MATH 1310 – FORMULAS & TABLES

Set Theory

$$n(A \cup B) = n(A) + n(B) - n(A \cap B)$$

Logic

p	~ p
T	F
F	T

p	q	p ∧ q
T	T	T
T	F	F
F	T	F
F	F	F

p	q	p ∨ q
T	T	T
T	F	T
F	T	T
F	F	F

p	q	p → q
T	T	T
T	F	F
F	T	T
F	F	T

Functions

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

$$y = mx + b$$

$$Ax + By = C$$

$$f(x) = mx + b$$

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

$$x = \frac{-b}{2a}$$

$$f(x) = b^x$$

$$f(x) = log_b x$$

Personal Finance

$$I = Prt$$

$$A = P(1 + rt)$$

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

$$A = Pe^{rt}$$

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

$$Y = \left(1 + \frac{r}{n}\right)^{n} - 1$$

$$A = \frac{P\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}{\left(\frac{r}{n}\right)}$$

$$P = \frac{A\left(\frac{r}{n}\right)}{\left[\left(1 + \frac{r}{n}\right)^{nt} - 1\right]}$$

Counting & Probability

$$n! = n(n-1)(n-2)\cdots(3)(2)(1)$$

$${}_nP_r = \frac{n!}{(n-r)!} \; or \; \frac{n!}{p!\,q!\,r!\ldots}$$

$${}_nC_r = \frac{n!}{(n-r)!\,r!}$$

$$P(E) = \frac{n(E)}{n(S)}$$

Statistics

$$\bar{x} = \frac{\sum x}{n} \; or \; \frac{\sum xf}{n}$$

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$$