

Name: _____
Lab Partner: _____

Radius of Aluminum Atom:

- (i) Diameter = _____ Length = _____
- (ii) Mass = _____
- (iii) Volume = _____
- (iv) Density = _____ % error = _____
- (v) Total number of Al atoms = _____
- (vi) Volume of an Al atom = _____
- (vii) Al atom radius = _____
- (viii) % error of Al atom radius to actual radius (143 pm) = _____

For the following calculations, you must determine the volume of the Al bar from its mass and density. Use this volume to calculate the volume of an Al atom, and its radius.

- (ix) Al bar volume, based on its mass and density (2.702 g/cm^3) = _____
- (x) Volume of Al atom using (ix) volume & (v) number of atoms = _____
- (xi) Al atom radius based on (x) volume = _____
- (xii) % error of Al atom radius (xi) to actual radius = _____

Radius of a Glucose Molecule in Paper:

- (i) Thickness of one (1) sheet of paper (cm) = _____
- (ii) Paper width (cm) = _____ Paper length (cm) = _____
- (iii) Volume of one (1) sheet of paper = _____
- (iv) Mass of one (1) sheet of paper = _____
- (v) Number of glucose (180 g/mol) molecules = _____
- (vi) Volume of a single glucose molecule = _____
- (vii) Radius of a single glucose molecule = _____