

**SOMATIC CELL DIVISION**

- »»> each human somatic cell (body cell, ie. \_\_\_\_\_, *not* the sex cells) has \_\_\_\_\_ chromosomes
- »»> this is called the \_\_\_\_\_ number (2N, double #) since there are 23 chromosomes from the \_\_\_\_\_ and 23 chromosomes from the \_\_\_\_\_
- »»> somatic cell division consists of two main parts: \_\_\_\_\_ and \_\_\_\_\_

**INTERPHASE (Fig. 1, pg. 86 and Fig. 4, pg. 88-89)**

- »»> 95% of cell's life during which it undergoes growth, repair, and metabolism, and DNA replication
- »»> chromosomes are in tangled/stringy form known as \_\_\_\_\_
- »»> at end of phase, chromosomes (DNA) replicate to temporarily become 4N (ie. double the normal chromosome #, thus \_\_\_\_\_ instead of \_\_\_\_\_)
- »»> when chromosome replicates the two identical copies remain attached to each other by the \_\_\_\_\_ (Fig. 2, pg. 87)
- »»> replicated chromosomes are now called \_\_\_\_\_ (but not easily visible yet)

**MITOSIS (Fig. 4, pg. 88-89)****(1) Early Prophase**

- \_\_\_\_\_ divide and move in pairs to opposite sides of nucleus
- microtubules begin to radiate from each \_\_\_\_\_ to form \_\_\_\_\_ and \_\_\_\_\_ fibers
- chromosomes condense (thicken) now and become visible as joined \_\_\_\_\_ (genetically identical)

**Late Prophase**

- chromosomes continue to condense
- spindle fibers attach to \_\_\_\_\_ and begin to move chromatids to equatorial plate of cell
- \_\_\_\_\_ and \_\_\_\_\_ membrane dissolve

**(2) Metaphase**

- pairs of joined \_\_\_\_\_ line up at equator with spindle fibers originating from opposite poles of cell
- \_\_\_\_\_ membrane completely dissolves

**(3) Anaphase**

- \_\_\_\_\_ divide and resulting \_\_\_\_\_ chromosomes, formerly \_\_\_\_\_, are pulled to opposite poles by \_\_\_\_\_
- an identical set of daughter chromosomes moves to each pole

**(4) Telophase**

- \_\_\_\_\_ and \_\_\_\_\_ membrane re-appear in each new daughter cell
- chromosomes de-condense (unwind) to become \_\_\_\_\_ again
- two cells have been produced; each is **genetically** \_\_\_\_\_ to the other and both are \_\_\_\_\_ (2N) with respect to chromosome number

**CYTOKINESIS**

- immediately after mitosis, cell membrane pinches in at \_\_\_\_\_ (called furrowing) to divide the \_\_\_\_\_ so that two separate daughter cells are formed