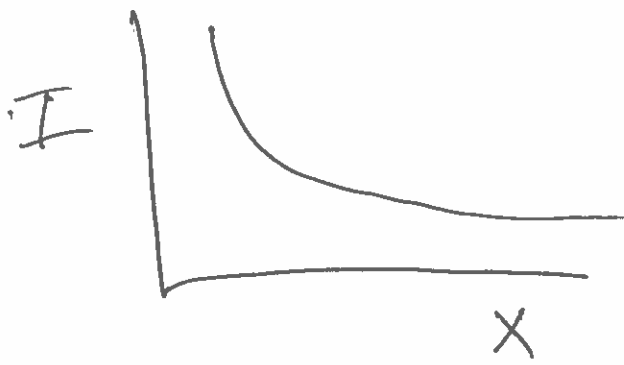


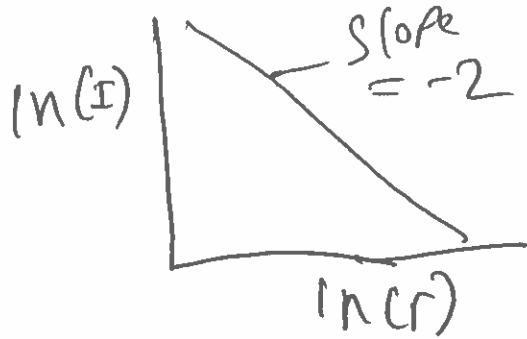
C	D	E	F	G
Raw Dist (cm)	Actual Dist (m)	Intensity	$\ln(I_{raw})$	$\ln(I)$
1182	0.4			

8

$$\frac{1.20}{0.54} = 2.22 \approx 2.2$$



$$I \propto \frac{1}{r^2} \quad I = A r^{-2}$$



$$\ln(I) = -2 \ln(r) + \ln(A)$$

$$b = \ln(A)$$

$$\sqrt{\frac{I}{\frac{Nm^2}{c^2}}} = \sqrt{\frac{c^2 F}{Nm^2}} = \frac{k Q_1 Q_2}{r_{12}^2}$$

$$F = k Q^2 r^{-2}$$

$$\ln(F) = -2 \ln(r) + \ln(k Q^2)$$

$$b = \ln(k Q^2)$$

$$e^b = k Q^2$$

$$Q = \sqrt{\frac{e^b}{k}}$$

$$k = 8.99 \times 10^9 \frac{Nm^2}{C^2}$$