(1-2) Decide whether the problem requires combinations or permutations to find the answer. Then solve the problem.

1) Your school newspaper has an editor-in-chief and an assistant editor-in-chief. The staff of the newspaper has 12 students. In how many ways can students be chosen for these two positions?

2) Five representatives for a senior class of 280 students are to be chosen for the student council. In how many ways can students be chosen to represent the senior class on the student council?

(3-4) Find the number of combinations.

3) $_{10}C_3$

4) $_{12}C_4$

(5-7) Find the number of possible 5-card hands that contain the cards specified. The cards are taken from a standard 52-card deck.

5) 4 kings and 1 other card

6) 5 hearts or 5 diamonds

7) 1 ace and 4 cards that are not aces

(8-10) Use the rows of Pascal's triangle to write the binomial expansion.

8) $(a + b^2)^8$

9) $(x + 3)^6$

(10) $(x + 2)^3$

(11) Find the coefficient of x^5 in the expansion of $(x - 2)^{10}$

12) A. What is the sum or the numbers in each of rows 0-4 of Pascal's triangle? B. What is the sum in row n?