

King Arthur's Problem (Last One Standing):
(About Teaching Math K-8, M. Burns, p. 132)

King Arthur wanted to decide who was most fit to marry his daughter. He chose the following method.

When all his knights were seated at the Round Table, he entered the room, pointed to one knight, and said, "You live."

The next knight wasn't so fortunate. "You die," said King Arthur, chopping off his head.

Third, "You live." Fourth, "you die," chopping off his head.

He continued doing this around the circle, chopping off the head of every other knight, until just one was left.

The remaining knight got to marry his daughter.

King Arthur/Last One Standing

Number of Players	Winner	Confirmed
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

Name:

Number of Players	Winner		Number of Players	Winner
1	1		31	
2	1		32	
3	3		33	
4	1		34	
5	3		35	
6	5		36	
7	7		37	
8	1		38	
9	3		39	
10	5		40	
11	7		41	
12	9		42	
13	11		43	
14	13		44	
15	15		45	
16	1		46	
17	3		47	
18	5		48	
19	7		49	
20	9		50	
21	11		51	
22	13		52	
23	15		53	
24	17		54	
25	19		55	
26			56	
27			57	
28			58	
29			59	
30			60	

Guiding Questions

What do you notice about all the winning numbers? Why do you think this is?

When does player 1 win? Describe how will the pattern continue?

When does player 3 win? Describe how the pattern will continue?

When does the last person in the circle win? Describe this pattern. Can you describe it in another way?

Describe what other patterns you see?

When will a "list" stop and reset to 1?

When is the next two times player 1 will win? Record on the chart.

When is the next two times player 3 will win? Record on the chart.

When is the next time that the last player will win? Record on the chart.