Formulae Sheet

Learning curve

$Y = ax^b$

Where Y = cumulative average time per unit to produce x units
a = the time taken for the first unit of output
x = the cumulative number of units
b = the index of learning (log LR/log 2)
LR = the learning rate as a decimal

Regression analysis

$y=a+bx$

$$b=\frac{n\sum xy-\sum x\sum y}{n\sum x^2-(\sum x)^2}$$

$$a=\frac{\sum y}{n}-\frac{b\sum x}{n}$$

$$r=\frac{n\sum xy-\sum x\sum y}{\sqrt{(n\sum x^2-(\sum x)^2)(n\sum y^2-(\sum y)^2)}}$$

Demand curve

$P = a - bQ$

$$b = \frac{\text{change in price}}{\text{change in quantity}}$$

a = price when Q = 0

$MR = a - 2bQ$