

TABLE (1)

Play to 37

Observations

PLAYER 1	PLAYER 2
1	2
7	7 7+7=14
7	7 7+14=21 21+7=28
7	1 7+28=35 35+1=36
1	
36	1=37

$5 \times 7 + 1 + 1 = 37$

- ① Odd + Odd = Even
- ② Odd + Even = Odd
Even + Odd = Odd
- ③ Even + Even = Even
- ④ 1, 3, 5, 7 are odd
- ⑤ Table 1 and 2 and 3 shows player one's number is always odd, while player 2 is even.

TABLE (2)

PLAYER 1	PLAYER 2
1	2
1	1 1+1=2
1	1 1+2=3 3+1=4
1	35+1=36
1	36+1=37

$36 \times 1 + 1 = 37$

I agree with Fran
If you are player 2, you will never win.
Because 37 is an odd number!

Table (3)

SUM

PLAYER 1	PLAYER 2	PLAYER 1	PLAYER 2	PLAYER 1	PLAYER 2	PLAYER 1	PLAYER 2	PLAYER 1	PLAYER 2
0	0	0	0	0	0	0	0	0	0
	0+0=E	E+0=E	0+0	E+0	0+0	E+0	0+0	E+0	0+0
0	E	0	E	0	E	0	E	0	E

1	3	5	7	All possible ways to 37	
1	3	5	7	$1+3=4$	$9 \times 4 = 36$
1	3	5	7	$1+5=6$	$6 \times 6 = 36$
1	3	5	7	$1+7=8$	$4 \times 8 = 32$
1	3	5	7	$3+5=8$	$4 \times 8 = 32$
1	3	5	7	$3+7=10$	$3 \times 10 = 30$
1	3	5	7	$5+7=12$	$3 \times 12 = 36$
1	3	5	7	$3 \times 11 = 36$	$36 + 1 = 37$
1	3	5	7	$12 \times 3 = 36$	$36 + 1 = 37$
1	3	5	7	$7 \times 5 = 35$	$35 + 1 + 1 = 37$
1	3	5	7	$5 \times 7 = 35$	$35 + 1 + 1 = 37$

Calculate the no. of steps

		$9 \times 2 = 18$ steps	18 steps $+ 1 = 19$ steps
		$6 \times 2 = 12$ steps	12 steps $+ 1 = 13$ steps
		$9 \times 2 = 8$ steps	8 steps $+ 1 = 9$ steps
		$4 \times 2 = 8$ steps	8 steps $+ 1 = 9$ steps
		$3 \times 2 = 6$	$6 + 1 = 7$ steps
		$3 \times 2 = 6$	$6 + 1 = 7$ steps
		$36 + 1 = 37$	37 steps
		$12 + 1 = 13$	13 steps
		$7 + 1 = 8$	8 steps
		$5 + 1 + 1 = 7$	7 steps

7 Min
37 Max

7 Min

Table (4) Explore further

	PLAYER 2	PLAYER 3	PLAYER 1	PLAYER 2	PLAYER 3	PLAYER 1	PLAYER 2	PLAYER 3	PLAYER 1	PLAYER 2	PLAYER 3	
Player	1	2	3	1	2	3	1	2	3	1	2	3
Number	0	0	0	0	0	0	0	0	0	0	0	0
SUM	0+0	0+0	0+0	0+0	0+0	0+0	0+0	0+0	0+0	0+0	0+0	0+0
	0	0	0	0	0	0	0	0	0	0	0	0

Comments

Fran's statement may not be true as each of the players in this scenario has an equal chance of winning. It also depends on the player's strategy.

And the target's largeness (1000=large | =small) and whether it is even or odd

P3/3

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