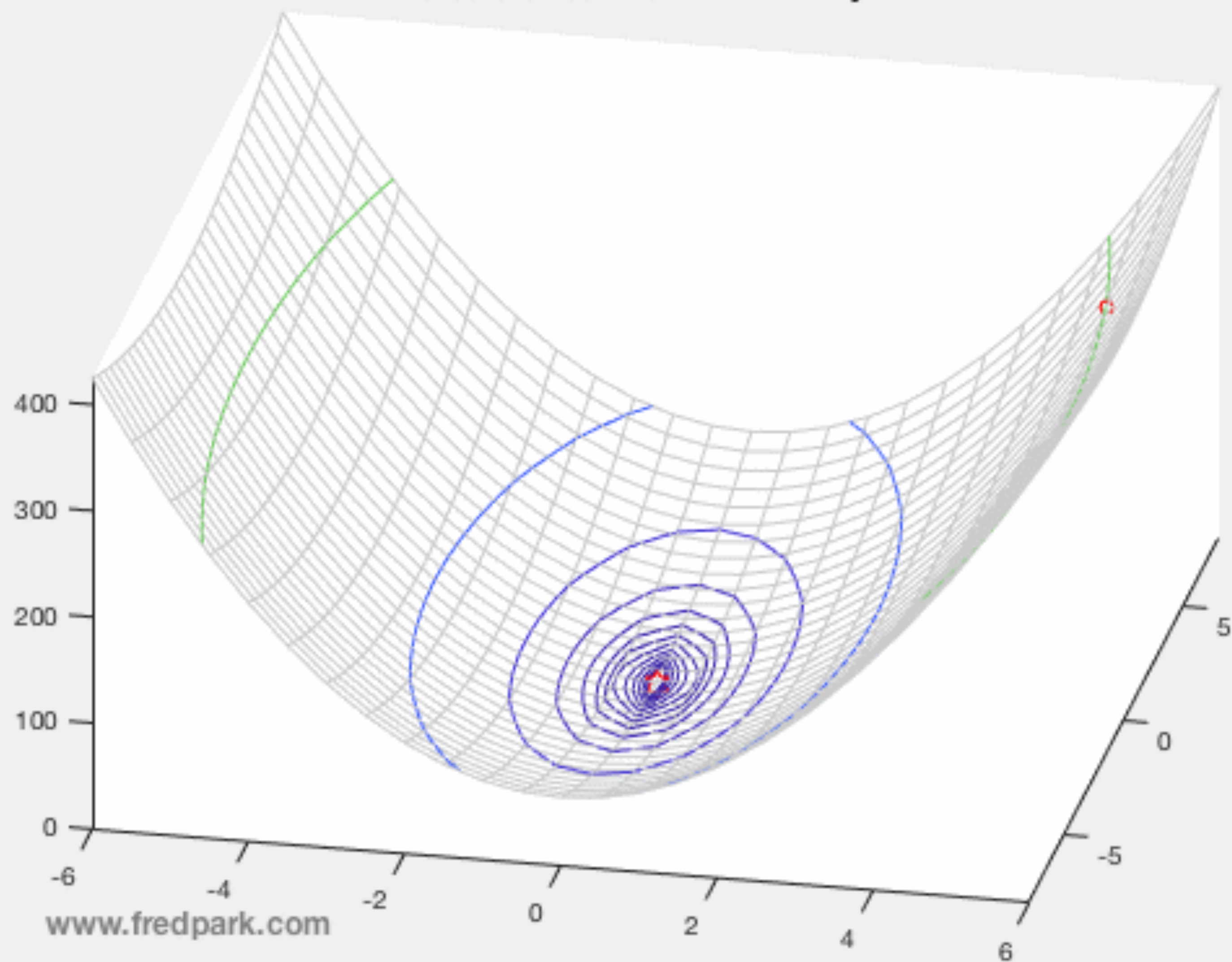


Gradient Descent on $z = 10x^2 + y^2$



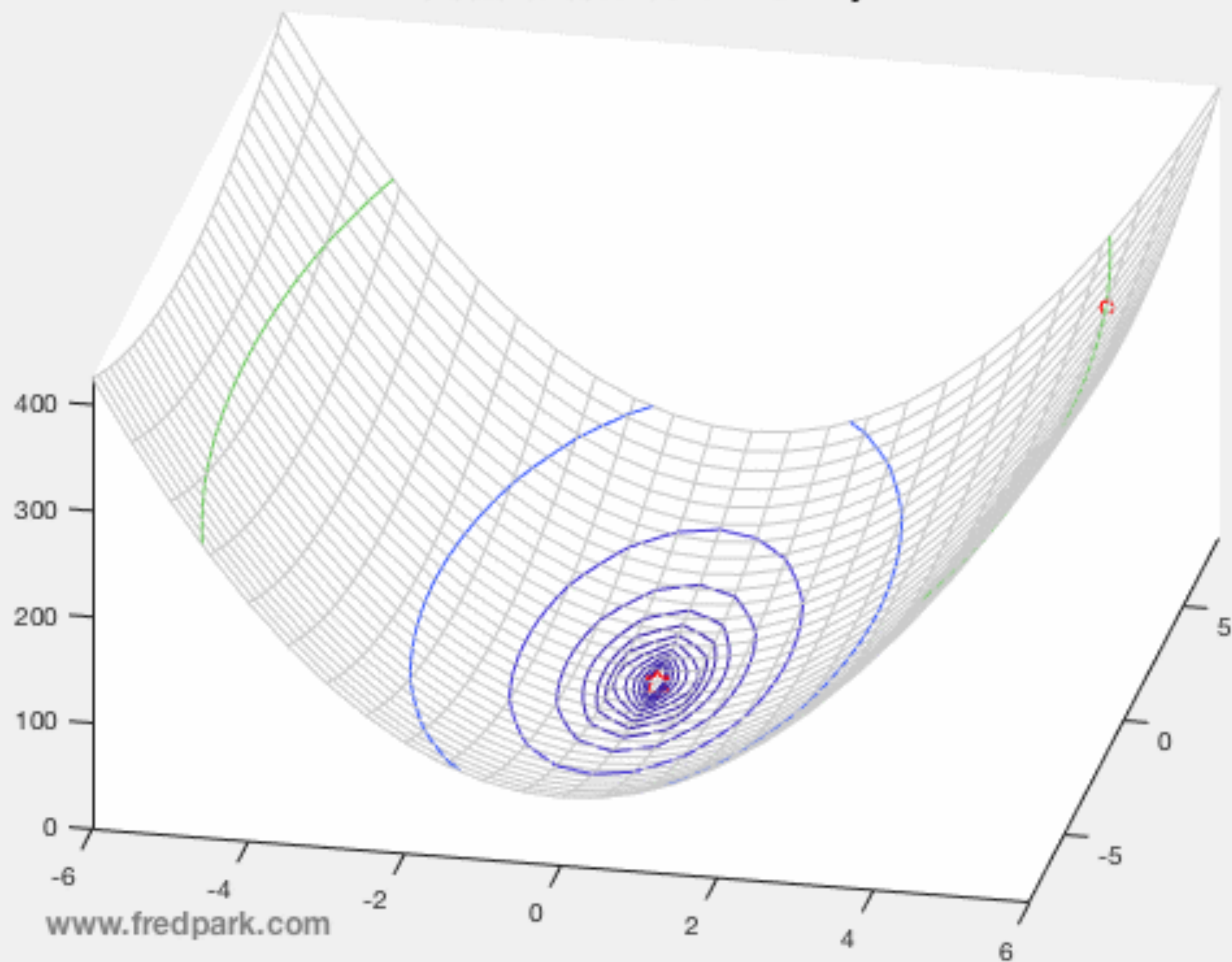
*Q*₁

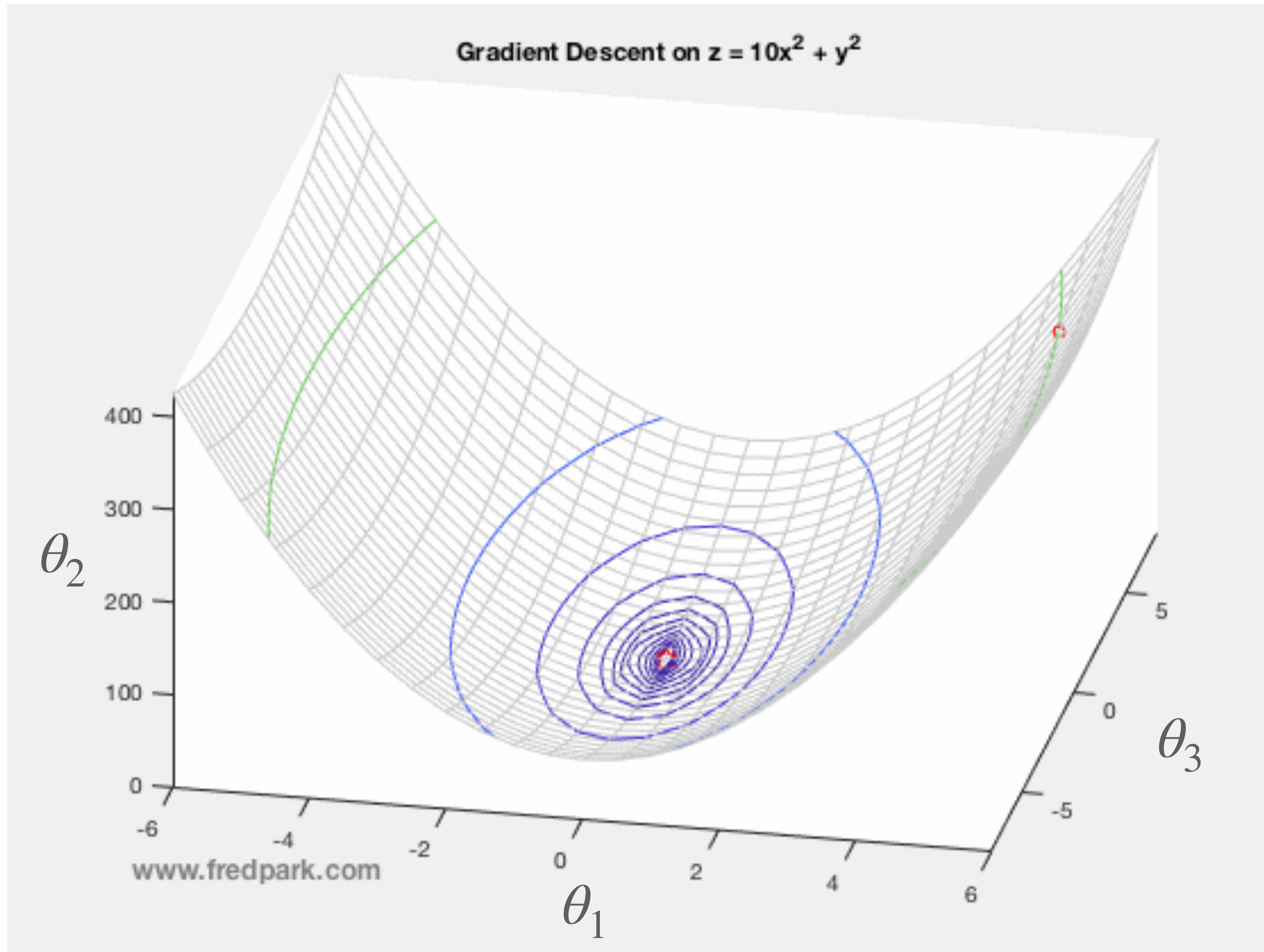
\mathcal{O}_3

Q₂

<http://www.fredpark.com/blog/gradient-descent>

Gradient Descent on $z = 10x^2 + y^2$





Biology to ML models

- ML models rely on numeric data -> how do we translate biological constructs to numbers?
- Key is transforming unstructured data into information-preserving, numerical representations
 - Image data representation
 - Language data representation