Project 1

This project is designed to get you familiar with the syntax of Mupad. Refer to the primer for any specific problems.

Demand line equation (d1):
\[ p = -0.5q + 9, \]

Supply line equation (s1):
\[ p = 1.5q - 3, \]
where \( p \) is price and \( q \) is quantity demanded.

A graph of these equations looks like this in Mupad:

![Graph of demand and supply equations](image)

Try to reproduce this graph. Then, let's see what happens when the demand line shifts upward and to the right.

Now add a new demand equation (d2):
\[ p = -0.5q + 13, \]
The graph should look something like this:

Don't worry if the colors do not match, this is simply a matter of the order in which you enter the equations in the `plotfunc2d()`.

Now let's initiate a shrink in supply represented by the supply equation line moving up and to the left.

Now add a new supply equation(s2):

$p = 1.5q - 1,$

The graph should look like this:

Now that we have these four equations in Mupad, find the price and quantity demanded for each of these situations in Mupad: (d1,s1), (d2,s1), (d1,s2), (d2,s2). Look at the solve section in the primer for help.