Sizing Circles for Data Visualization

To correctly size circles/bubbles in a data visualization, the designer has to adjust the proportional area of each circle. You define the Master Circle Diameter for the first circle in your design, and all of the remaining circles diameters are calculated compared to that first circle. Given any two values (X1 & X2), the designer creates the Master Circle by choosing the diameter (D1) to represent the first value, and the formula to calculate the 2nd circle diameter (D2) is:

\[ D2 = D1 \times \sqrt{X2 / X1} \]

Example:

\[ X1 = $36.00 \quad D1 = 0.36\text{in} \]
\[ X2 = $144.00 \quad D2 = ? \]
\[ D2 = 0.36 \times \sqrt{144 / 36} = 0.72 \]

Here are the pre-calculated multiplication factors for values of whole number sizes larger than the Master Circle.