1. Given \( n(U) = 100, n(A^C) = 70, n(B) = 30, \) and \( n(A \cup B) = 50, \) find \( n(A \cap B^C). \)

2. A survey of 120 people was conducted.
   - \( S \) is the set of people surveyed who like 70s music.
   - \( E \) is the set of people surveyed who like 80s music.
   - \( N \) is the set of people surveyed who like 90s music.

Use the information given to fill in a Venn diagram (similar in orientation to the one shown to the right).

- 15 said they liked music from all three decades
- 20 said they liked music from the 80s and 90s
- 23 said they liked music ONLY from the 70s and 80s
- 25 said they liked music from the 70s and 90s
- 35 said they liked music from the 80s, but not the 90s
- 75 said they liked music from the 70s
- 44 said they liked music from the 70s or 90s (or both), but not the 80s

The rest of the problems come from the Counting Handouts posted on the web (under Suggested Homework). You must show how you got your answer to receive credit. Answers alone will receive no credit. DO NOT turn in the handouts - just your work on your own paper.

Counting Handout #1: Problems 11, 16b&c, 17f
Counting Handout #2: Problems 12, 14b&c, 21, 22
Counting Handout #3: Problems 2a&b, 4, 9, 11, 13a&b