In[•]:=
```
f[x_, y_] = 100 * (y - x^2)^2 + (a - x)^2;
grad = D[f[x, y], {{x, y}}];
min = Solve[grad == {0, 0}, {x, y}]
f[x, y] /. {x → min[[1, 1, 2]], y → min[[1, 2, 2]]}
```

Out[•]= $\left\{\left\{x \to a,\ y \to a^2\right\}\right\}$

Out[•]= 0