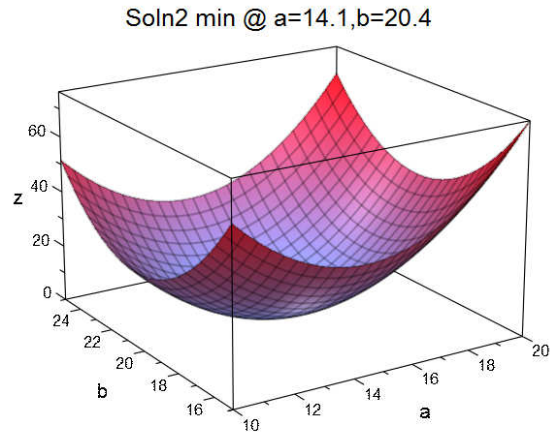
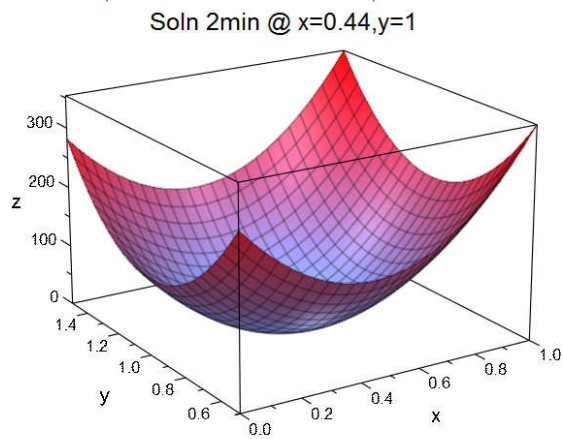


```
plotfunc3d(Z|[subs2[3],subs2[4]]|z=1,a=10..20,b=15..25,Header="Soln2 min @ a=14.1,b=20.4")
```



```
plotfunc3d(Z|[subs2[1],subs2[2]]|z=1,x=0..1,y=0.5..1.5,Header="Soln 2min @ x=0.44,y=1")
```



Approach: Developed objective function as SRSS

Conclusions:

2 classes of local minima:

Solution 1:  $[a = (3315*z - 205*221^{1/2}*z)/(442*z^2), b = (2210*z - 155*221^{1/2}*z)/(221*z^2), x = -(10*z)/11 - (221^{1/2}*z)/11, y = z]$

Solution 2:  $[a = (3315*z + 205*221^{1/2}*z)/(442*z^2), b = (2210*z + 155*221^{1/2}*z)/(221*z^2), x = (221^{1/2}*z)/11 - (10*z)/11, y = z]$

Both solutions are parameterized by lower case "z". Experimentation revealed objective function does not depend on z, so we are free to choose any value and the solution is equally good wrt objective function. We choose z=1, which gives:

solution 1:  $[a = 0.6051038615, b = -0.4264283069, x = -2.260551704, y = 1.0]$

Objective function for soln1 is 746.6.

solution 2:  $[a = 14.39489614, b = 20.42642831, x = 0.4423698861, y = 1.0]$

Objective function for soln2 is 3.348281317