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**Jie Sun** and **Kyle N. Sutela\*** (knsutela@mtu.edu). *Prime Partitions.*

Prime partitions are partitions of integers into prime parts. In this paper, we first consider prime partitions with distinct parts. By using generating functions, we obtain some inductive formulas to calculate the number of prime partitions with distinct parts. Our formulas give two generalizations of the Euler's formula for the integer partition case. Then we consider general prime partitions with not necessarily distinct parts. By keeping track of the recurrence of primes in a partition and finding bijections between different prime partitions, we get some inductive formulas to calculate the number of general prime partitions. Finally by numerical experimentation we find an approximation of some analytical formulas for the number of general prime partitions. (Received August 21, 2017)