MATH.2720 Introduction to Programming with MATLAB
Homework on Symbolic Capabilities, Cells, and Structures (Due 4/20)

Please email your script file(s) to me at `stephen_pennell@uml.edu`
If you use `mupad` for questions 1 and 2, please save your `mupad` notebook and send that to me as well.

1. Use MATLAB's symbolic capabilities to find the exact value of $\int_0^\infty e^{-x^2}\ dx$

2. Use MATLAB's symbolic capabilities to find the points of intersection of the circles $x^2 + y^2 = 1$ and $(x-2)^2 + (y-1)^2 = 4$.

3. (From Lee, *Programming with MATLAB 2016*)
   Create a cell array to store the information in the following table.

'Carbon'	'C'	6	12.011
'Helium'	'He'	2	4.003
'Hydrogen'	'H'	1	1.008
'Nitrogen'	'N'	7	14.007
'Oxygen'	'O'	8	15.999

4. Convert the cell array from problem 3 to a structure array. Call the structure fields `'Name'`, `'Symbol'`, `'AtomicNumber'`, and `'AtomicMass'`.