

**Concept Question 4-24:** How do the DC Operating Point Analysis, Transient Analysis, and DC Sweep analyses differ?

The DC Operating Point solves for the dc voltages and currents at all nodes and branches in the circuit. Transient Analysis requires setting initial conditions on all components which require them; the algorithm then solves for how node voltages and currents evolve with time (i.e., calculates the transients) for the circuit in question from the initial time point set by the user. DC Sweep is used to calculate a dc voltage or current at a given node over a range of values.