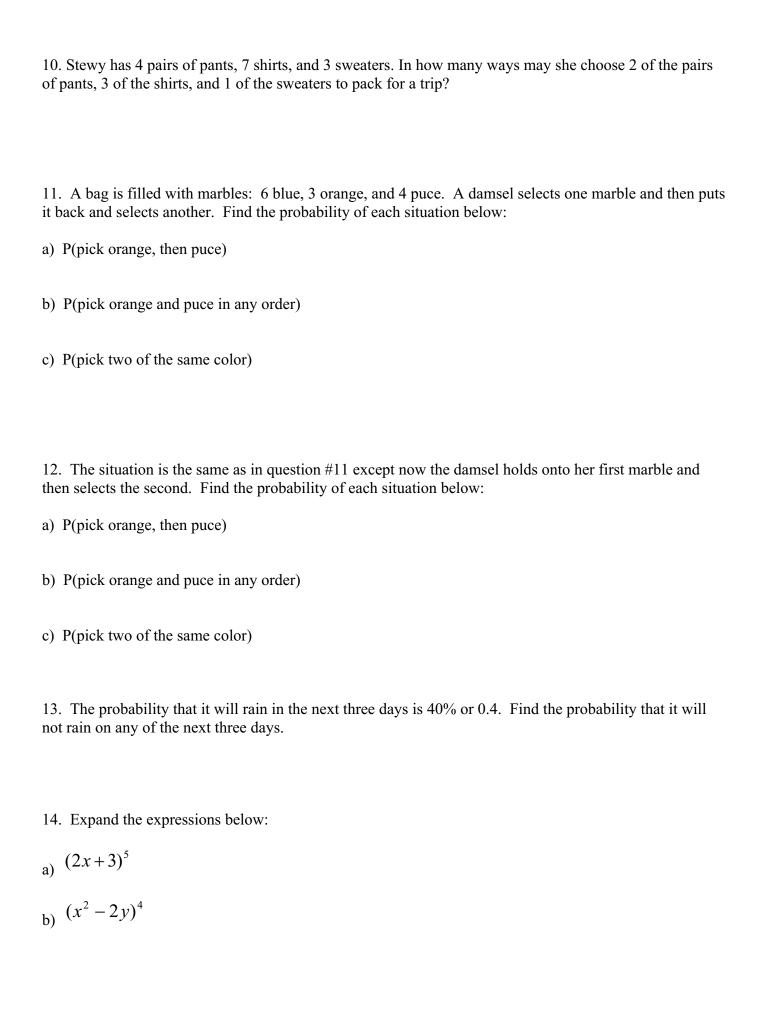
Count the number of possibilities for each scenario below.

- 1. the winner and first, second, and third runners-up in a contest with 10 finalists
- 2. selecting two of eight employees to attend a business seminar
- 3. an arrangement of letters in the word *flummox*
- 4. placing an algebra book, a geometry book, a chemistry book, an English book, and a health book on a shelf in any order
- 5. selecting 9 books to check out of the library from a reading list of twelve
- 6. selecting and ranking your top 3 favorite subjects from the 6 you are currently taking
- 7. an arrangement of the word *poppy*
- 9. Among the seven nominees for two vacancies on the city council are three men and four women. In how many ways may these vacancies be filled?
 - a) with any two of the nominees?
 - b) with any two of the women?
 - c) with one of the men and one of the women?



15) Find the 7th term of $(3x - 5)^9$