MATH 1324 FORMULAS

$ax + b = 0$

$Ax + By = C$

$x = a$

$y = b$

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$y = mx + b$

$y - y_1 = m(x - x_1)$

$C(x) = a + bx$

$p(x) = m - nx$

$R(x) = xp$

$P(x) = R(x) - C(x)$

$I = Prt$

$A = P(1 + rt)$

$A = P\left(1 + \frac{r}{m}\right)^{mt}$

$i = \frac{r}{m}, n = mt$

$A = P(1 + i)^n$

$A = Pe^{rt}$

$APY = \left(1 + \frac{r}{m}\right)^m - 1$

$APY = e^r - 1$

$FV = PMT\frac{(1 + i)^n - 1}{i}$

$PMT = FV\frac{i}{(1 + i)^n - 1}$

$PV = PMT\frac{1 - (1 + i)^{-n}}{i}$

$PMT = PV\frac{i}{1 - (1 + i)^{-n}}$

$f(x) = ax^2 + bx + c$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$f(x) = a(x - h)^2 + k$

$h = \frac{-b}{2a}, k = f(h)$

$f(x) = a_n x^n + a_{n-1}x^{n-1} + \cdots + a_1 x^1 + a_0$

$f(x) = \frac{n(x)}{d(x)}$

$f(x) = b^x$

$y = log_b x \qquad x = b^y$

$y = \ln x \qquad x = e^y$

$\begin{bmatrix} a_{11} & a_{12} & k_1 \\ a_{21} & a_{22} & k_2 \end{bmatrix} \begin{matrix} a_{11}x_1 + a_{12}x_2 = k_1 \\ a_{21}x_1 + a_{22}x_2 = k_2 \end{matrix}$

$$[a_1 \quad a_2 \cdots a_n]\begin{bmatrix} b_1 \\ b_2 \\ \vdots \\ b_n \end{bmatrix} = [a_1 b_1 + a_2 b_2 + \cdots + a_n b_n]$$

$A^{-1} = \frac{1}{D}\begin{bmatrix} d & -b \\ -c & a \end{bmatrix}, D = ad - bc$

$M^{-1}M = MM^{-1} = I$

$(A + B) + C = A + (B + C)$

$A + B = B + A$

$A(BC) = (AB)C$

$A(B + C) = AB + AC$

$(B + C)A = BA + CA$

$AX = B \quad X = A^{-1}B$

$y = \frac{-A}{B}x + \frac{P}{B}$