**The individual assignment (calculus)**

**Exercise 1**

Find stationary points of the following functions:

*g (w)* = *w*3, *g (w)* = *ew*, *g (w)* = sin *(w)*, *g (w)* = *w*2, and *g (*w*)* =w*T*Qw + r*T*w + *d*.

**Exercise 2**

Find out whether these functions are convex or concave:

*g (w)* = *w*3, *g (w)* = *ew*, *g (w)* = sin *(w)*, *g (w)* = *w*2, and *g (*w*)* =w*T*Qw + r*T*w + *d*.

For the equation *g (*w*)* =w*T*Qw + r*T*w + *d* find the reference in the book Machine learning refined (page 41)