M phase (Division Phase)

- karyokinesis (Nuclear division)
- cytokinesis (Cytoplasmic division)

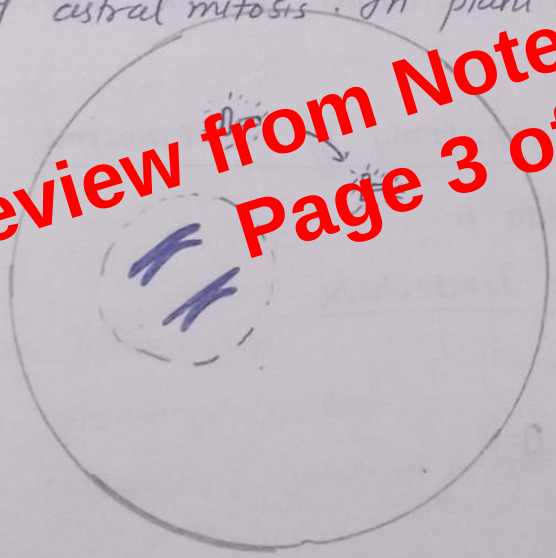
karyokinesis → Prophase, Metaphase, Anaphase, Telophase

- M phase is the most dramatic phase of cell cycle.

Prophase

longest phase of karyokinesis

- Disintegration of nuclear membrane
- Nucleolus disappears
- Cell Organelle like ER, Golgi complex etc also disappears
- Condensation / coiling of chromatin fibres to form chromosomes.
- Chromosome become distinct and untangled.
- Centriole start moving towards opp. poles. Astral rays formed in animal cell.
- Since centriole is only present in animal cell it is called astral mitosis. In plant cell anastral/amphiastral mitosis seen.



Metaphase

Complete disintegration of nuclear envelop marks the begining of metaphase

- Centriole reach opp. poles
- The sister chromatid align themselves onto an equatorial plate
- Spindle apparatus is formed.
  - Spindle fibres join the kinetochore of sister chromatids.
- Chromosome in metaphase is highly coiled short and distinct
- Best phase to study the morphology of chromosome.