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| **Spherometer Equation – Error Propagation** | | |
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|  |  | Spherometer Equation |
|  |  |  |
|  |  | Take partial derivative for x |
|  |  |  |
|  |  | Take partial derivative for d  Use Quotient Rule |
|  |  |  |
|  |  | Definition of absolute error |
|  |  |  |
|  |  | Definition of relative error |
|  |  |  |
|  |  | Substitute |
|  |  |  |
|  |  | Simplify  Absolute error for d is taken as the max delta for several measurements. (0.05mm)  Treating absolute error of x as 0. |
|  |  |  |
|  |  |  |
|  |  | Solve |