

For the following hypotheses and observed data, calculate the t -statistic and pvalue. Throughout μ is the population mean.

1. $H_0 : \mu = 0$ vs $H_a : \mu \neq 0$ with $n = 13$, $\bar{x} = 4.94$, and $s = 10$.

2. $H_0 : \mu = 7$ vs $H_a : \mu < 7$ with $n = 24$, $\bar{x} = 4.08$, and $s = 5.98$.

3. $H_0 : \mu \leq -3$ vs $H_a : \mu > -3$ with $n = 51$, $\bar{x} = -1.63$, and $s = 9.34$.