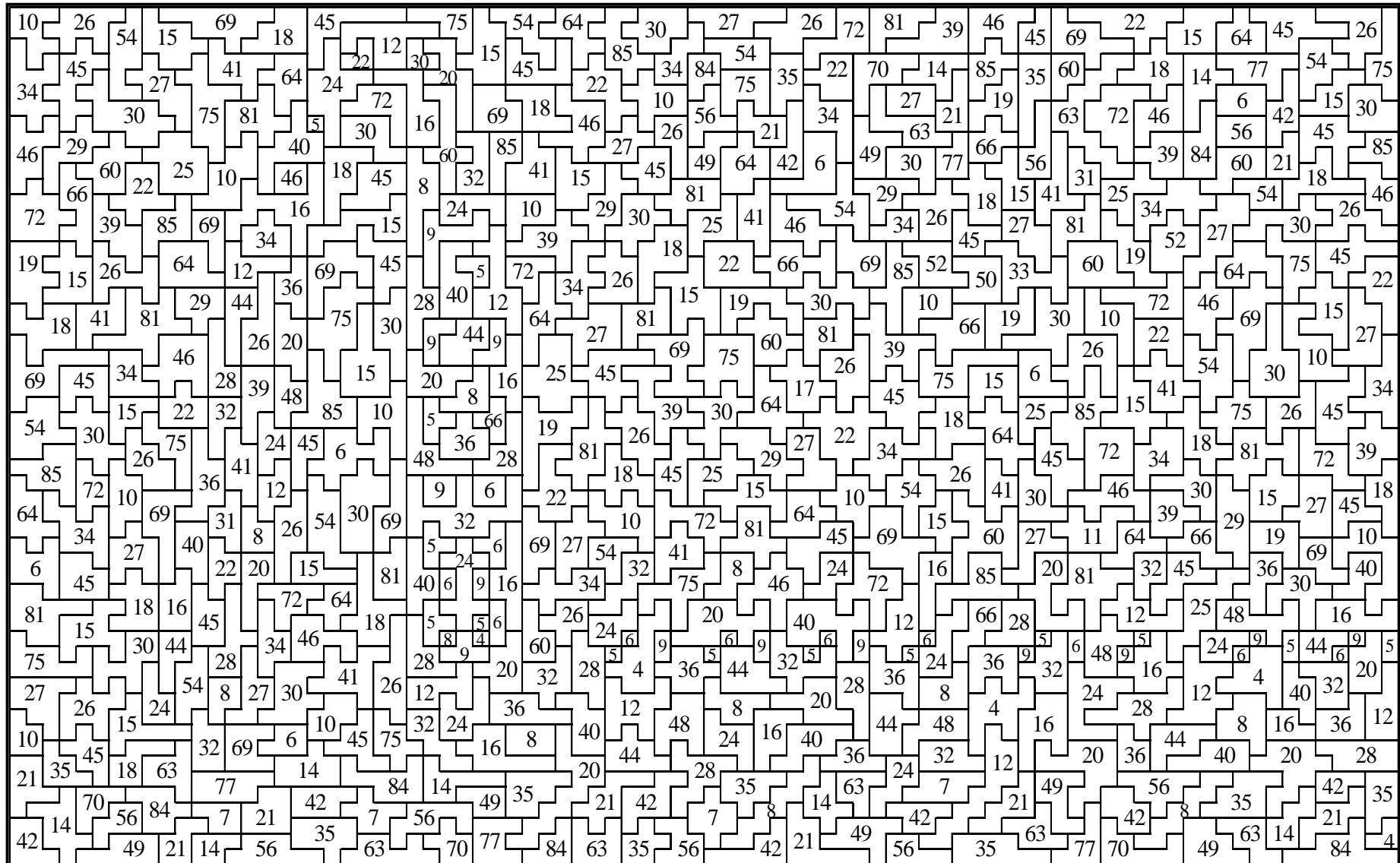


**STUDENT WORKSHEET: PUZZLE 9A**

**Instructions** This is part 1 of a 2 part puzzle.

First write out the 4x table from 1 x 4 to 12 x 4. Then colour all the answers in brown.

Second write out the 7x table from 1 x 7 to 12 x 7 and colour in all the answers in blue.

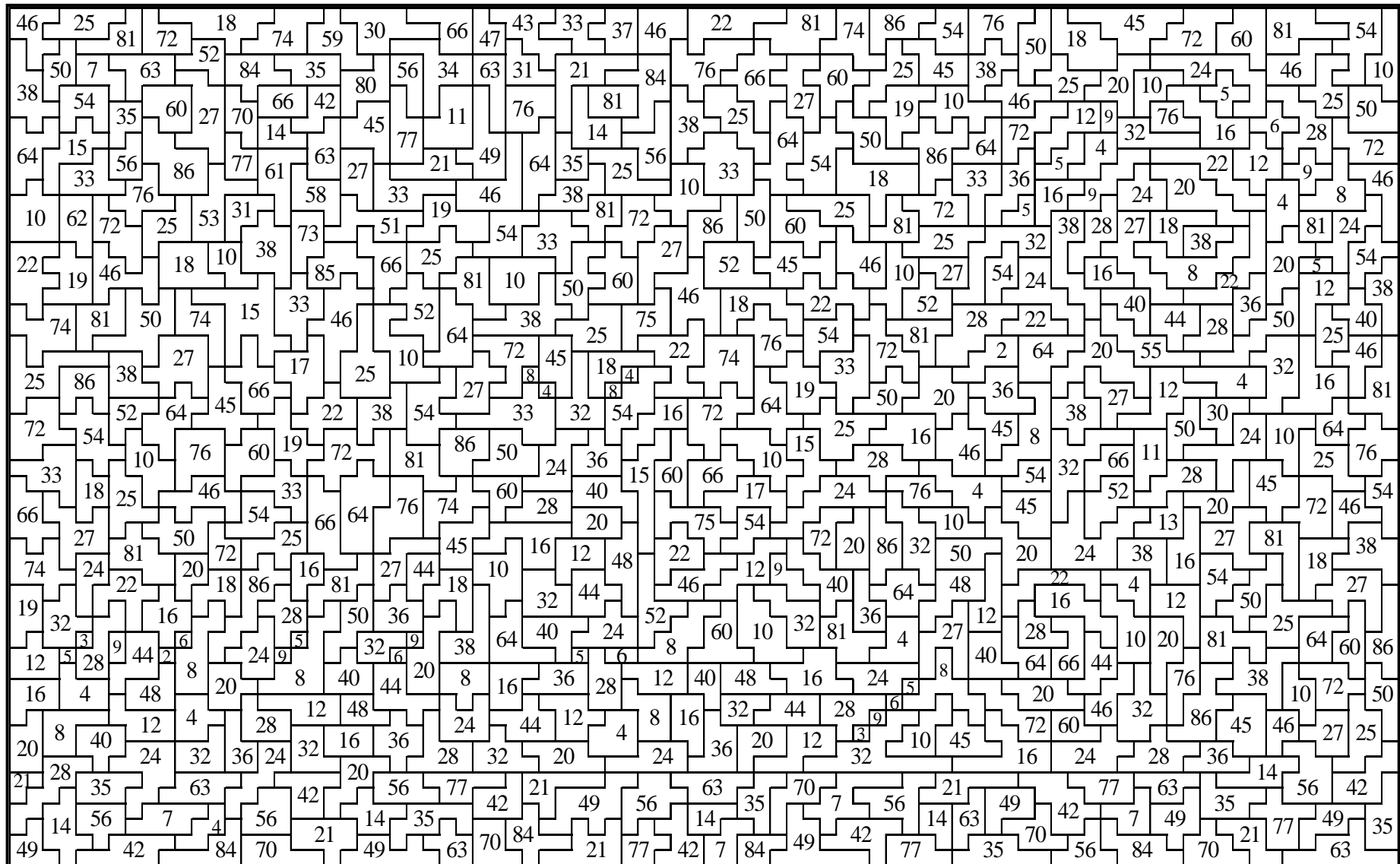


**STUDENT WORKSHEET: PUZZLE 9B**

**Instructions** This is part 2 of a 2 part puzzle.

First write out the 4x table from 1 x 4 to 12 x 4. Then colour all the answers in brown.

Second write out the 7x table from 1 x 7 to 12 x 7 and colour in all the answers in blue.

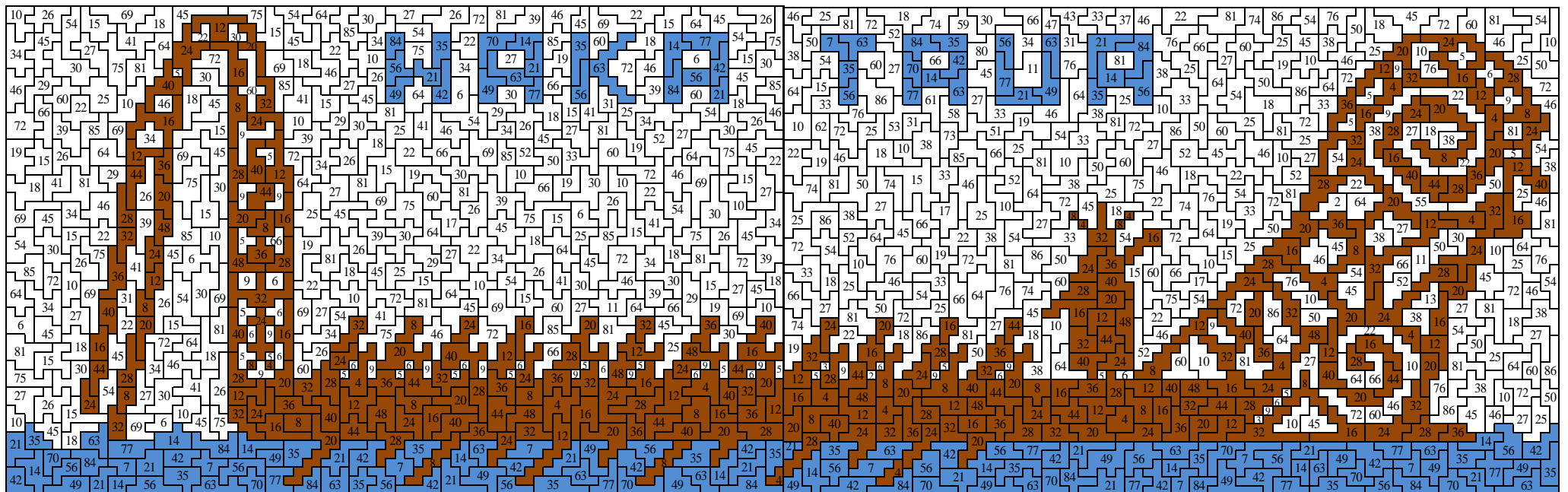


## SOLUTION PUZZLES 9A AND 9B: 4X AND 7X TABLES DEPICTING THE WAKA

Waka Taua means war canoe. Allied tribes descended from the crew of a canoe which migrated to New Zealand (Maori Online Dictionary).

9A

9B



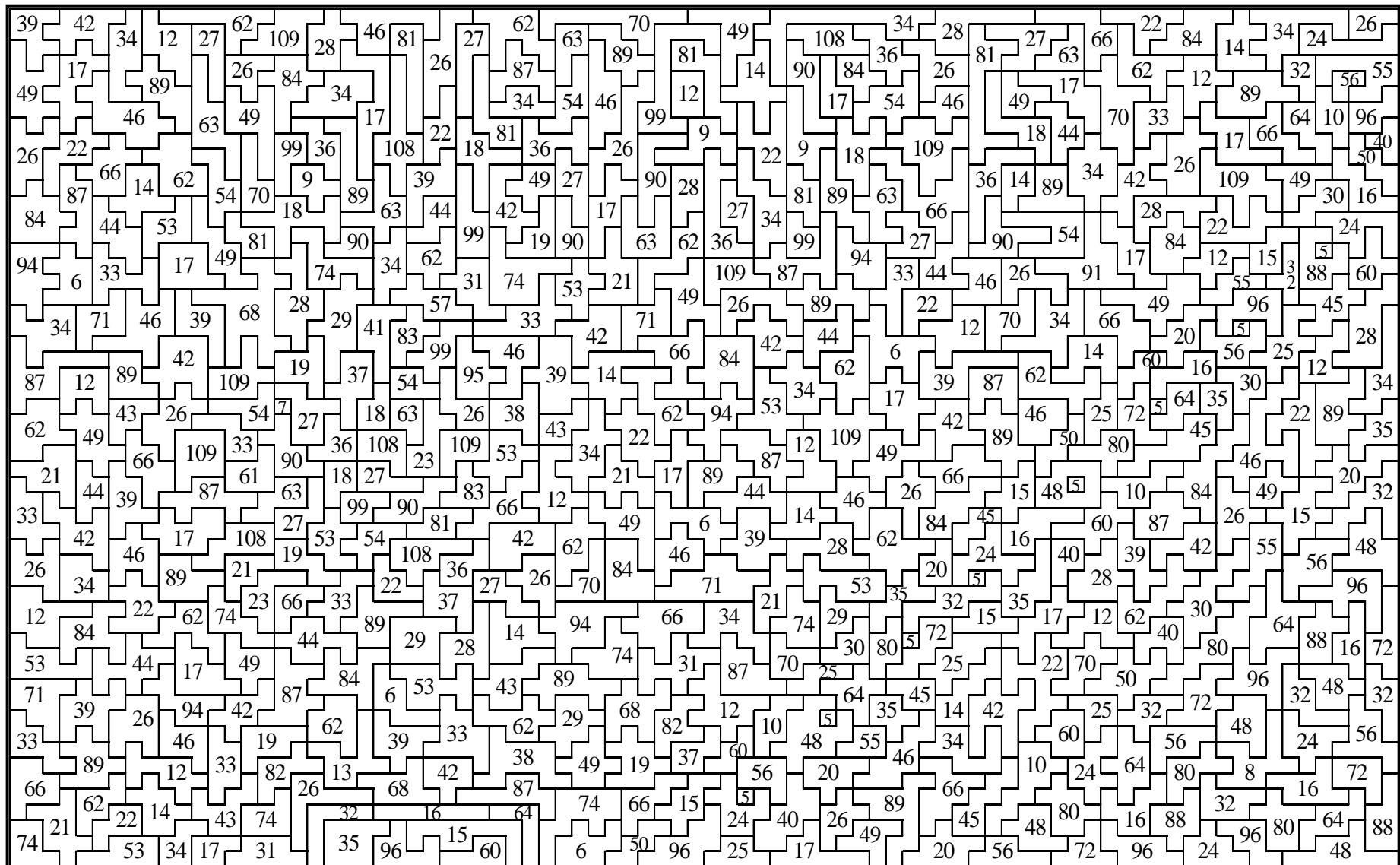
**STUDENT WORKSHEET: PUZZLE 10A**

**Instructions** This is part 1 of a 4 part puzzle

First write out the 5x table from 1 x 5 to 12 x 5. Then colour all the answers in red.

Second write out the 8x table from 1 x 8 to 12 x 8 and colour in all the answers in brown.

Third write out the 9x table from 1 x 9 to 12 x 9 and colour in all the answers in green.



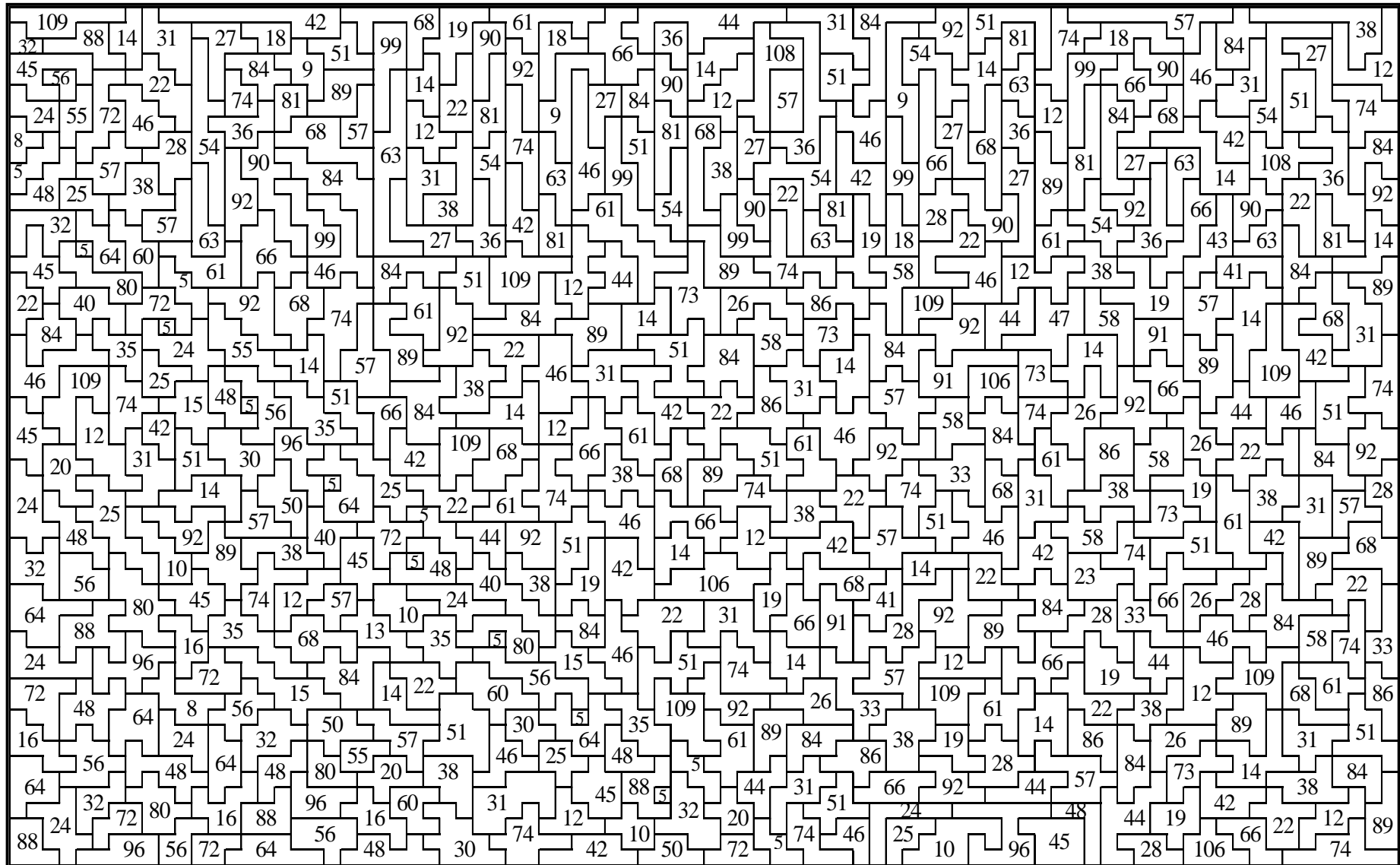
**STUDENT WORKSHEET: PUZZLE 10B**

**Instructions** This is part 2 of a 4 part puzzle.

First write out the 5x table from 1 x 5 to 12 x 5. Then colour all the answers in red.

Second write out the 8x table from 1 x 8 to 12 x 8 and colour in all the answers in brown.

Third write out the 9x table from 1 x 9 to 12 x 9 and colour in all the answers in green.



**STUDENT WORKSHEET: PUZZLE 10C**

**Instructions** This is part 3 of a 4 part puzzle.

First write out the 5x table from 1 x 5 to 12 x 5. Then colour all the answers in red.

Second write out the 8x table from 1 x 8 to 12 x 8 and colour in all the answers in brown.

Third write out the 9x table from 1 x 9 to 12 x 9 and colour in all the answers in green.

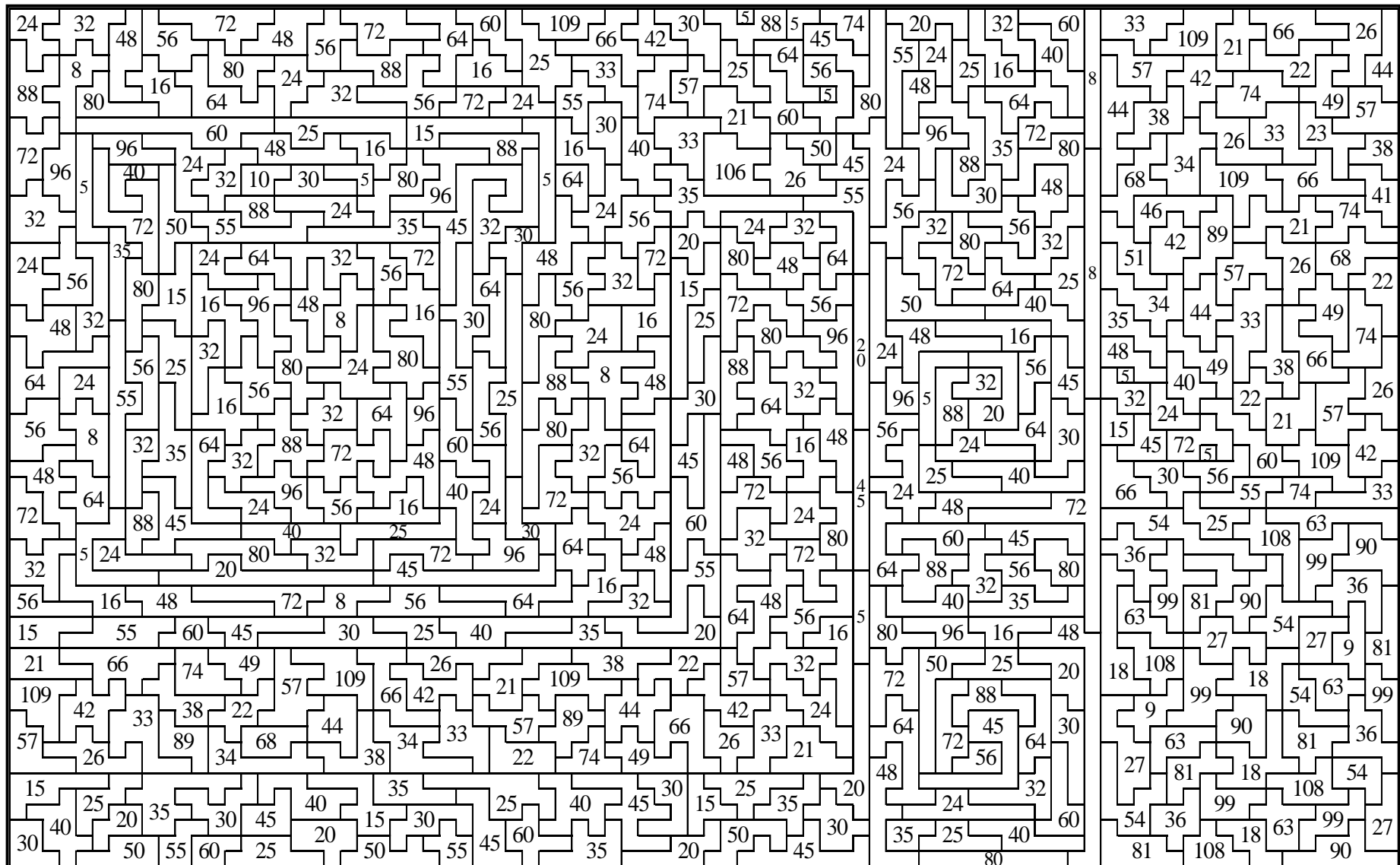
**STUDENT WORKSHEET: PUZZLE 10D**

**Instructions** This is part 4 of a 4 part puzzle.

First write out the 5x table from 1 x 5 to 12 x 5. Then colour all the answers in red.

Second write out the 8x table from 1 x 8 to 12 x 8 and colour in all the answers in brown.

Third write out the 9x table from 1 x 9 to 12 x 9 and colour in all the answers in green.





### SOLUTION PUZZLES 10 A TO 10 D: 5x, 8x AND 9x TABLES DEPICTING THE WHARE

This is a simple representation of a whare and is not intended to copy the ancestry and richness of carving of any actual whare. Whare Runanga means meeting house (Maori Online Dictionary).

10A

10B



10C

10D