Extended SQL

Problem specifications

The following relations are given (primary keys are underlined, optional attributes are denoted with *):

Customer(CustomerID, CustomerSurname, Province, Region)
Category(CategoryID, CategoryName)
Agent(AgentID, AgentSurname, Agency)
Time(TimeID, Month, Quarter, Semester, Year)
Sales(TimeID, CustomerID, ItemCategoryID, AgentID, TotAmount, NumSoldItems, TotDiscount)

Solve the following queries in SQL.

1. Show for each category of items,
   - The category
   - The total sale amount for the category
   - The total number of sold items within the category
   - The rank of the category according to its total sale amount
   - The rank of the category according to its total number of sold items
   - Sort the result for increasing value of total number of sold items within the category

2. Show, for each province
   - The province
   - The region of the province
   - The total sale amount for the province
   - The rank of the province according to its total sale amount, separately for each region

3. Show, for each province and month
   - The province
   - The region of the province
   - The month
   - The total sale amount for the province in the current month
   - The rank of the province according to its total sale amount, separately for each month

4. Show, for each region and month
   - The region
   - The month
   - The total sale amount for the region in the current month
   - The cumulative sale amount for increasing months, separately for each region