

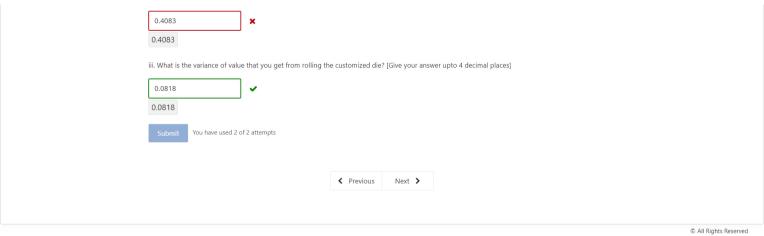
2.0/2.0 points (graded) Find the x independent term (a term that does not have x in it) in the expansion of $(x^4 + 3/x)^5$. 405 You have used 2 of 2 attempts Multinomial 2.0/2.0 points (graded) Find the coefficient of x in the expansion of $(4 + x^2 + 3/x^3)^4$. 144 You have used 2 of 2 attempts Problem 3 3.0/3.0 points (graded) There are 3 divisions and 60 districts in the republic of "Burkina Faso". Division A has 40 districts and EACH of those districts has 5 parliamentary seats.Division B has 10 districts and EACH of those districts has 10 parliamentary seats.Division C has 10 districts and EACH of them has 2 parliamentary seats. Only one person can be elected for one parliamentary seat of his/her own district. If you travel to one random district, what is the probability of that district having 2 parliamentary seats within its territory? [You must give the answer in decimal form (upto 4 decimal places) or in percentage form (upto 2 decimal places)] 16.67% 16.67% You have used 2 of 2 attempts Problem 5 12.0/12.0 points (graded) (For the questions asking for probability, put your numerical answer in percentage and rounded to 2 decimal places. For example, if the answer is 0.22575 you have to put 22.58% in the box. DO NOT FORGET TO PUT THE PERCENT (%) SIGN AT LAST. Putting only 22.58 without the trailing percent sign will be assessed as a wrong answer! You must NOT type any other symbol, space, operator, fraction etc in the box) Suppose, you are repeatedly rolling a black and a white dice together. If the black die shows 3 and the white die shows 5, we express the result as (3,5). i. What is the probability that the first (4,4) will apprear on the 3rd roll? 2.63% 2.63% ii. What is the expected number of rolls required to get a (1,2)? 36 36 iii. Suppose, you roll both the dice together for 6 times. What is the probability that (3,5) will appear exactly once among the 6 rolls? 14.48% 14.48% iv. Suppose, you roll both the dice together for 7 times. What is the probability that (6,4) will appear AT MOST once during the 7 rolls? 98.52% 98.52% You have used 2 of 2 attempts **Expected value and Variance**

6.0/9.0 points (graded)

A traditional die is a cube with each of its six sides representing the numbers from 1 to 6. Mr. Dicey customized a die by replacing each number with its reciprocal (reciprocal of χ is $1/\chi$).

i. What is the expected value if you roll the customized die made by Mr. Dicey? [Give your answer upto 4 decimal places]







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