

Geography 38/42:286 GIS 1
Sample Long Answer Test Questions

A company that grows and markets herbal medicines in eastern Canada has contracted you to produce a series of thematic maps. How would you respond to each of the following requests?

1. The sales department wants a map showing the location of all 68 stores in eastern Canada. They have sales figures for each store that show significant variation and they would like you to design a map showing total sales and the proportion in each of three categories of herbal medicines (i.e. diet, energy, and general health). What quantitative mapping technique would you recommend and why, and what considerations would you have to bear in mind given the selected mapping technique? (5 pts)
2. The marketing department is looking at expanding into western Canada. Their market research shows that their herbal medicines have low interest among people under 50 years of age, moderate demand for the 50-65 age category, and high demand people over 65. They have no data to provide but would like you to create a map identifying areas with a proportionately higher versus low elderly population so that they can bulk mail promotional materials to select areas. What type of map would you recommend and why, what data source might you use, and what other considerations would you have to take into account given the selected mapping technique? (5 pts)
3. The shipping department is requesting a map showing the shipments of product from the main production and packaging facility in Toronto, to each of five warehouse locations in eastern Canada. They'd like you to show the mode of transport, which is either air or ground courier, and the total number of products shipped from the source to each warehouse. What type of map would you recommend and why, and what considerations would you have to contend with given the selected mapping technique? (5 pts)
4. One of the scientists that works in research and development plans to collect soil samples at a farm where the company's main product is grown. She is particularly interested in measuring soil pH since her research has shown that pH is strongly correlated to the potency of this product. Ultimately, she would like a map indicating spatial variations in soil pH across the entire study area, which covers one section of land. What specific type of thematic map would you suggest and why, what recommendations would you make regarding her sampling procedure, and what other factors would you have to consider given the selected mapping technique? (6 pts)
5. Upper management has decided they want a map showing the distribution of all 357 current employees located within eastern Canada. They would like you to differentiate between male and female employees so they can see if there are any regional gender inequities within the company. They have a database of all employees that includes their postal code, which you know can be linked to postal code boundaries. What type of thematic map would you recommend and why, and what considerations would you have to take into account? (5 pts)