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:
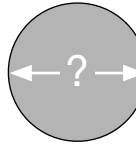
D2 = D1 × SQRT (X2 / X1)

Example:

.36

X1 = $36.00
D1 = 0.36in

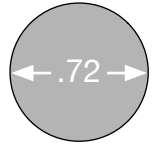**Master Circle**

?

X2 = $144.00
D2 = ?

2nd Circle

D2 = 0.36 × SQRT ($144 / $36)
= 0.72

.72

2nd Circle

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

Master Circle

1 — Diameter = D1

2 — D1 × 1.414

3 — D1 × 1.732

4 — D1 × 2.000

5 — D1 × 2.236

6 — D1 × 2.449

7 — D1 × 2.646

8 — D1 × 2.828

9 — D1 × 3.000

10 — D1 × 3.162

11 — D1 × 3.317

12 — D1 × 3.464

13 — D1 × 3.606

14 — D1 × 3.742

15 — D1 × 3.873

16 — D1 × 4.000

17 — D1 × 4.123

18 — D1 × 4.243

19 — D1 × 4.359

20 — D1 × 4.472

21 — D1 × 4.583

22 — D1 × 4.690

23 — D1 × 4.796

24 — D1 × 4.899

25 — D1 × 5.000

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