How Many Meetings? Different Ways of Helping Students Understand a Familiar Counting Problem

Philip R. Blanco  
Grossmont College

If a college has $n$ administrators, how many distinct combinations of meetings are possible between them? What is the effect on the number of possible meetings if one more administrator is hired? Students trained in the formulaic application of binomial coefficients and Pascal’s triangle should be able to obtain the correct answer, but two other methods are presented here that encourage intuitive thinking. These methods serve to illustrate the binary nature of sampling, exponential growth, and the use of a recurrence relation to define a function. This problem also lends itself to a coding exercise for students to generate all possible combinations of personnel. Suggestions are provided for further investigations that place constraints on the make-up of each meeting.

Keywords: combinatorics, recurrence, computation, exponential growth

Philip Blanco teaches physics and astronomy at Grossmont College, near San Diego, California. He earned his BSc in physics at Durham University, England, and his PhD in astronomy from the University of Edinburgh, Scotland. He has authored articles on spaceflight mechanics in educational journals such as The Physics Teacher and American Journal of Physics. In his spare time, he enjoys getting as close as he can to vintage airplanes and modern spacecraft.