Formula Sheet

Inverse Square Law

$$\frac{I_1}{I_2} = \frac{(d_2)^2}{(d_1)^2}$$

Density Maintenance Formula/Direct Square Law

$$\frac{mAs_1}{mAs_2} = \frac{(SID_1)^2}{(SID_2)^2}$$

Grid Conversion Formula

$$\frac{mAs_1}{mAs_2} = \frac{GCF_1}{GCF_2}$$

Grid Factors

Grid Ratio	Grid Factor
No grid	1
5:1	2
8:1	4
12:1	5
16:1	6

Relative Speed

$$\frac{RS_2}{RS_1} = \frac{mAs_1}{mAs_2}$$

Magnification Factors

$$MF = \frac{SID}{SOD} \qquad MF = \frac{\text{Image size}}{\text{Object size}}$$

$$SOD = SID - OID$$

Repeat Rates

$$\text{Causal Repeat Rate} = \frac{\text{\# of repeats from a specific cause}}{\text{total \# of repeats}} \times 100$$

$$\text{Total Repeat Rate} = \frac{\text{\# of repeats}}{\text{total \# of views}} \times 100$$

Heat Units

Generator Type	Modification Factor
Single Phase	1
Three Phase	1.4
High Frequency	1.4

HU = kVp x mA x time x modification factor