The antiderivatives of many elementary functions are not, themselves, elementary functions. Some
of these antiderivatives arise frequently in certain subjects and have been given names. These are
examples of what are called special functions, and other antiderivatives can sometimes be expressed
in terms of these special functions.

Try the following MATLAB commands:
```
syms t
int(exp(-t^2))
int(sin(t^2))
```

Look up the definition of the special functions involved using the `mhelp` command which calls
up the help feature in the Maple kernel.

For the following find the general solution on the indicated interval, by hand, using the method of
variation of parameters, except using MATLAB to integrate $u'_1$ and $u'_2$.

**Make sure you show all your work!** Look up and write down, in standard mathematical
notation, any special functions that occur and any unfamiliar expressions or constants that
appear in these definitions.

(a) $y'' - 3y' = \frac{1}{t}$, \quad $t>0$

(b) $y'' - 2y' + 2y = \frac{e^t}{t}$, \quad $t>0$