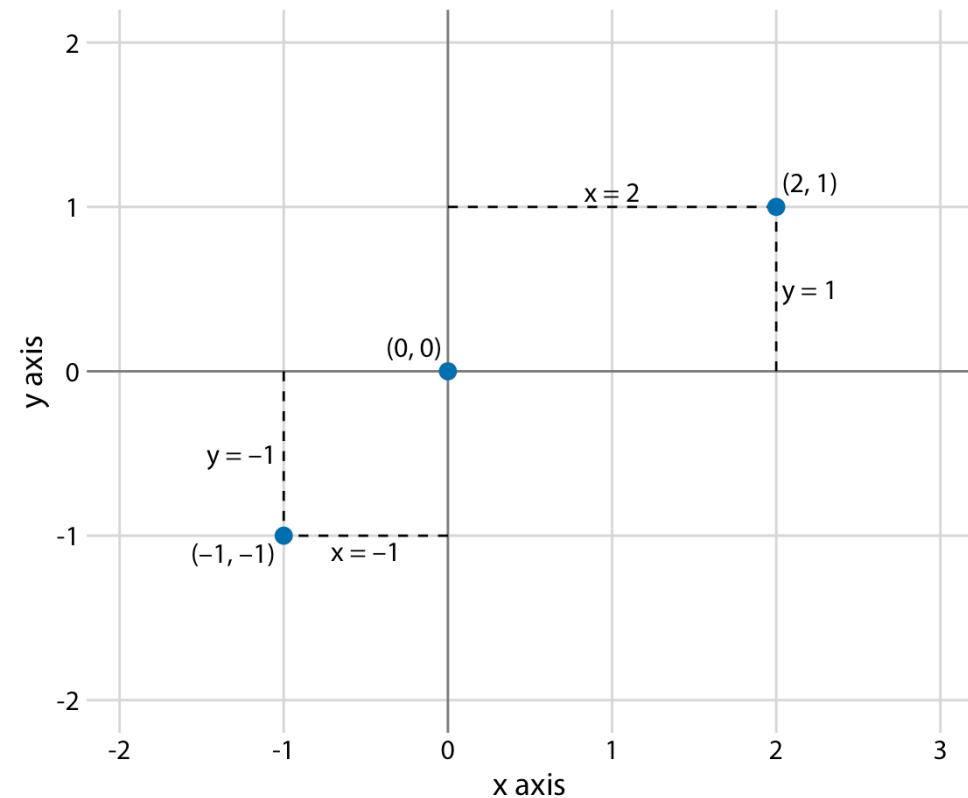


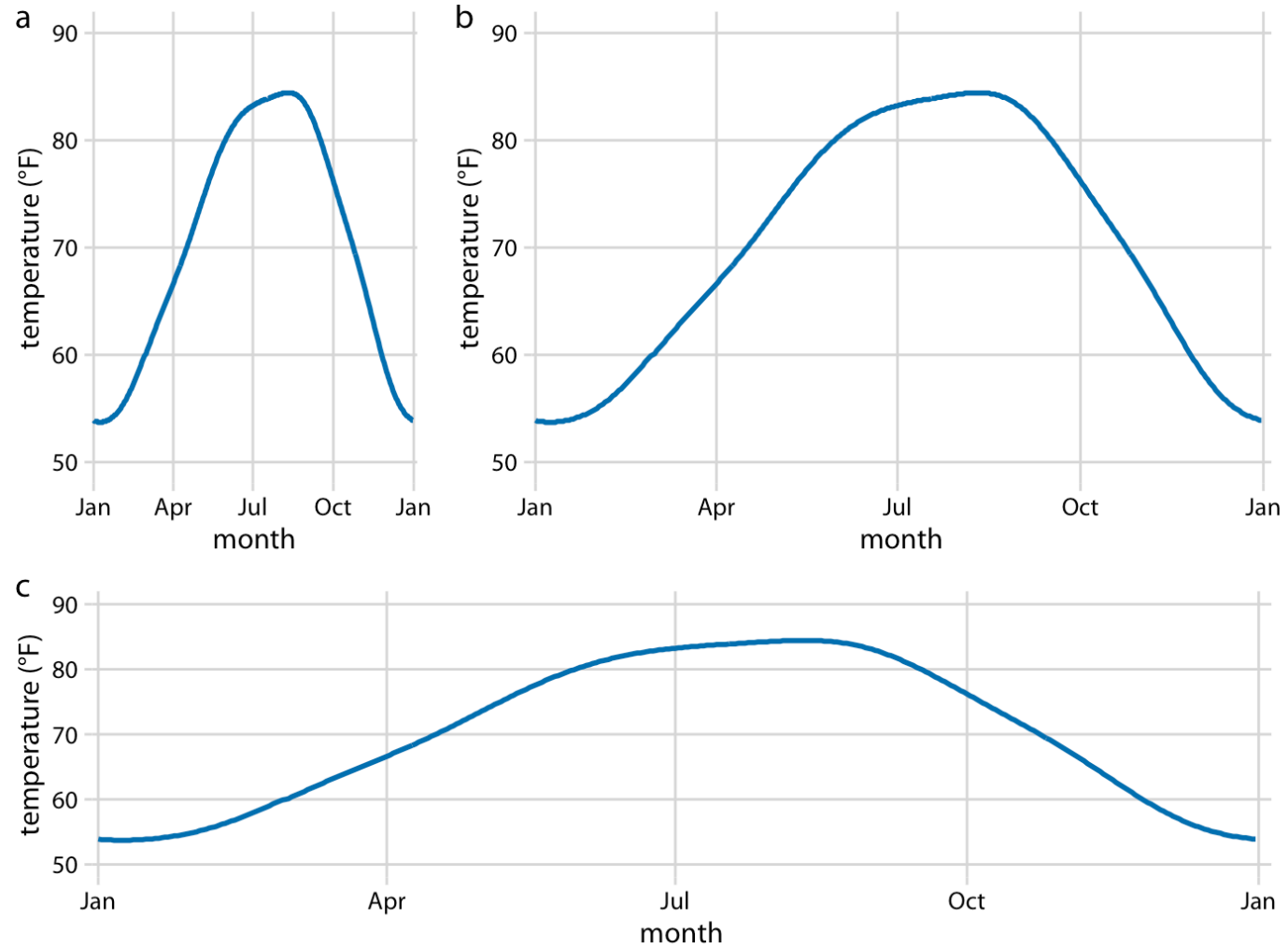
Data Visualization Essentials

Coordinate Systems and Axes

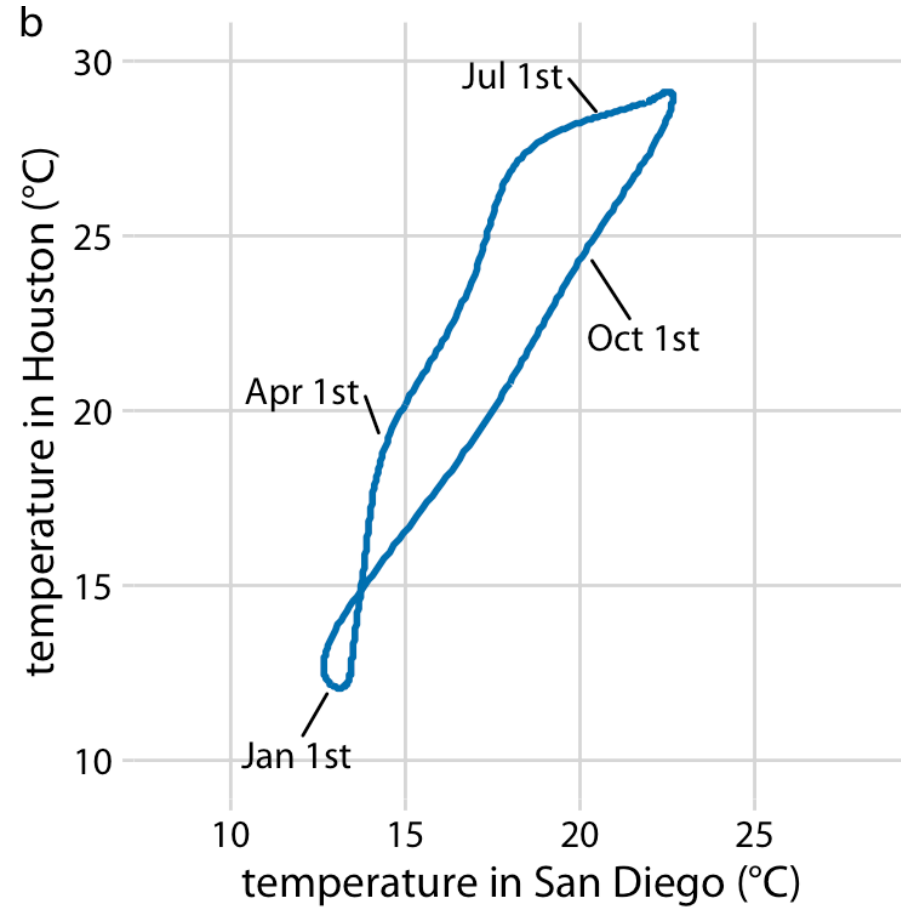
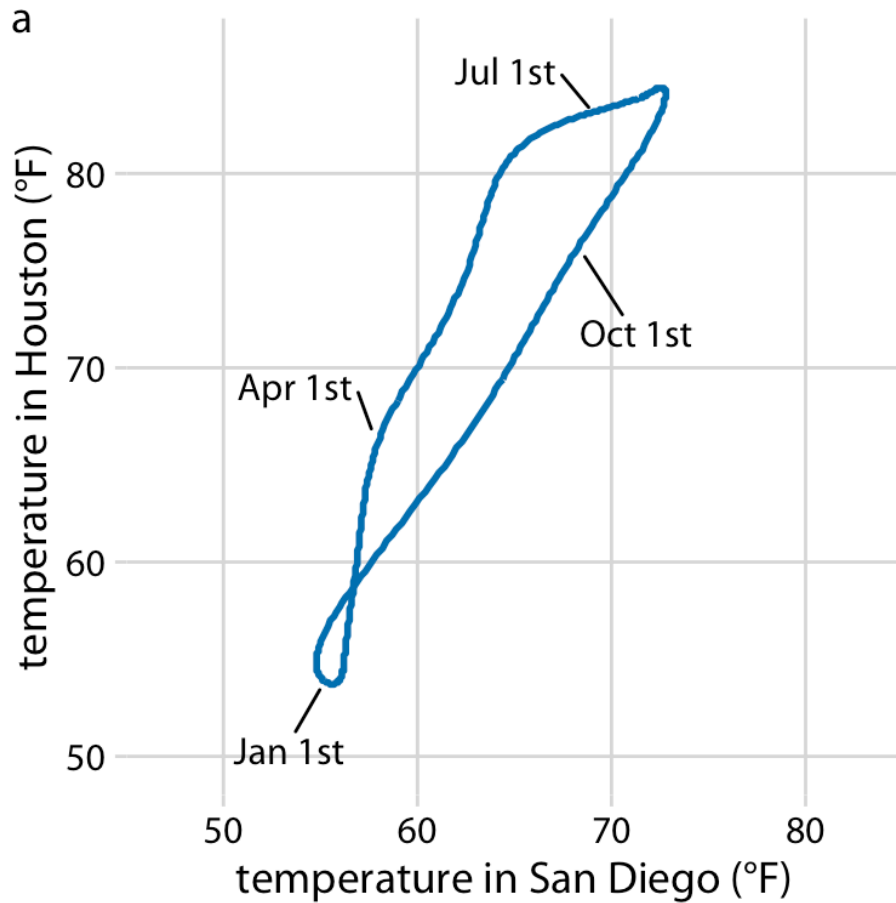
- Importance of position scales in data visualization
- Need for defining coordinate systems and axes
- Cartesian Coordinates
- Importance of units in data values



Two Axes with Different Units

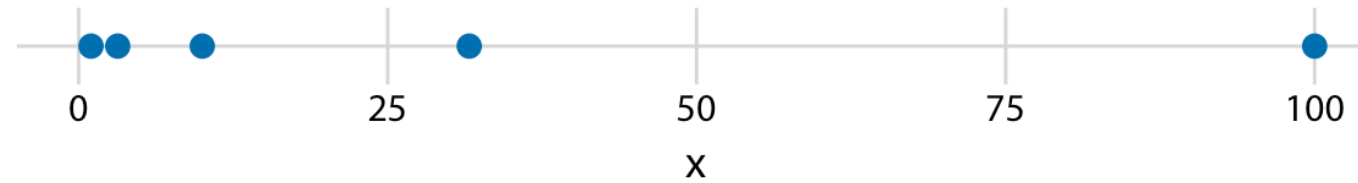


Linear Transformation in Cartesian Coordinates

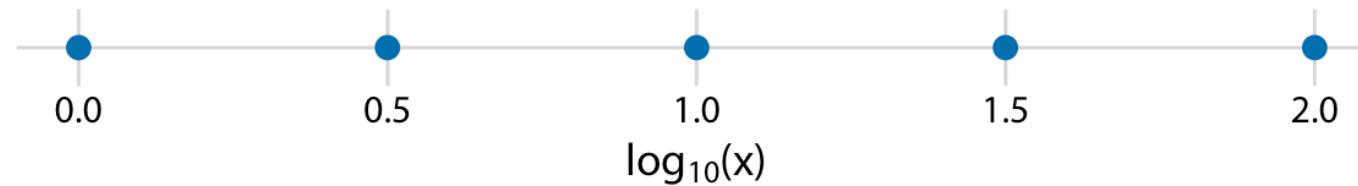


Nonlinear Axes

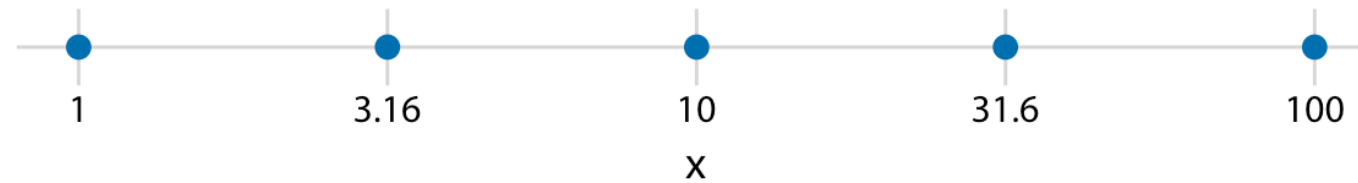
original data, linear scale



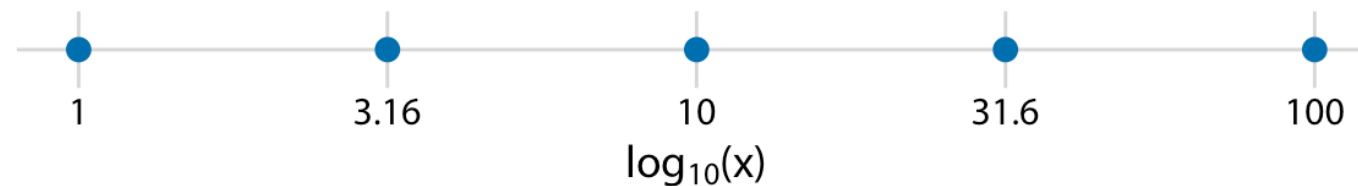
log-transformed data, linear scale



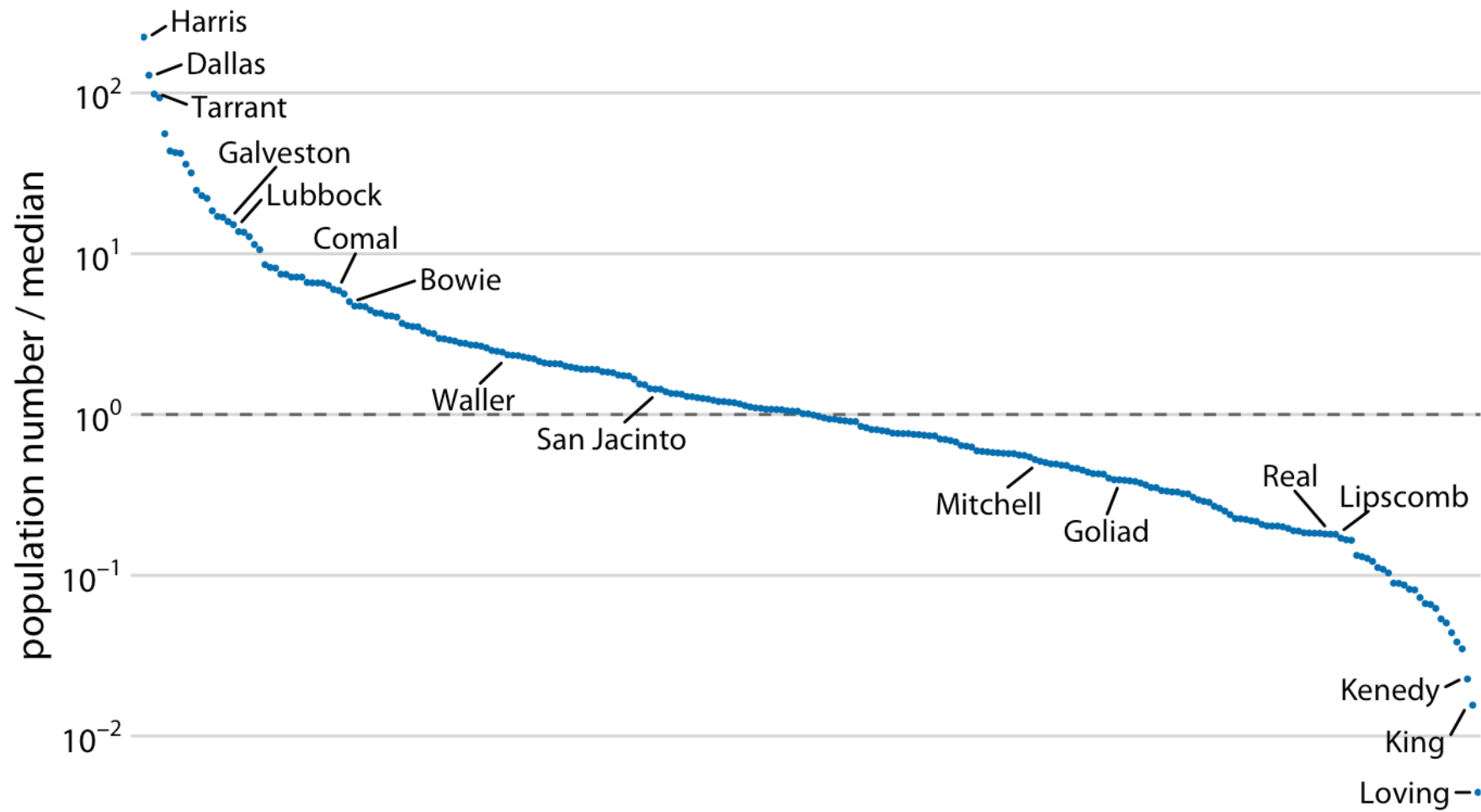
original data, logarithmic scale



logarithmic scale with incorrect axis title

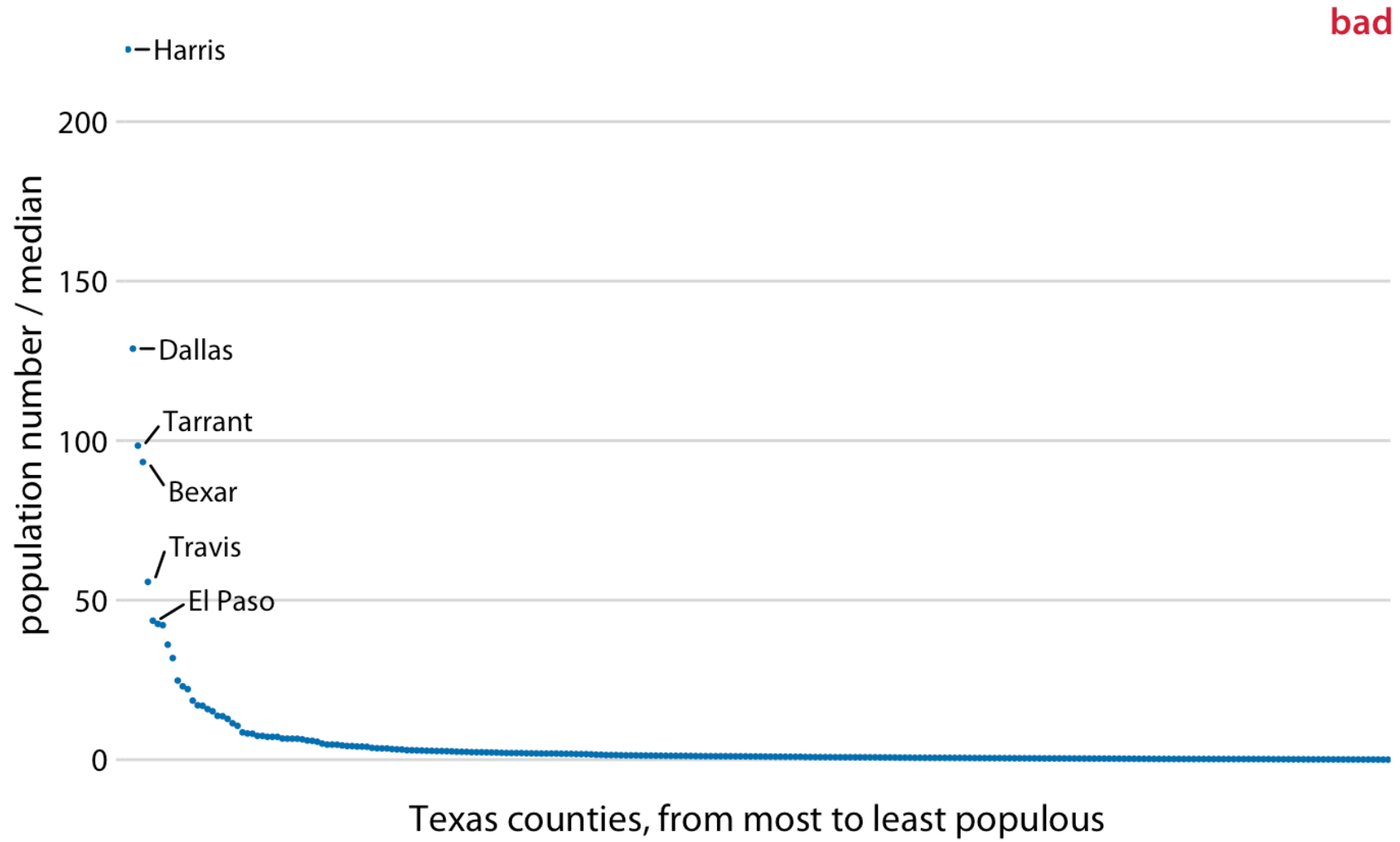


Log Scales for Ratios



Texas counties, from most to least populous

Population sizes of Texas counties



Square-Root Scales

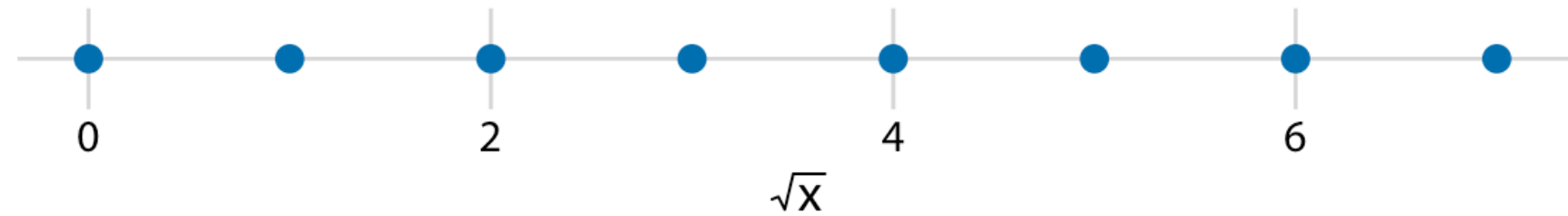
- Square-root scales as an alternative to log scales
- Challenges associated with square-root scales

Relationship between linear and square-root scales

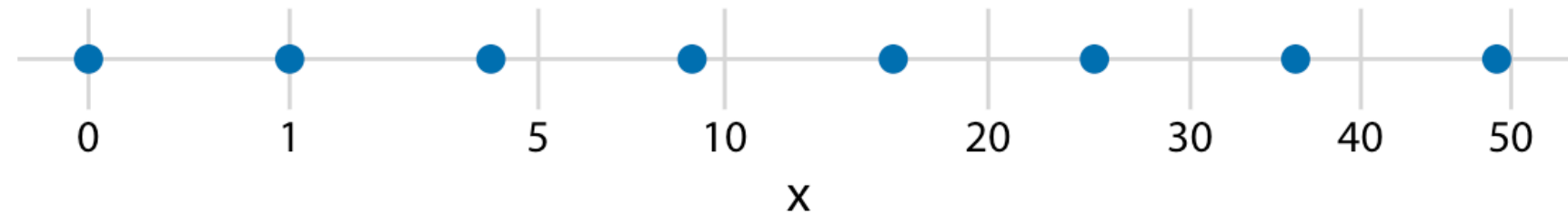
original data, linear scale



square-root-transformed data, linear scale

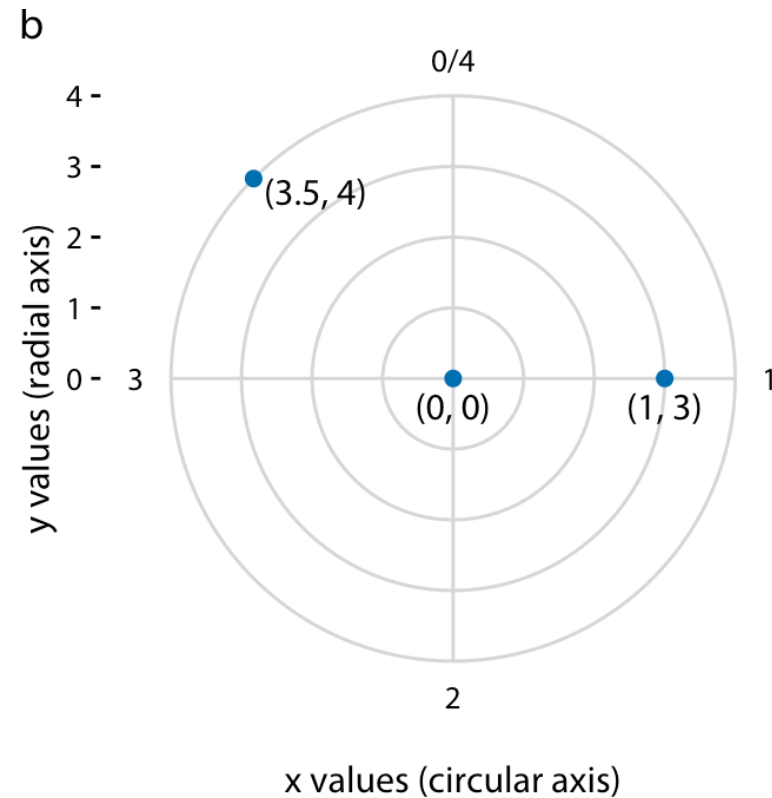
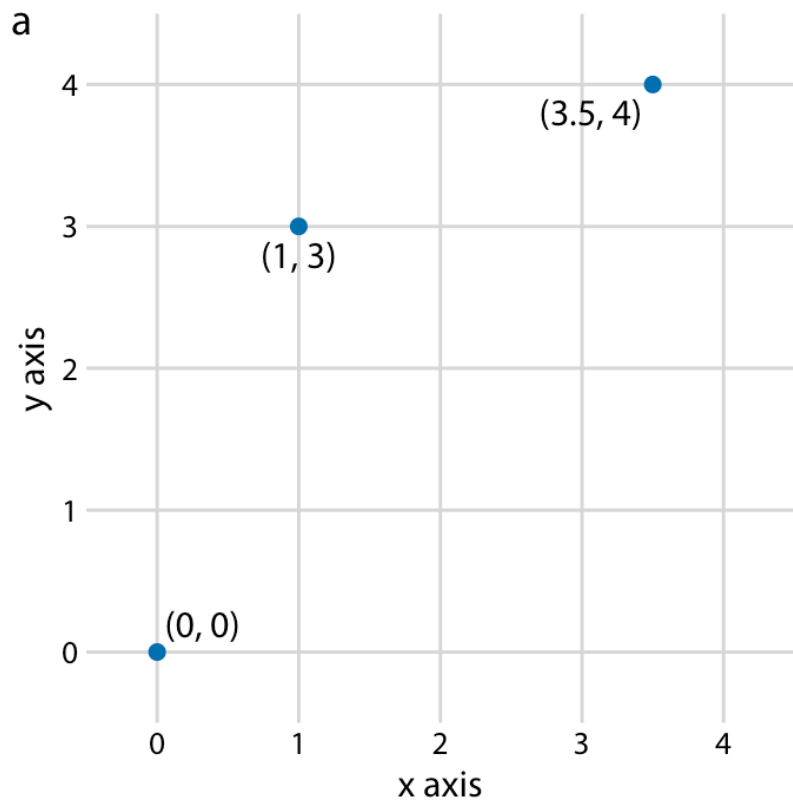


original data, square-root scale

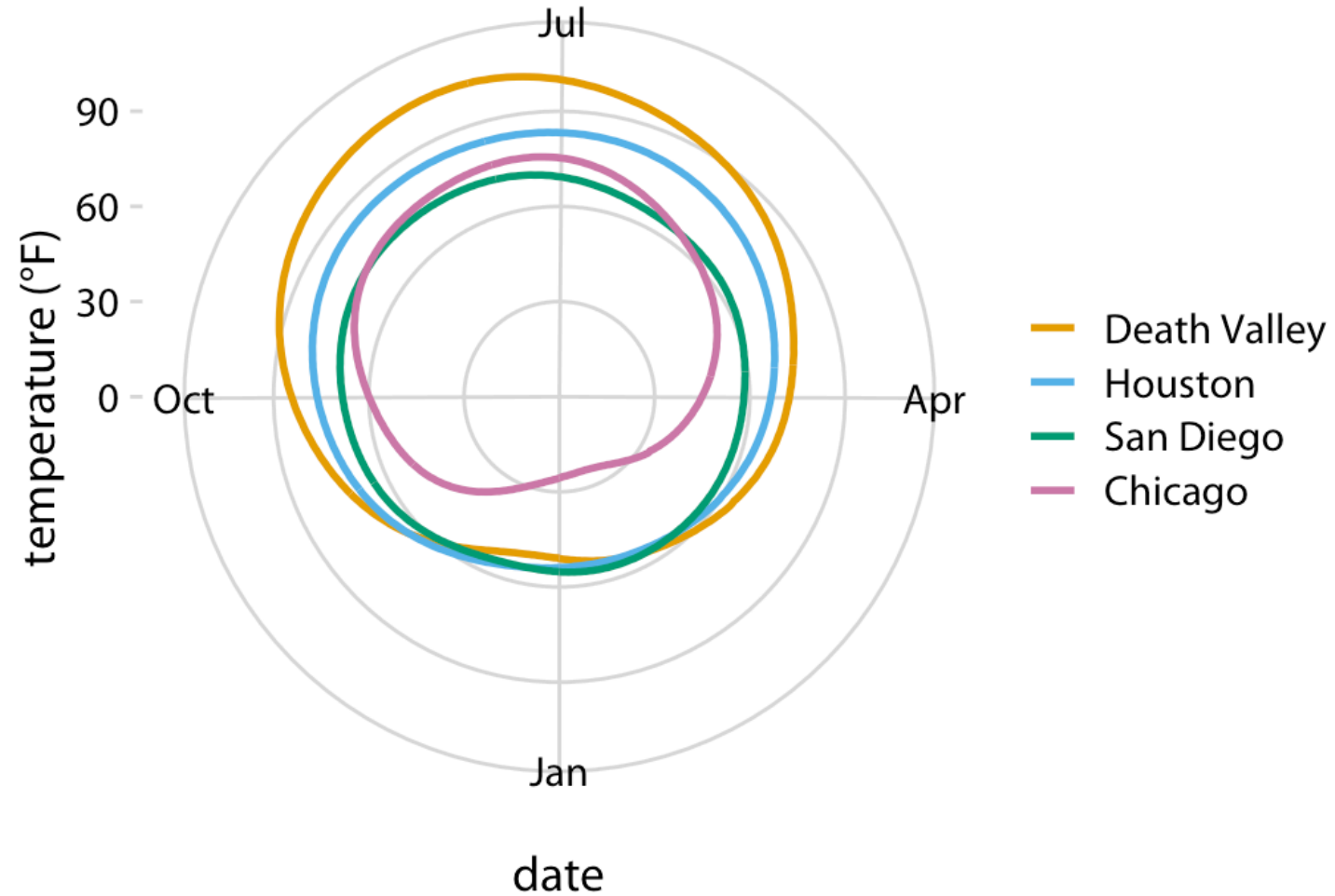


Coordinate Systems with Curved Axes

- Polar coordinates and their application for periodic data
- Relationship between Cartesian and polar coordinates

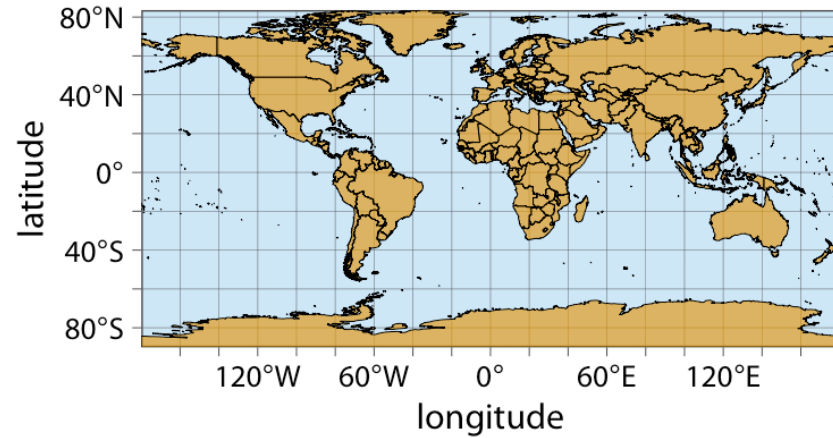


Polar Coordinates for Temperature Data

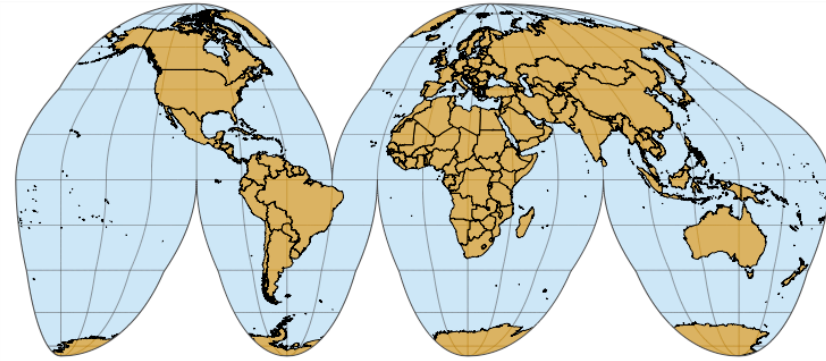


Curved Axes in Geospatial Data

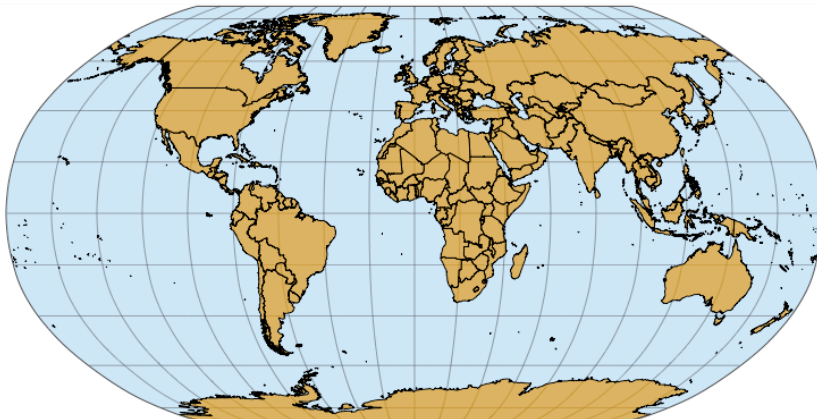
Cartesian longitude and latitude



Interrupted Goode homolosine



Robinson



Winkel tripel

