

## Stereographic Projection

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The stereographic projection is an important tool in Algebraic Topology, leveraging homeomorphisms, which allows for maps to make use of the Cartesian Coordinate system. We present two examples of stereographic projection; a mapping from the circle to the extension of the set of real numbers by an infinity point, and from the sphere to the extension of the set of complex numbers by an infinity point. In this exposition we share visuals of the mappings for the circle and the sphere onto their relative images. Additionally, we identify properties such as similar triangles, the conformal mapping, and the necessity for infinity point as it allows for the bijection.