# Homework Solutions
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## Exercise 30

(a) The direction of extreme is to the left, because the values to the left are very unlikely under the null hypothesis.

(b) There are three such rods out of 15 produced by Machine A, so $\alpha = 3/15$. Of 15 rods produced by Machine B, 6 have 3 or more flaws, so $\beta = 6/15$.

(c) The values 1, 2, 3, and 4 are at least as extreme as 4. Using the diagram for Machine A, the likelihood of seeing such a rod is 10/15, so the $p$-value is 10/15.

(d) This refers to part (c) as well as part (b). No, the data are not statistically significant. That is because the observed value (4) fell in the acceptance region.