

Estimathon[®] KEY

Northern New Mexico College

A Math Teachers' Circle K-6 Workshop, Summer 2018

1. The total number of points scored by the University of New Mexico Lobos basketball team during the 2017-18 season.¹ **2,795**
2. The quantity $\sqrt[100]{2} - 1$ (that is, the positive 100th root of 2, minus 1). **0.006955555..., or about 6.955×10^{-3}**
3. The total number of Twitter followers of Bill Gates (@BillGates) at 8:08 PM Mountain Time on 7/10/2018. **4,631,514, or about 4.6 million (4.6×10^6)**
4. The number of positive prime integers less than 1,000,000. **78,498**
5. The number of digits in 2018! (that is, 2018 factorial). **5,795**
6. The fifth-smallest perfect number. (A **perfect number** is a positive integer equal to the sum of its proper divisors, meaning its positive integer divisors other than the number itself. The smallest perfect number is $6=1+2+3$.) **33,550,336, or about 33.55 million.**
7. The number of tons of chile produced by New Mexico in 2017.² **62,700 (includes red and green)**
8. The 60th Fibonacci number. (Recall that 1 and 1 are the first Fibonacci numbers, and each Fibonacci number after the first two is the sum of the previous two Fibonacci numbers.) **1,548,008,755,920, or about 1.548×10^{12} . That's over 1.5 trillion!**
9. The total number of guests of the 2017 Albuquerque International Balloon Fiesta[®].³ **887,970**
10. The least common multiple of A, B, and C, where A, B, and C are integers between 1 and 100 inclusive selected by Google's random-number generator yesterday. **Numbers generated: 85, 64, 77. None of these numbers has a single factor in common with the others, so the LCM of this group is just their product: 418,880.**

Acknowledgement: The rules of the original game and some of the problems are due to Andy Niedermaier of Jane Street Capital. Revised rules and additional problems due to David Patrick of the San Diego Math Teachers' Circle. "Estimathon" is a registered trademark of Jane Street Capital.

¹ According to ESPN.

² According to the USDA's 2017 New Mexico Chile Production News Release

³ According to the Balloon Fiesta[®]'s Economic Impact & Guest Research Report.