

Result of a battle can be predicted by adding the attack or defence value of each unit plus their hit points; the army with the larger value is most likely to win.

-- divide your budget by 7, the numerator of the remainder is the score --

The 0's

- 1 optimal buy, equal number of infantry and artillery
- If x is equal to the number of greens past 14, then the number of infantry & artillery is $2 + x$

The 1's

- 2 optimal buys, x is number of oranges past 15
- Defensive: inf is $5 + x$ and art is x
- Offensive: inf = $2 + x$, art = $1 + x$ and one tank

The 2's

- 1 buy, x is number of purples past 16
- Inf = $4 + x$, art = $1 + x$

The 3's

- 1 buy, x is the number of greys past 17
- Inf = $3 + x$ and art = $2 + x$

the 4's - 18, 25, 32, 39, 46, 53, 60, 67, 74, 81, 89, 98, 105

- For each of these 7's, there are 3 optimal buys. x is equal to the number of 7's past 18
 - A defensive buy, where the number of infantry is $x + 6$ and artillery is x
 - An offensive buy, where the number of infantry is $2 + x$ and artillery is $3 + x$
 - And a tank buy, where the number of infantry is $3 + x$, artillery is x , and you always buy one tank

The 5's

- 2 optimal buys, x is the number of oranges past 19
- Defense: inf = $5 + x$, art = $1 + x$
- Offense: inf & art = $2 + x$ and 1 tank

The 6's

- 1 buy, x is the number of reds past 20
- Inf = $x + 4$, art = $2 + x$

NOTE - SUBTRACT THE TOTAL BY 1 (programming error sorry)

budget	infantry	artillery	tanks	total	
3	1	0	0	2	
4	0	1	0	2	
5	0	0	1	2	
6	2	0	0	3	
7	1	1	0	3	
8	1	0	1	3	
9	3	0	0	4	
10	2	1	0	4	
11	2	0	1	4	
11	1	2	0	4	
12	4	0	0	5	
12	1	1	1	4	
13	3	1	0	5	
14	2	2	0	5	← 0
15	5	0	0	6	
15	2	1	1	5	← 1
16	4	1	0	6	← 2
17	3	2	0	6	← 3
18	6	0	0	7	
18	3	1	1	6	<---- 4
18	2	3	0	6	
19	5	1	0	7	← 5
19	2	2	1	6	
20	4	2	0	7	← 6
21	3	3	0	7	
22	6	1	0	8	
22	3	2	1	7	
23	5	2	0	8	
24	4	3	0	8	
25	7	1	0	9	
25	4	2	1	8	<----
25	3	4	0	8	
26	6	2	0	9	
26	3	3	1	8	
27	5	3	0	9	
28	4	4	0	9	
29	7	2	0	10	
29	4	3	1	9	
30	6	3	0	10	
31	5	4	0	10	
32	8	2	0	11	
32	5	3	1	10	<----
32	4	5	0	10	
33	7	3	0	11	
33	4	4	1	10	
34	6	4	0	11	

35	5	5	0	11	
36	8	3	0	12	
36	5	4	1	11	
37	7	4	0	12	
38	6	5	0	12	
39	9	3	0	13	
39	6	4	1	12	<-----
39	5	6	0	12	
40	8	4	0	13	
40	5	5	1	12	