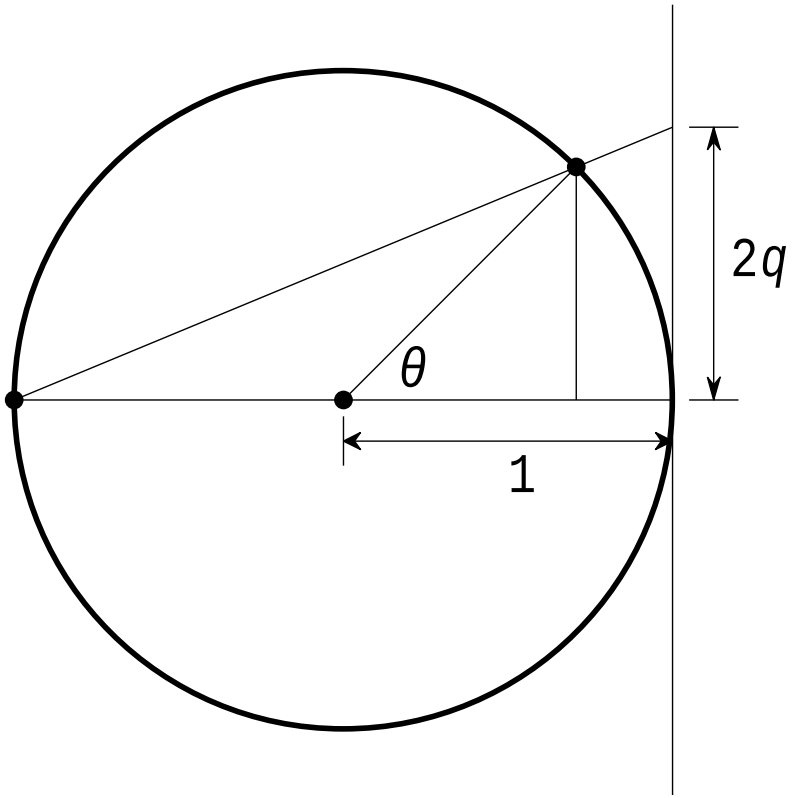
Stereographic Projection



Using similar triangles we have

$$q = \frac{\sin}{1 + \cos};$$

Solving for sin and cos yields

$$\cos = \frac{1 \quad q^2}{1 + q^2}; \quad \sin = \frac{2q}{1 + q^2};$$

Given $\_ = f(\ ; x)$, we have

$$q = \frac{1 + q^2}{2} f(\ ; x);$$

which can be written as

$$e(q)q = p(q; x);$$

with $e()$ and $p()$ polynomial in q.