Math 270 - Basic Discrete Mathematics
Practice Quiz on Section 9.5

Solutions

Directions: Answer the problem given below.

1. A computer programming team has 13 members consisting of 5 women and 8 men. Answer parts a.-c. below, noting that you *do not* need to simplify: your answer may include products, division, sums, differences, exponents, factorials, and binomial coefficients.

a. How many groups of five can be formed from this team?

$$\binom{13}{5}$$

b. How many groups of five have exactly 3 women?

$$\binom{5}{3} \cdot \binom{8}{2}$$

↑ Pick the 3 women

↑ Then pick the remaining 2 men

c. How many groups of five have at least 3 women?

$$\binom{5}{3}\binom{8}{2} + \binom{5}{4}\binom{8}{1} + \binom{5}{5}\binom{8}{0}$$

with 3 women + # with 4 women + # with all 5 women