Problem 9.1. Proceed as follows.

   a. Determine analytically what happens to solutions of the Lorenz equations which start on the z-axis.

   b. Then use appropriate computer software to verify your result numerically for the parameter values $\sigma = 10$, $r = 28$, $b = 8/3$ and the initial condition $x(0) = 0$, $y(0)=0$, $z(0) = 20$. For example, you could use Mathematica and the numerical differential equations solver NDSolve to solve the Lorenz equations for x, y, z and the plotting routine ParametricPlot3D to plot the result.