

# Q-QUIZ MAY 2018 - ANSWERS

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**Statistical process control (SPC) proves that production processes meet the respective requirements. Since these processes manufacture products, you specify characteristics for each product and measure them. The documentation and even the final proof of capability are based on numerical and graphical results and frequently illustrated in quality control charts.**

**National and international standardisation, however, agreed on a definition describing SPC in terms of process control but involving the aspect of process improvement, too. Statistics of machine performance studies, measurement system and process capability analysis play an important role.**

1. The fact that  $C_m$  is usually greater than  $C_{pk}$  characterises the relationship between statistics of machine performance and the ones of process capability.

2. "The greater  $C_g$ , the more approaches the actual  $C_m/C_{mk}$  value the determined value" is what best describes the relationship between measurement system capability and machine performance.

3. You calculated a Shewhart average chart based on a sample size of  $n = 5$ . The process is normally distributed and stable. The specified control limits for the location amount to  $\pm 3\sigma$ . These specifications help you find out that an average of 300 subgroup averages will exceed the control limits.

4. It does not make sense to calculate the machine performance of a coordinate measuring machine.