Exercise

# Fractional Factorial Design of Experiments

Consider the statements listed in the table below. Which of these is true and which is false.

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| Statement | True | False |
| Fractional Factorial DOE relies upon subject matter experts identifying the most likely solution to the issue being studied. |  |  |
| Fractional Factorial DOE relies on using statistical analysis of the results to determine optimal design settings. |  |  |
| Fractional Factorial DOE relies on the ability to set factor levels at predetermined values (such as High and Low) for each test. |  |  |
| Factional Factorial DOE holds all factors constant except one and varies that one to determine its optimal setting. |  |  |
| Fractional Factorial DOE creates test samples that have all possibilities of combinations of high and low factor settings. |  |  |
| Fractional Factorial DOE will normally require fewer tests than with Full Factorial DOE. |  |  |
| Fractional Factorial DOE analysis will provide an equation or analysis that describes the design space of the system that is being studied. |  |  |
| Fractional Factorial DOE does not provide an assessment of interaction effects between factors. |  |  |
| Fractional Factorial DOE assumes linear impact of the factors on the system performance, at least during the first two-level sets of tests. |  |  |
| Fractional Factorial DOE is normally the fastest of any of the experimental design analysis methodologies. |  |  |