$$m = \frac{y_2 - y_1}{x_2 - x_1}$$
$$y - y_1 = m(x - x_1)$$
$$y = mx + b$$
$$C(x) = cx + F$$
$$R(x) = sx$$
$$P(x) = R(x) - C(x)$$

If $A = \begin{pmatrix} a & b \\ c & d \end{pmatrix}$ and $D = ad - bc \neq 0$

then $A^{-1} = \frac{1}{D}\begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$.

$$I = \Pr t$$
$$A = P(1 + rt)$$
$$i = \frac{r}{m}$$
$$n = mt$$
$$A = P(1+i)^n$$
$$P = A(1+i)^{-n}$$
$$S = R\left[\frac{(1+i)^n - 1}{i}\right]$$
$$P = R\left[\frac{1-(1+i)^{-n}}{i}\right]$$
$$R = \frac{iS}{(1+i)^n - 1}$$
$$R = \frac{Pi}{1-(1+i)^{-n}}$$
$$(A \cup B)^c = A^c \cap B^c$$
$$(A \cap B)^c = A^c \cup B^c$$
$$n(A \cup B) = n(A) + n(B) - n(A \cap B)$$
$$n! = n \cdot (n-1) \cdot (n-2) \cdot \ldots \cdot 3 \cdot 2 \cdot 1$$
$$0! = 1$$
$$P(n,r) = \frac{n!}{(n-r)!}$$
$$C(n,r) = \frac{n!}{r!(n-r)!}$$
$$P(E \cup F) = P(E) + P(F) - P(E \cap F)$$
$$P(E^c) = 1 - P(E)$$

$$P(E) = \frac{n(E)}{n(S)}$$
$$P(B \mid A) = \frac{P(A \cap B)}{P(A)}$$
$$P(A \cap B) = P(A) \cdot P(B \mid A)$$

$P(A \cap B) = P(A) \cdot P(B)$ for A and B independent.

$$P(A_i \mid E) = \frac{P(A_i) \cdot P(E \mid A_i)}{P(A_1) \cdot P(E \mid A_1) + \ldots + P(A_n) \cdot P(E \mid A_n)}$$

where $1 \le i \le n$.

$$E(X) = x_1 p_1 + x_2 p_2 + \ldots + x_n p_n$$
$$Var(X) = p_1(x_1 - \mu)^2 + p_2(x_2 - \mu)^2 + \ldots + p_n(x_n - \mu)^2$$
$$\sigma = \sqrt{Var(X)}$$

$$\frac{P(E)}{P(E^c)}$$

$$\frac{P(E^c)}{P(E)}$$

$$P(E) = \frac{a}{a+b}$$
$$P(\mu - k\sigma \le X \le \mu + k\sigma) \ge 1 - \frac{1}{k^2}$$
$$P(X = x) = C(n,x) p^x q^{n-x}$$
$$p + q = 1$$
$$\mu = np$$
$$Var(x) = npq$$
$$\sigma = \sqrt{npq}$$
$$P(Z < z) = \frac{1}{2}\left[1 + P(-z < Z < z)\right]$$
$$P(X > a) = P\left(Z > \frac{a-\mu}{\sigma}\right)$$
$$P(X < b) = P\left(Z < \frac{b-\mu}{\sigma}\right)$$
$$P(a < X < b) = P\left(\frac{a-\mu}{\sigma} < Z < \frac{b-\mu}{\sigma}\right)$$