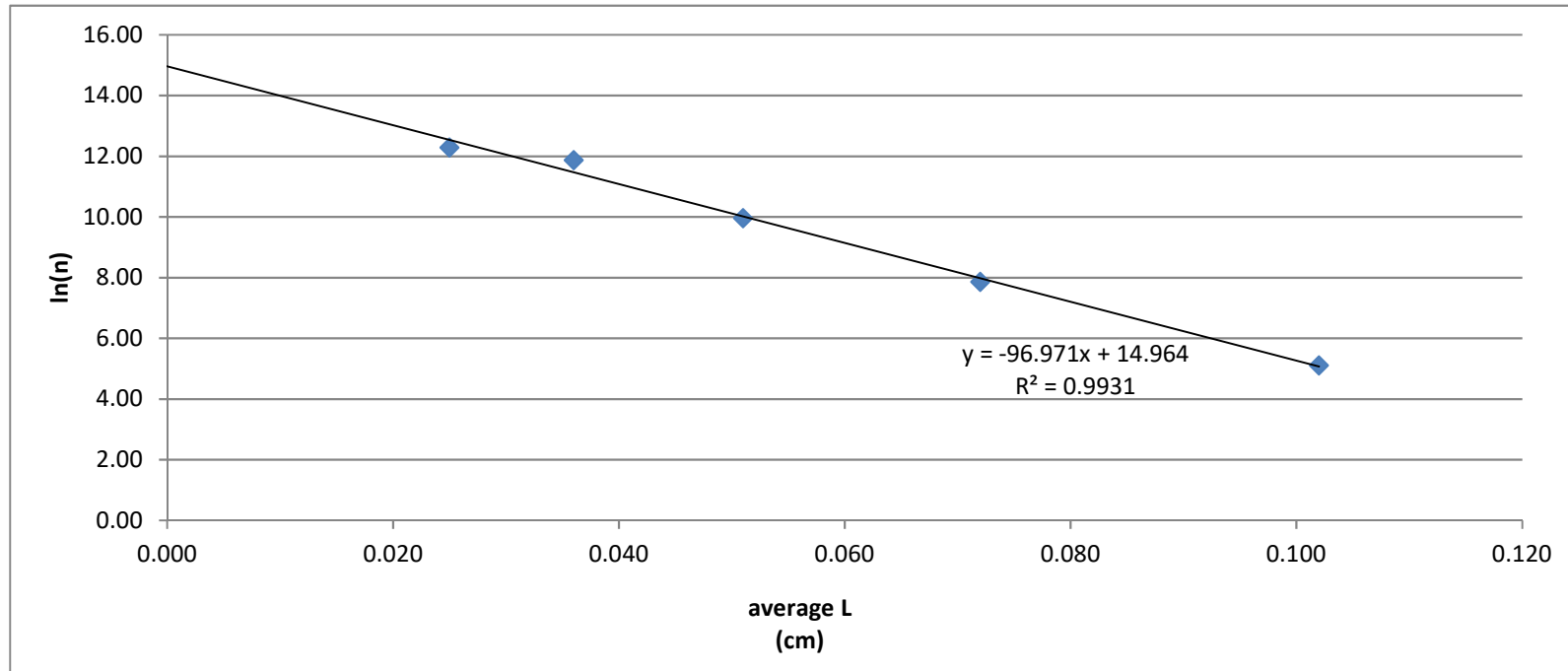


# Problem H.2

| Screen | cumulative % | $\Delta L$ | average L | n                     | $\ln(n)$ |
|--------|--------------|------------|-----------|-----------------------|----------|
| (cm)   |              | (cm)       | (cm)      | cryst/cm <sup>4</sup> |          |
| 0.120  | 0            |            |           |                       |          |
| 0.084  | 3            | 0.036      | 0.102     | 166                   | 5.11     |
| 0.060  | 14           | 0.024      | 0.072     | 2590                  | 7.86     |
| 0.042  | 38           | 0.018      | 0.051     | 21204                 | 9.96     |
| 0.030  | 76           | 0.012      | 0.036     | 143182                | 11.87    |
| 0.020  | 92           | 0.010      | 0.025     | 216020                | 12.28    |



$$\text{SLOPE} = -96.97$$

$$\text{INTERCEPT} = 14.96$$

$$A) \quad G = \frac{1}{-\text{SLOPE}} \cdot \frac{Q}{V}$$

$$= \frac{1}{96.97} \cdot \frac{400}{1000} = \underline{\underline{0.0041 \text{ cm/h}}}$$

$$B) \quad n_0 = e^{14.96} = 3,140,000$$

$$B = n_0 G = (3,140,000)(0.0041) \\ = \underline{\underline{12900 \text{ cm}^3/\text{h}}}$$

$$C) \quad L_D = \frac{3GV}{Q} = \frac{(3)(0.0041)(1000)}{(400)} = \underline{\underline{0.031 \text{ cm}}}$$

NOTE "L" IN V  $\neq$  Q CANCEL