***Process Capability Exam Practice***

**Question Number – 1:**

Given an average of 54.6, no lower specification, and an upper specification of 57.8, what is the maximum standard deviation if a Cpk greater than 1.67 is required? Please provide your answer to at least 3 significant digits.

**Answer:** 0.638722555

**Reference: Template.xlsx/Process Capability/E8**

**Question Number – 2:**

Given an average of 86.2, no lower specification, and an upper specification of 110.7, what is the maximum standard deviation if a Cpk greater than 1.67 is required? Please provide your answer to at least 3 significant digits.

**Answer:** 4.890219561

**Reference: Template.xlsx/Process Capability/E8**

**Question Number – 3:**

A process with a one-sided specification has a Cpk of 1.06. What percentage of the production falls beyond the specification limit? Do not enter your answer as a percentage. For example, enter 0.153 NOT 15.3% Please provide your answer to at least 3 significant digits.

**Answer:** 0.000736375

**Reference: Template.xlsx/Process Capability/E19**

**Question Number – 4:**

A process with a one-sided specification has a Cpk of 1.09. What percentage of the production falls beyond the specification limit? Do not enter your answer as a percentage. For example, enter 0.153 NOT 15.3% Please provide your answer to at least 3 significant digits.

**Answer:** 0.000537737

**Reference: Template.xlsx/Process Capability/E19**

**Question Number – 5:**

Given the data below, a lower specification of 58.1, and an upper specification of 94.2, what is the long term process performance (Ppk)? Please provide your answer to at least 3 significant digits.

**Answer:** 0.762820538

**Reference: Template.xlsx/Process Capability/Copy the data to B28 and take answer from B25 (Clear all the pre-existing data at first)**

|  |
| --- |
| Data |
| 84.7179 |
| 63.86211 |
| 66.01864 |
| 81.73415 |
| 65.66933 |
| 66.54813 |
| 74.7956 |
| 78.836 |
| 69.59088 |
| 69.89714 |
| 79.31351 |
| 7.01E+01 |
| 72.25671 |
| 87.56145 |
| 67.38364 |
| 69.07868 |
| 68.54445 |
| 80.89091 |
| 81.54769 |
| 79.8529 |
| 88.47232 |
| 7.58E+01 |
| 73.38379 |
| 70.23962 |
| 71.60065 |
| 84.99731 |
| 73.17599 |
| 69.41276 |
| 85.20775 |
| 7.22E+01 |
| 80.03268 |
| 68.79551 |
| 89.28066 |
| 86.09718 |
| 65.84861 |
| 84.63363 |
| 72.4604 |
| 86.17946 |
| 86.08678 |
| 55.63622 |
| 74.86797 |
| 84.18025 |
| 61.48539 |
| 72.68208 |

**Question Number – 6:**

Given the data below, a lower specification of 40.7, and an upper specification of 69.7, what is the long term process performance (Ppk)? Please provide your answer to at least 3 significant digits.

**Answer:** 0.529444607

**Reference: Template.xlsx/Process Capability/Copy the data to B28 and take answer from B25 (Clear all the pre-existing data at first)**

|  |
| --- |
| Data |
| 58.50486 |
| 64.88065 |
| 40.47515 |
| 53.60381 |
| 52.22965 |
| 60.07692 |
| 49.67957 |
| 74.50011 |
| 54.29284 |
| 53.25987 |
| 65.79353 |
| 3.93E+01 |
| 46.29748 |
| 54.64124 |
| 45.11406 |
| 73.13697 |
| 59.52198 |
| 51.17496 |
| 58.87651 |
| 49.30638 |
| 48.74355 |
| 5.27E+01 |
| 57.61171 |
| 45.24902 |
| 61.00379 |
| 66.34779 |
| 51.39838 |
| 56.69704 |
| 66.16441 |
| 6.10E+01 |
| 53.3996 |
| 53.1356 |
| 45.9537 |
| 71.3722 |
| 67.78563 |
| 59.49335 |
| 55.15774 |
| 46.60427 |
| 61.10287 |

**Question Number – 7:**

Given the data below, no lower specification, and an upper specification of 114, what is the long term process performance (Ppk)? Please provide your answer to at least 3 significant digits.

**Answer:** 0.905717993

**Reference: Template.xlsx/Process Capability/Copy the data to B28 and take answer from B24 (Clear all the pre-existing data at first)**

|  |
| --- |
| Data |
| 77.37774 |
| 108.8207 |
| 104.9233 |
| 77.683 |
| 88.47428 |
| 99.89673 |
| 94.81856 |
| 100.3183 |
| 107.5346 |
| 86.67305 |
| 96.54624 |
| 8.49E+01 |
| 85.86161 |
| 104.8333 |
| 96.84849 |
| 79.14458 |
| 94.2777 |
| 89.06197 |
| 85.63813 |
| 99.40044 |
| 91.11674 |
| 8.99E+01 |
| 99.1886 |
| 85.84941 |
| 92.34914 |
| 92.69842 |
| 90.84894 |
| 74.98141 |
| 92.07578 |
| 9.18E+01 |
| 90.19433 |
| 75.49896 |
| 102.9656 |
| 93.68326 |
| 84.46075 |
| 83.66402 |
| 107.0259 |
| 91.31873 |
| 94.37601 |
| 103.9498 |
| 93.63783 |
| 102.859 |
| 100.3933 |
| 94.22334 |
| 84.73275 |
| 93.00223 |
| 95.4705 |
| 92.85713 |
| 9.35E+01 |
| 92.88308 |
| 9.67E+01 |
| 91.37026 |
| 94.02172 |
| 85.2084 |
| 89.49236 |
| 91.79221 |
| 80.47435 |
| 88.7494 |
| 96.65891 |
| 99.19326 |
| 78.49363 |
| 93.13645 |
| 96.69642 |
| 97.62032 |
| 78.68851 |
| 97.54667 |
| 93.40263 |
| 90.26368 |
| 101.2842 |
| 96.38379 |
| 99.29527 |
| 84.1814 |
| 101.5044 |
| 94.02744 |
| 110.8579 |
| 82.51109 |
| 81.08866 |
| 99.24146 |
| 80.49147 |
| 88.67034 |
| 86.98987 |
| 103.0625 |
| 94.1625 |
| 82.03304 |
| 74.38299 |
| 94.18997 |
| 91.13744 |
| 91.75684 |
| 89.67542 |
| 94.05412 |
| 113.3286 |
| 86.23726 |
| 86.03572 |
| 101.7578 |
| 92.48597 |
| 88.23898 |
| 94.45053 |
| 88.86135 |
| 87.95558 |
| 99.5686 |
| 95.33221 |
| 87.10852 |
| 93.31351 |
| 90.44499 |

**Question Number – :**

Given.

**Answer:** 0

**Reference: Template.xlsx/Process Capability/E8**