

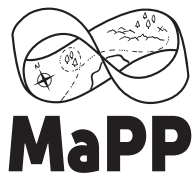


# **MAA MathFest 2018 - MaPP Challenge DEMO**

*Mathematical Puzzle Programs*

## **Part I**

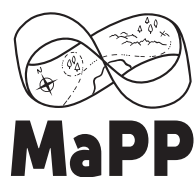
# **Player Handout**



## MaPP Challenge '18 - Gotta Solve 'Em All

# Code Sheet

Letter	Decimal	Binary	Morse Code	Braille	Pig Pen	ROT13
A	1	00001	.-	⠠	└	N
B	2	00010	...-	⠡	┐	O
C	3	00011	-.--	⠢	└	P
D	4	00100	..--	⠣	└	Q
E	5	00101	.---	⠤	┐	R
F	6	00110	..--	⠥	┐	S
G	7	00111	---.	⠦	┐	T
H	8	01000	....	⠧	┐	U
I	9	01001	..	⠨	┐	V
J	10	01010	.-..	⠩	└	W
K	11	01011	--.	⠪	┐	X
L	12	01100	.-..	⠫	└	Y
M	13	01101	--	⠭	┐	Z
N	14	01110	-.	⠮	┐	A
O	15	01111	---	⠯	┐	B
P	16	10000	.-.-	⠰	┐	C
Q	17	10001	---.	⠱	┐	D
R	18	10010	.-.	⠲	┐	E
S	19	10011	...	⠳	┐	F
T	20	10100	-	⠴	┐	G
U	21	10101	..-	⠵	┐	H
V	22	10110	...-	⠶	┐	I
W	23	10111	.-.-	⠷	┐	J
X	24	11000	---.	⠸	┐	K
Y	25	11001	---.	⠹	┐	L
Z	26	11010	---.	⠺	┐	M



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## Knot True

Tournament Results

	Ash	Brock	Cynthia	Drayden	Erika	Flannery
1st	O	Y	G	U	S	J
2nd	Q	C	M	V	A	X
3rd	F	P	U	N	I	E
4th	L	A	S	I	D	T
5th	K	N	B	Z	T	R
6th	H	R	W	E	L	M



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# When Push Comes to Shove

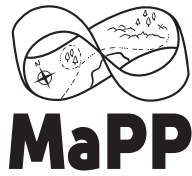
## Warehouse Specifications

### Warehouse 1:

- Stack either 2 boxes or 6 boxes against a wall.
- Stack 12 boxes against a wall such that every row contains an odd number.
- Stack 8 boxes against a wall such that every row contains less than eight.
- Stack 0, 1, 2, 3, 4 or 5 boxes against a wall.
- Stack 4 boxes against a wall.

### Warehouse 2:

- Stack 8 boxes against a wall such that every row contains less than seven.
- Stack 13 boxes against a wall such that every row has less boxes than the row below it.
- Stack 42 boxes against a wall in a single row.
- Stack either 1 box or 12 boxes such that every row must have a unique number of boxes.



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# The Nickname Rater

## Popular Nicknames

MANKAY

~~EEVOL~~

It seems there's no way  
to construct this name  
using the given rules...

AERODYCTL

ULTRAMON

NOHTYP

EWE

A (Rule 0)  
→ E (Rule 5)  
→ EEEEEEEE (Rule 2, three times)  
→ EEEEEEEW (Rule 1)  
→ EWEW (Rule 3, twice)  
→ EWE (Rule 4)

OMASTARE

A (Rule 0)  
→ AAAAAAAAAAAAAA (Rule 2, four times)  
→ AMASTARA (Rule 3, four times)  
→ OMASTARE (Rule 5)

SLIQUID

PARACENT

VOLTEON

ICHU

DRAGONAT

GENGASKHAN

KADABARA

RAGMAR



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## Cross Product

Odd Scroll

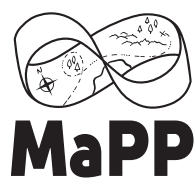
I J C B R K Y W R O K  
L I L Q G C J T A Y H  
A D O A R Y I R N J D  
B O H U E E O M G X B  
I G O A E C N A T L P  
Z Q C Q P H T Z I G T  
Y A P O F E M A G Q T  
G M W T M G C A I Q K  
O D G G L Z B F H V S  
E A D N E U D X L A Q  
W K Z U A Y E F N J W

Lightning × Plant

Undead × Flame

Aqua × Ordinary

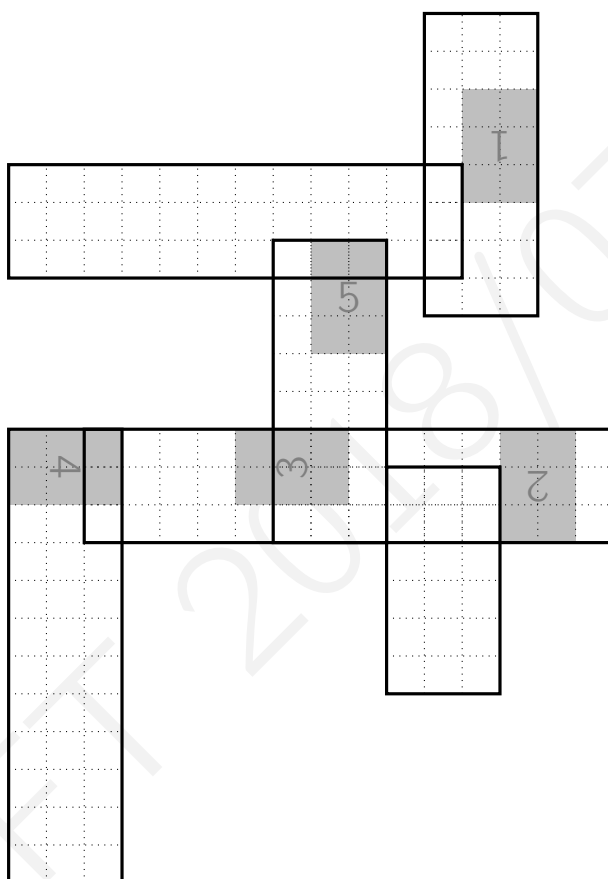
Flame × Magic



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## Blind Luck

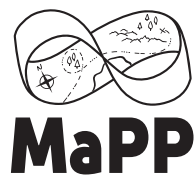
Strange Tilework





## **Part II**

# **Game Control Documents**

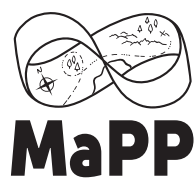


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## Knot True

The following six pages should be printed and laminated. They are put on display around the game area for use in the opening puzzle.

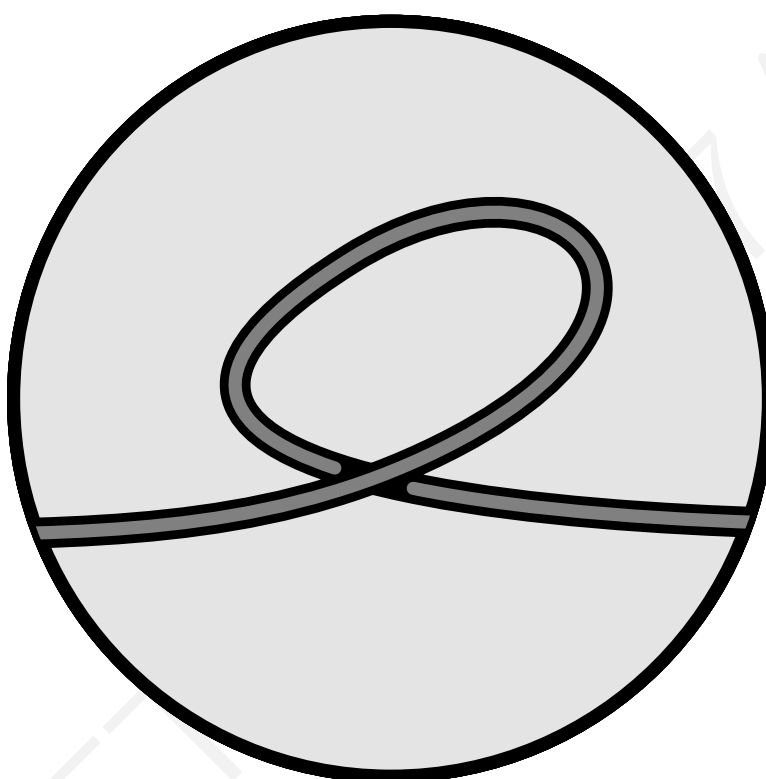
DRAFT 2018/07/26



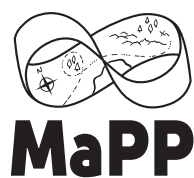
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## Knot True

Ash's Trainer Badge



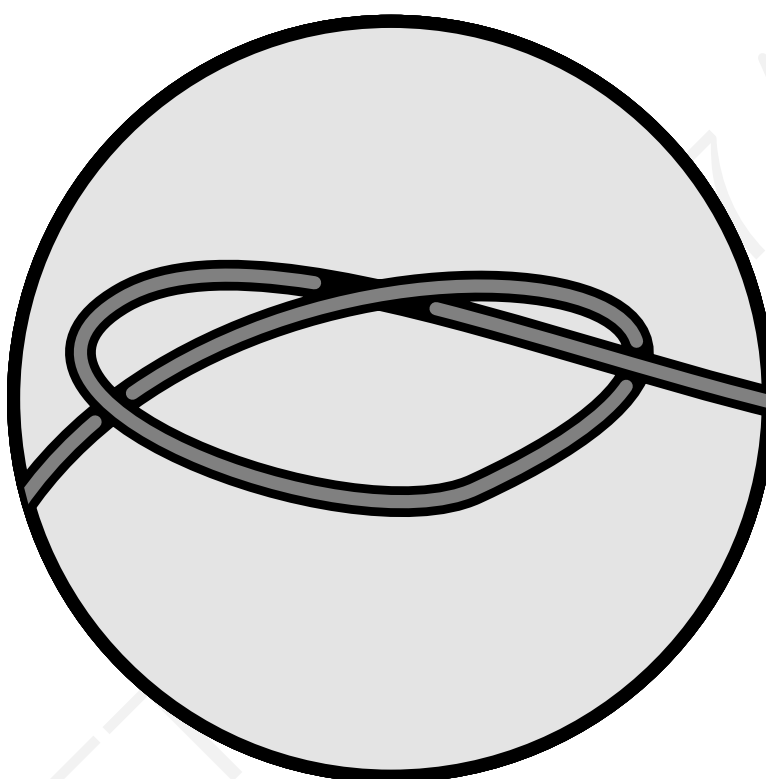
Trainer ID: 365867



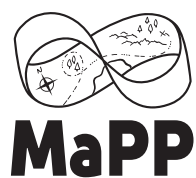
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## Knot True

Brock's Trainer Badge



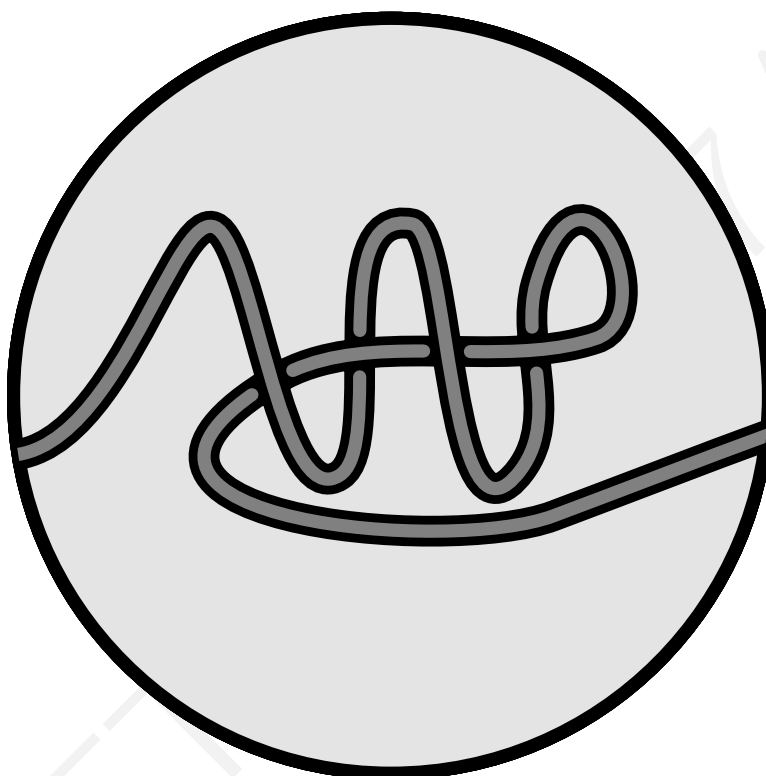
Trainer ID: 198815



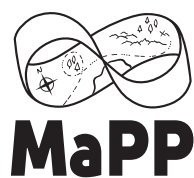
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## Knot True

Cynthia's Trainer Badge



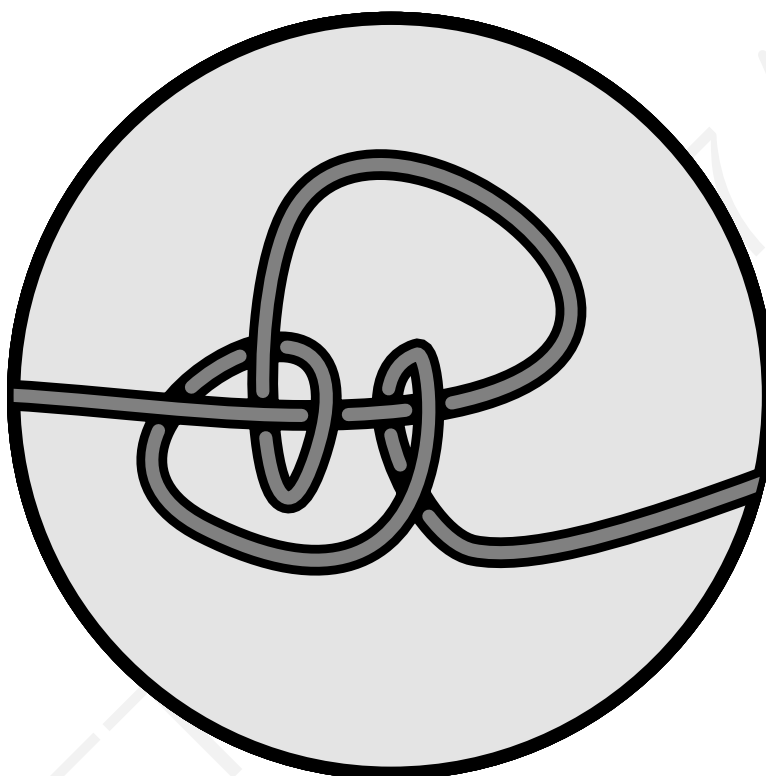
Trainer ID: 255123



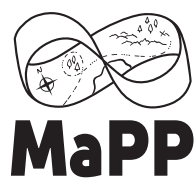
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## Knot True

Drayden's Trainer Badge



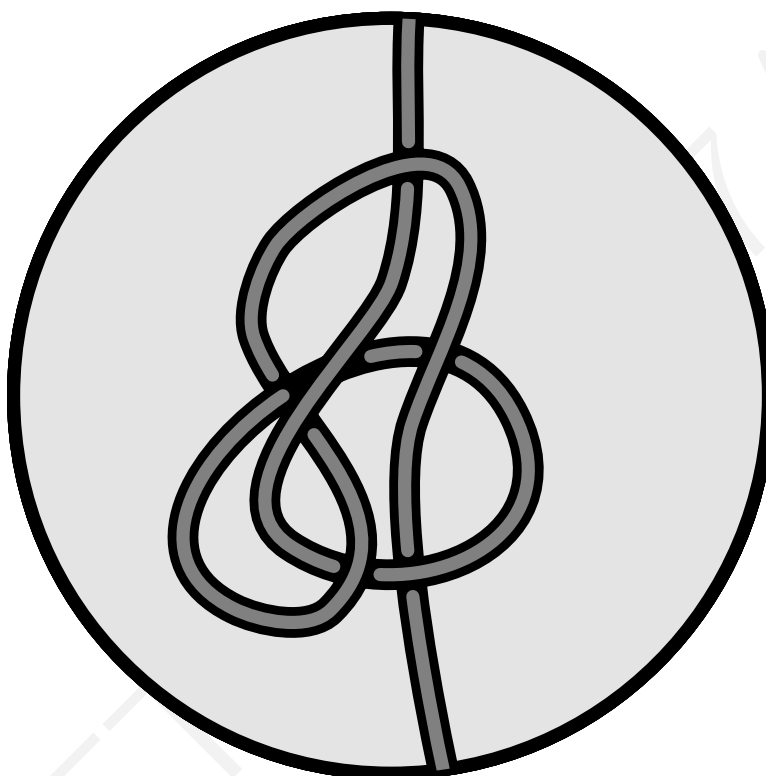
Trainer ID: 443881



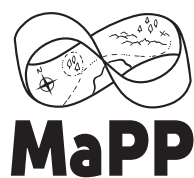
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## Knot True

Erika's Trainer Badge



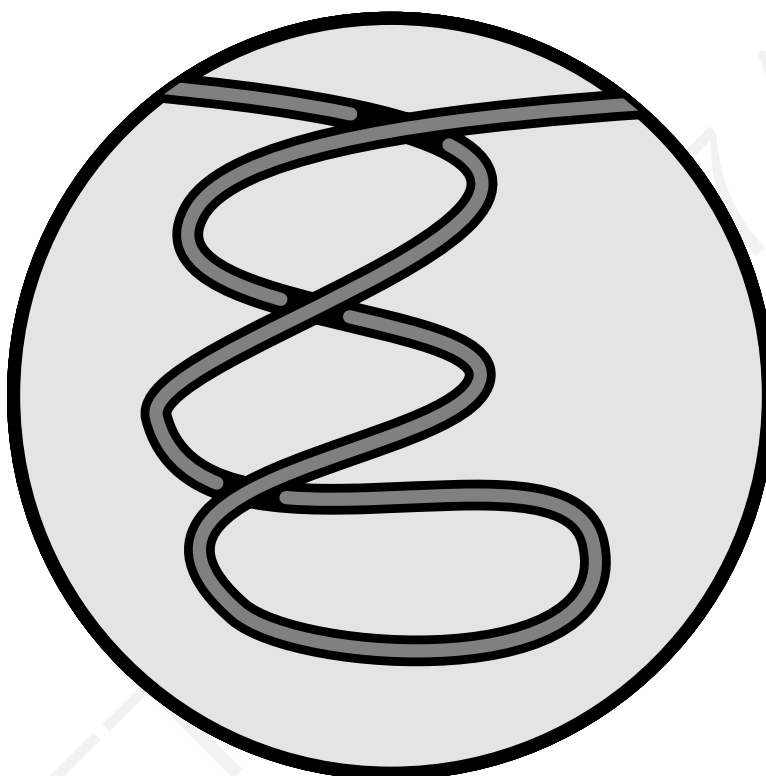
Trainer ID: 310235



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## Knot True

Flannery's Trainer Badge



Trainer ID: 663968