Goal: Test a claim (Significance Test) Ch. 7
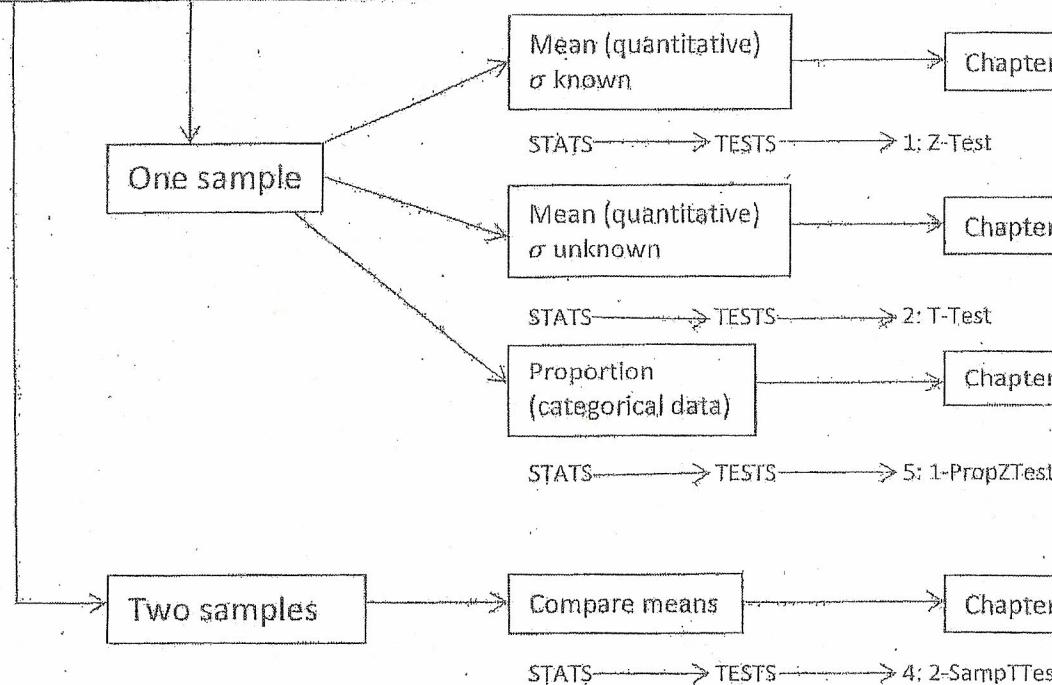
Test Statistics:

One sample

Mean (quantitative) σ known → Chapter 14 →

$$z = \frac{\bar{x} - \mu}{\frac{\sigma}{\sqrt{n}}}$$

STATS → TESTS → 1: Z-Test

Mean (quantitative) σ unknown → Chapter 17 →

$$t = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

STATS → TESTS → 2: T-Test

Proportion (categorical data) → Chapter 19 →

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1 - p_0)}{n}}}$$

STATS → TESTS → 5: 1-PropZTest

Two samples → Compare means → Chapter 18 →

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

STATS → TESTS → 4: 2-SampTTest

P-values:	z-tests	t-tests
Left-tailed	normalcdf($-1E9, z$)	tcdf($-1E9, t, df$)
Right-tailed	normalcdf($z, 1E9$)	tcdf($t, 1E9, df$)
Two-tailed	negative z: 2normalcdf($-1E9, z$)	2tcdf($-1E9, t, df$)
	positive z: 2normalcdf($z, 1E9$)	2tcdf($t, 1E9, df$)

$p < \alpha$ reject H_0, accept H_a

$p > \alpha$ fail to reject H_0