

Quiz 14

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This quiz does not count towards your grade. It exists to simply gauge your understanding. Treat this as though it were a portion of your midterm or final exam. In this quiz, we will walk through stars and bars variations of counting, with problems of increasing difficulty.

1 Stars and Bars (with Ice Cream again)

Assume that sprinkles are indistinguishable from one another.

As warmup, complete question 3 from the previous quiz, for the most basic form of stars and bars.

1. How many ways are there to sprinkle 10 sprinkles on 3 scoops, such that the first scoop gets at least 5 pieces?
2. Assume that each scoop can only hold a maximum of 8 pieces. How many ways are there to sprinkle 10 sprinkles on 3 scoops?
3. Assume that each scoop can only hold a maximum of 8 pieces and a minimum of 2. How many ways are there to sprinkle 14 sprinkles on our 3 scoops of ice cream?