

Formulae Sheet

Learning curve

$$Y = ax^b$$

Where y = average cost per batch

a = cost of first batch

x = total number of batches produced

b = learning factor ($\log LR / \log 2$)

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

$$P = a - bQ$$

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

$$a = \text{price when } Q = 0$$