

Problem 1: Dolla, dolla, bill ya'll¹

Eminem has fifteen \$100 bills which he is giving out to 4 of his (allegedly) biggest fans. The division of bills need not be fair; some fans might not receive a single bill.

(a) How many ways can the fifteen \$100 bills be divided up among the 4 fans?

(b) Now suppose each \$100 bill comes with Eminem's distinct signature. (So every bill is different.) How many ways can the fifteen bills be divided up among the 4 fans?

¹Can you identify the rapper(s) who sang the song with this title?