Ph 265 Midterm Exam 2 February 2001

1. Give an example or two of the type of function(s) that would be visualized best with each of the following plots:
   (a) 2D plot _____
   (b) 3D plot _____
   (c) multifunction plot _____
   (d) parametric plot _____
   (e) animation _____
   (f) 3D animation _____

2. Use the precedence rules of Maple to predict the values of each of the following expressions
   (a) `2 * 3 + 4 /2` _____
   (b) `5 - 6 + 7 ^ 2` _____
   (c) `1 - 2 ^ 3 /4` _____
   (d) `8 / 4 /2` _____

3. Given a polynomial $P = x^3 + 12x^2 - 3$.
   (a) How would you enter this into Maple as a function of x?
   (b) How would you enter this into Maple as an expression?
   (c) How would you evaluate the expression for $x = 3$?
   (d) How would you evaluate the expression for $x = \sqrt{y}$?
   (e) How would you evaluate the function for $x = 3$?
   (f) How would you evaluate the function for $x = \sqrt{y}$?
   (g) How would you determine when the expression equals zero?
   (h) How would you determine when the function equals zero?

4. How would you have Maple evaluate
$$\sum_{n=12}^{j} \frac{j^n n^i}{x^n} \tag{1}$$

5. What is meant by:
   (a) rational number
   (b) irrational number
   (c) integer
   (d) floating-point number
   (e) truncation error
   (f) a statement being different from an expression
   (g) $x = y$ not being the same as `x := y`.
   (h) a function of three variables