Answer on Question #76544 – Math – Statistics and Probability

Question

about 10% of the human population is left handed. suppose that a researcher speculates that artists are more likely to be left handed than are other people in the general population. the researcher surveys 550 artists and finds that 66 of them are left handed.

Solution

Parameter of interest is a proportion of artists in the general population who are left-handed.

Null hypothesis $H_0: p = 0.1$.

Alternative hypothesis $H_a: p > 0.1$.

Test statistic: $z = \dfrac{\frac{66}{550} - 0.1}{\sqrt{\frac{0.1(1-0.1)}{550}}} = 1.56$.

P-value: $p = 0.0594$.

Since the P-value is greater than 0.05 we fail to reject the null hypothesis.