## High-Average Cards for BOWL-O-RAMA Championship Bowling Game

This idea was sprouted by Chris Scheel, Marana, AZ: "I'm looking to make cards for some modern bowlers for a 32 man tournament. In the game you provide generic cards for certain averages, (but) the two highest were 190 and 220 . I was wondering if you, or anyone, has created a 250 average card? I realize that card is quite unrealistic, however if there was one for that average, I could use some sort of combination of it and the 220 card to accurately rate these modern bowlers, the best have an average in the high 220 's. For example, say I wanted a bowler to have a 229 average. I could use the 220 card for $70 \%$ of games, and the 250 card for $30 \%$ of games to achieve that average. I would just have some sort of pre-game roll to determine what card to use. I thought this would be a more efficient way to approximate these higher averages, rather than try to create a card for every single exact average."

Great idea! Crunching the numbers, it appears that a 235 card would serve the purpose better, but we've included cards for both. By rolling a six-sided die, either before each game or before each frame, alternating between the 220 card, you can approximate the following averages...

Re-create THESE avareage by using the 250 card on indicated die roll(s), and the 220 card the rest of the time...

225: 250 card on "1," 220 card on "2" through "6."
230: 250 card on " 1 " or " 2 ," 220 card on " 3 " through " 6 ."
235: 250 card on " 1 " through " 3 ," 220 card on " 4 " through " 6 ."
240: 250 card on " 1 " through " 4 ," 220 card on " 5 " and " 6 ."
245: 250 card on "1" through " 5 ," 220 card on "6."

Re-create THESE avareage by using the 235 card on indicated die roll(s), and the 220 card the rest of the time...

223: 235 card on " 1 ," 220 card on " 2 " through " 6. "
225: 235 card on " 1 " or " 2 ," 220 card on " 3 " through " 6 ."
227: 235 card on " 1 " through " 3 ," 220 card on " 4 " through " 6 ."
230: 235 card on " 1 " through " 4 ," 220 card on " 5 " and " 6 ."
233: 235 card on " 1 " through " 5 ," 220 card on " 6. "

250 Average

| ©2018 PLAAY Games LL |  | 9 |  |  | $8+$ |  | 8 |  |  | 8 |  |  | 7+ |  |  | 7 |  |  | 7 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ! - ? | ! | - | ? | ! | ? | ! | - | ? | ! | - | ? | ! | - | ? | ! | - | ? | ! | - | ? |  |
| 1 X X X | 1 / | 1 | 1 | 1 | 11 | 1 | 1 | , | 1 | 1 | 1 | / | 1 | 1 | / | 1 | / | / | 1 | 2 | 1 |
| 2 X X X | 2 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | / | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| 3 X X X | 3 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | / | 1 | 2 | 3 |
| 4 X X X | 41 | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | / | , | 1 | / | 1 | / | 1 | 1 | 2 | 4 |
| $5 \times \mathrm{X} 9$ | 51 | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | / | 1 | , | 1 | 1 | 1 | 1 | 1 | 2 | 5 |
| $6 \times \mathrm{X} 9$ | 61 | 1 | 1 | 1 | 11 | 1 | 1 | 1 | I | 1 | 1 | 1 | 1 | 1 | / | 1 | / | / | 1 | 2 | 6 |
| $7 \times 1$ | 7 / | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 7 |
| 8 X X 8+ | 8 / | 1 | , | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 |
| 9 XX 8 | 9 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 9 |
| $10 \times$ X 8 | 10 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 10 |
| 11 X X 8- | 11 | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 1 | 1 | 1 | 1 | 1 | 11 |
| $12 \times$ X 8- | 12 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | , | 1 | 1 | 1 | / | / | 2 | 1 | 12 |
| $13 \times \mathrm{X} 7$ | $13 /$ | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 13 |
| $14 \times$ X 7 | 14 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 14 |
| $15 \times \mathrm{X} 7$ | $15 /$ | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 15 |
| 16 X X 7- | $16 /$ | 1 | 1 | , | 11 | 1 | 1 | 1 | 1 | 1 | - |  | 1 | 1 | 1 | 1 | 1 | / | 2 | 1 | 16 |
| $17 \times$ X 7- | 17 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | / | 1 | 1 | 1 | 1 | 1 | / | 2 | 1 | 17 |
| 18 X X Y | 18 / | 1 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 |  | 18 |
| $19 \times 9$ Y | 19 / | 1 | 1 | 1 | 11 | 1 | , | 1 | 1 | - |  | 1 | 1 |  | 1 | 1 | 2 | 1 | 1 | 1 |  |
| $20 \times 8 \mathrm{U}$ | 20 / | 1 | - |  | / 1 |  |  |  |  | - |  |  |  |  |  | 1 |  | 1 |  |  |  |

235 Average

| O2018 PLAAY Games LL |  | 9 |  |  | $8+$ |  | 8 |  |  | 8- |  |  | 7+ |  |  | 7 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ! - ? |  | ! • |  | ! | - ? | ! | - | ? | ! | - | ? | ! | - | ? | ! |  | ? |  |  | ? |  |
| 1 X X X | 1 | 11 |  | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | / | 1 | I | 1 | 2 | 1 |
| 2 X X X | 2 | 11 |  | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 1 | 1 | 1 | 2 | 2 |
| 3 X X X | 3 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 3 |
| 4 X X X | 4 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | / | 1 | 2 | 4 |
| $5 \times \mathrm{XX}$ | 5 | 11 |  | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 5 |
| $6 \times \mathrm{X} 9$ | 6 | 11 | 1 | 1 | 11 | 1 | 1 | , | 1 | , | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 1 | 2 | 6 |
| $7 \times 1$ | 7 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | , | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 2 | 7 |
| 8 X X 8 | 8 | 11 | 1 | 1 | 11 | , | 1 | 1 | 1 | 1 | , | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 2 | 8 |
| 9 X X 8 | 9 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 9 |
| $10 \times$ X 8- | 10 | 11 |  | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 10 |
| $11 \times$ X 8- | 11 | 11 | 1 | , | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | , |  | 1 | 1 | 1 |  | 1 | 1 | 11 |
| $12 \times$ X 7 | 12 | $1 /$ | 1 | 1 | 11 | 1 | 1 | , | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | / | 2 | 1 | 12 |
| $13 \times \mathrm{X} 7$ | 13 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  | 2 | 1 | 13 |
| $14 \times$ X 7- | 14 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 1 | / | 1 |  | 2 | 1 | 14 |
| $15 \times 1$ | 15 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 15 |
| $16 \times 9$ Y | 16 | 11 |  | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | , | 1 | 1 | , |  | 2 | 1 | 16 |
| 17 X 9 Y | 17 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | 1 | - | 1 | 1 | 1 | , |  | 1 |  | 2 | 1 | 17 |
| 18 X 8+Y | 18 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 2 |  | 1 | 1 | 18 |
| $19 \times 8$ Y | 19 | 11 | 1 | 1 | 11 | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 1 | 1 |  | 2 |  | 1 | 1 | 19 |
| $2097+$ U | 20 | 1 / | - | 1 | 11 | 1 | 1 | 1 | 1 | - | - | 1 | 1 | 2 | 1 | I | 1 |  | 1 | - |  |

