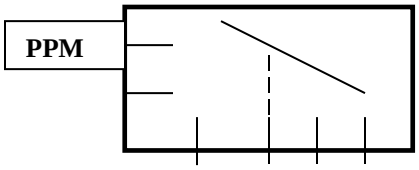
Six Sigma

Item	Discussion
Definition	• **Quality program usually associated with Motorola** • **Method for achieving a virtually defect-free quality level** • **Six Sigma is a statistical term that translates to 3.4 defects per 1 million opportunities** • **In a standard distribution around a bell curve of events, the sigma is the y axis of the area under the curve.**
Six sigma quality	**Objective: Virtually zero defects in everything we do** **Strategy: Develop and implement a roadmap to reduce defect levels**
Metric in PPM (parts per million)	**(Total amount of defects that you experience in a unit/ total defect opportunities per unit) x 10^6**
Defects	• **Any variation of a customers (internal & external) requirement large enough to cause a dissatisfaction** • **They occur in all areas besides just products. The can be found in the service provided, the manuals and support and the employee and management service received**
Defect elimination	**Have the sources of variability been found and eliminated. Each process or products have the potential for variability in the execution of the item. One must understand each product and process and look for ways to remove those variability's.**
Calculations	 **Six sigma** 3 sigma: 70,000 ppm 4 sigma: 6,000 ppm 5 sigma: 400 ppm 6 sigma: 3.4 ppm **I.E. with a standard deviation of a 3 sigma, although that is greater than 99.3% good, you would have 70,000ppm failures.**

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