

Graphing Techniques Lab Report

Table 1 Circumference vs Diameter of different spheres

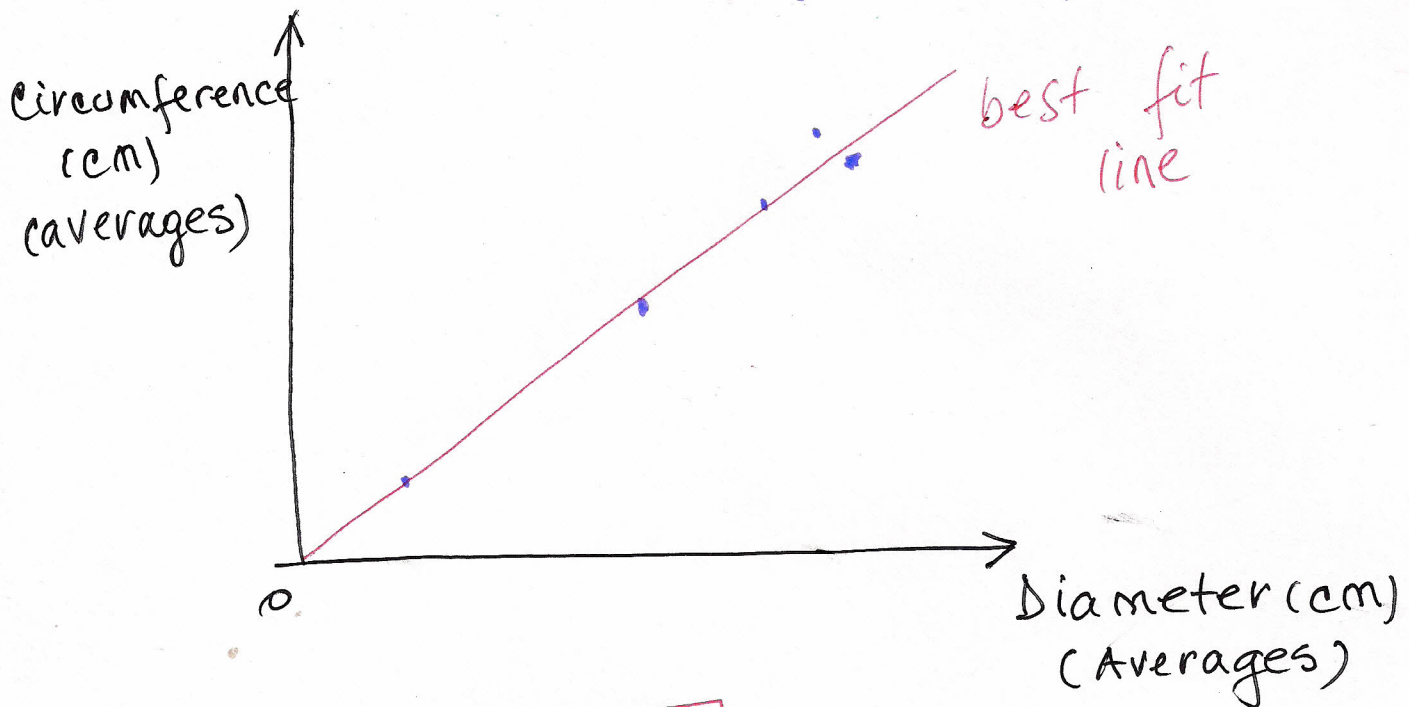
| Object | Diameter ($\pm 0.003\text{cm}$) | | Circumference ($\pm 0.05\text{cm}$) | |
|--------|-----------------------------------|---------|---------------------------------------|---------|
| | Trial 1 | Trial 2 | Trial 1 | Trial 2 |
| | | | | |

Vernier Caliper uncertainty = $\frac{0.005\text{cm}}{2} = 0.0025\text{cm} \approx 0.003\text{cm}$
Ruler uncertainty = $\frac{1\text{mm}}{2} = \frac{0.1\text{cm}}{2} = 0.05\text{cm}$

Table 2 Average Circumferences and Diameters for different spheres

| Object description | Average diameter | Average circumference |
|--------------------|------------------|-----------------------|
| | | |

Title → Diameter vs Circumference of a sphere
→ The relationship between Diameter and Circumference of a sphere



$$y = mx + b$$

$$y = \text{Circumference} = C$$

$$C = \pi \cdot d$$

$$X = d = \text{Diameter}$$

Calculate the slope of your graph
this is your measured value.

The theoretical value of the slope of
the graph = $\pi \approx 3.14$

Use the measured value and the
theoretical value to calculate the percent
error.