Section 14.1 Worksheet:

a. Collect some interesting examples of (multivariate) functions defined in each of the four ways, as described by the author in this reading or that you can come up with yourself:

- verbally
- numerically
- algebraically
- visually

b. In the study of univariate functions, we looked for intervals – closed or open or mixed – on which a function was defined: how is the situation different (and perhaps more complicated) in the multivariate case?

c. Think of some examples of level curves other than those provided by the book (perhaps taken from problems of interest to you in your hobbies, or anticipated specialties). What would a particular level curve mean in your examples?

d. What do multivariate linear functions look like, algebraically and graphically? The author asserts that these will play an important role in multivariate calculus: can you imagine why?

You might try to generalize all the roles linear functions play in univariate calculus.