MBA Cheat Sheet

Association Rule: {A} => {C)

$$P(A) = \frac{No.\ of\ transactions\ that\ contain\ item\ A}{No.\ of\ total\ transactions}$$

$$P(C) = \frac{No.\ of\ transactions\ that\ contain\ item\ C}{No.\ of\ total\ transactions}$$

$$P(AC) = \frac{No.\ of\ transactions\ that\ contain\ item\ A\ \&\ item\ C}{No.\ of\ total\ transactions}$$

Support: Probability that both A and C are in the same transaction.

Support = P(AC)

Confidence: Given that A is purchased, what is the probability that C will be purchased?

Confidence = $P(C|A) = \frac{P(AC)}{P(A)}$

Lift: How would purchasing either A or C affect the probability on the other item? Are they associated?

Lift = $\frac{P(AC)}{P(A)\times P(C)}$