

Plan Quality Management Additional Terms and Definitions Handout

Now, I'd like to include some additional information that's not covered in detail in the *PMBOK® Guide*, but may be asked on the exam.

I'll start with several quality processes that would be good to recognize if you see them.

Edward Deming's total quality management states that everyone in the company contributes to total quality management, meaning everyone is responsible and is able to make a difference, regardless of their position in the company.

Walter Shewhart and Edward Deming's Plan, Do, Check, Act is an iterative process often used to control processes and products and also used in continuous improvement.

Kaizen's continuous improvement involves continuously improving processes, even if the change is relatively small.

Joseph Juran is best known for the 80/20 rule and is also known for Juran's Trilogy: quality planning, quality control, and quality improvement.

Philip Crosby is known for the concepts of zero defects, doing it right the first time, and the costs of poor quality.

ISO 9000 is a standard for quality where organizations document their processes and follow those processes.

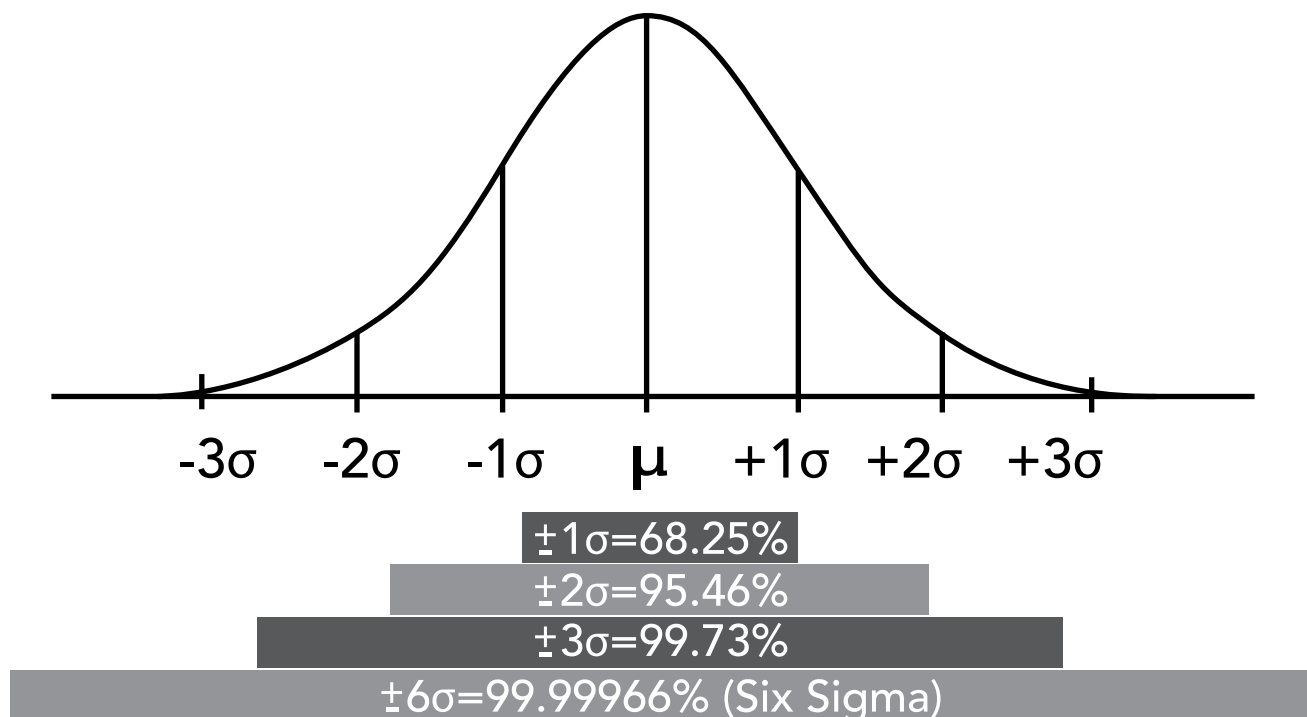
Six sigma is used for process improvements, working to achieve high-quality standards with few defects. For example:

- **1 sigma:** 68.25% of data points fall within 1 standard deviation (SD) from the mean
- **2 sigma:** 95.46%
- **3 sigma:** 99.73%
- **6 sigma:** 99.99966%
- You only need to know the percentages for sigma's 1,2,3, and 6 for the exam.

The chart below shows each of the sigmas, the defects per million, and the percentages of defects.

Sigma Level	Defects per Million	Defects Percentage
1	691,462	69%
2	308,538	31%
3	66,807	6.7%
4	6,210	0.62%
5	233	0.023%
6	3.4	0.00034%
7	0.019	0.0000019%

Standard deviation is how the data are scattered around the mean. This chart shows the normal bell-shaped curve with standard deviations, up to 6 sigma.



Just-in-time manufacturing means inventory is no longer kept on the premises. The inventory or material is brought in right before it's needed. Since there aren't any spare parts, the focus is on quality.

Here are some additional terms you should be familiar with for the exam:

Statistical independence is when the outcome of two events are not related or linked to each other. For example, if you roll a die and get a 2, the chance of you getting a 2 on the second roll is independent of the first roll.

Mutually exclusive means two events can't happen at the same time. For example, if I'm walking down the street and make a left at the corner, I can't also make a right at the same time.

Gold plating is when you give the customer more than what they've asked for. For example, extra functionality or extra scope.

- **Tip:** According to the PMI®, gold plating is a no-no and is never permitted in a project. If you see a question pertaining to gold plating, just know that it is never acceptable.

Special causes vs. common causes refer to variances in testing results. There are two separate causes for these variances, special and common:

- **Common causes** are the ones you expect and are predictable in a process. For example, on a control chart, you expect to see random variances between data points, within control limits.
- **Special causes** are causes that are generally considered unusual and preventable, but aren't predictable. For example, on a control chart, a data point out of control limits is considered a special cause.

Prevention vs. inspection: It's better to prevent defects from happening by building in quality processes than to inspect for quality after the fact.