

$$m = \frac{n(\sum x_i y_i) - (\sum x_i)(\sum y_i)}{n(\sum x_i^2) - (\sum x_i)^2}$$

$$b = \frac{\sum y_i - m(\sum x_i)}{n}$$

$$r^2 = \left[\frac{n(\sum x_i y_i) - (\sum x_i)(\sum y_i)}{\sqrt{n(\sum x_i^2) - (\sum x_i)^2} \sqrt{n(\sum y_i^2) - (\sum y_i)^2}} \right]^2$$

$$m = \frac{n(\sum x_i \ln(y_i)) - (\sum x_i)(\sum \ln(y_i))}{n(\sum x_i^2) - (\sum x_i)^2}$$

$$\ln(b) = \frac{\sum \ln(y_i) - m(\sum x_i)}{n}$$

$$b = e^{\ln(b)}$$

$$r^2 = \left[\frac{n(\sum x_i \ln(y_i)) - (\sum x_i)(\sum \ln(y_i))}{\sqrt{n(\sum x_i^2) - (\sum x_i)^2} \sqrt{n(\sum \ln(y_i)^2) - (\sum \ln(y_i))^2}} \right]^2$$

$$m = \frac{n(\sum \log(x_i) \log(y_i)) - (\sum \log(x_i))(\sum \log(y_i))}{n(\sum \log(x_i)^2) - (\sum \log(x_i))^2}$$

$$\log(b) = \frac{\sum \log(y_i) - m(\sum \log(x_i))}{n}$$

$$b = 10^{\log(b)}$$

$$r^2 = \left[\frac{n(\sum \log(x_i) \log(y_i)) - (\sum \log(x_i))(\sum \log(y_i))}{\sqrt{n(\sum \log(x_i)^2) - (\sum \log(x_i))^2} \sqrt{n(\sum \log(y_i)^2) - (\sum \log(y_i))^2}} \right]^2$$

$$\eta = \frac{Wh + \frac{1}{2}mv^2}{VIt}$$

$$W = m \cdot g$$

$$Vol = \frac{m}{\rho}$$

$$v = \frac{Vol}{At} = \frac{m}{\rho At}$$

$$Q = v \cdot A$$

$$A = \frac{\pi}{4}d^2$$

Density of water = 1000 kg/m³ = 1 g/cm³ = 1kg/L

1 L = 0.001m³ = 0.264 gal

1 gal = 3.785L = 0.003785m³

1 coulomb = 6.24(10)¹⁸ electrons

Avogadro's Number = 6.022(10)²³ per mol

gravitational constant = g = 9.81 m/s²

1 kg = 1000 grams

1 lb = 4.44822 N = 0.454 kg * 9.81 m/s²

1 ft-lb = 1.356 J

1 ft = 0.3048 m

1 in = 0.0254 m = 25.4mm

Table C-1:
Resistor Color Code
Values

Digit	Color
0	Black
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Violet
8	Gray
9	White