

Sofia.

I noticed that if you had a 4 by 4 grid the total of the grid would be a multiple of 4. They also all increase by 16 each time and 8 when you swap the value of the 10 and 6 die round.

I wonder if you used a 3 by 3 grid, if the total would be a multiple of 3 and I wonder if each time the grids would increase by 9.

Noticing and wondering about the 6.10 dice puzzle

$$\begin{array}{|c|c|c|c|} \hline 4 & 4 & 4 & 6 \\ \hline 4 & 4 & 6 & 6 \\ \hline 4 & 6 & 6 & 6 \\ \hline 6 & 6 & 6 & 6 \\ \hline \end{array} = 84$$

$$\begin{array}{|c|c|c|c|} \hline 6 & 6 & 6 & 4 \\ \hline 6 & 6 & 4 & 4 \\ \hline 6 & 4 & 4 & 4 \\ \hline 4 & 4 & 4 & 4 \\ \hline \end{array} = 76$$

$$\begin{array}{|c|c|c|c|} \hline 3 & 3 & 3 & 5 \\ \hline 3 & 3 & 5 & 5 \\ \hline 3 & 5 & 5 & 5 \\ \hline 5 & 5 & 5 & 5 \\ \hline \end{array} = 68$$

$$\begin{array}{|c|c|c|c|} \hline 5 & 5 & 5 & 3 \\ \hline 5 & 5 & 3 & 3 \\ \hline 5 & 3 & 3 & 3 \\ \hline 3 & 3 & 3 & 3 \\ \hline \end{array} = 60$$

$$\begin{array}{|c|c|c|c|} \hline 2 & 2 & 2 & 4 \\ \hline 2 & 2 & 4 & 4 \\ \hline 2 & 4 & 4 & 4 \\ \hline 4 & 4 & 4 & 4 \\ \hline \end{array} = 52$$

$$\begin{array}{|c|c|c|c|} \hline 4 & 4 & 4 & 2 \\ \hline 4 & 4 & 2 & 2 \\ \hline 4 & 2 & 2 & 2 \\ \hline 2 & 2 & 2 & 2 \\ \hline \end{array} = 44$$

$$\begin{array}{|c|c|c|c|} \hline 1 & 1 & 1 & 3 \\ \hline 1 & 1 & 3 & 3 \\ \hline 1 & 3 & 3 & 3 \\ \hline 3 & 3 & 3 & 3 \\ \hline \end{array} = 36$$

$$\begin{array}{|c|c|c|c|} \hline 3 & 3 & 3 & 1 \\ \hline 3 & 3 & 1 & 1 \\ \hline 3 & 1 & 1 & 1 \\ \hline 1 & 1 & 1 & 1 \\ \hline \end{array} = 28$$

Noticing and wondering 6,10 dice puzzle

I noticed that if you had a 4 by 4 grid the total would be a multiple of 4.

I also noticed that if you go systematically through all the 4 by 4 grids each one would increase by 8.

I wonder if there is a pattern for a 3 by 3 square.

3 3 3
1 3 3 = 21
1 1 3

↙ this shows I am right as the totals are multiples of 3 and increase by 9

4 4 4
2 4 4 = 30
2 2 4