Test For	Null Hypothesis (H_0)	Test Statistic	Distribution	Use When
Population mean (μ)	$\mu = \mu_0$	$\dfrac{(\bar{x} - \mu_o)}{\sigma / \sqrt{n}}$	Z	Normal distribution or $n > 30$; σ known
Population mean (μ)	$\mu = \mu_0$	$\dfrac{(\bar{x} - \mu_o)}{s / \sqrt{n}}$	t_{n-1}	$n < 30$, and/or σ unknown
Population proportion (p)	$p = p_0$	$\dfrac{\hat{p} - p_o}{\sqrt{\dfrac{p_o(1 - p_o)}{n}}}$	Z	$n\hat{p}, n(1 - \hat{p}) \geq 10$
Difference of two means ($\mu_1 - \mu_2$)	$\mu_1 - \mu_2 = 0$	$\dfrac{(\bar{x}_1 - \bar{x}_2) - 0}{\sqrt{\dfrac{\sigma_1^2}{n_1} + \dfrac{\sigma_2^2}{n_2}}}$	Z	Both normal distributions, or $n_1, n_2 \geq 30$; σ_1, σ_2 known
Difference of two means ($\mu_1 - \mu_2$)	$\mu_1 - \mu_2 = 0$	$\dfrac{(\bar{x}_1 - \bar{x}_2) - 0}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$	t distribution with $df =$ the smaller of n_1-1 and n_2-1	$n_1, n_2 < 30$; and/or σ_1, σ_2 unknown
Mean difference μ_d (paired data)	$\mu_d = 0$	$\dfrac{(\bar{d} - \mu_d)}{s_d / \sqrt{n}}$	t_{n-1}	$n < 30$ pairs of data and/or σ_d unknown
Difference of two proportions ($p_1 - p_2$)	$p_1 - p_2 = 0$	$\dfrac{(\hat{p}_1 - \hat{p}_2) - 0}{\sqrt{\hat{p}(1-\hat{p})\left(\dfrac{1}{n_1} + \dfrac{1}{n_2}\right)}}$	Z	$n\hat{p}, n(1 - \hat{p}) \geq 10$ for each group