

**Mitosis vs. Meiosis**

	MITOSIS	MEIOSIS
<b>Purpose</b>	grow heal	reproduce make gametes
Cell Types which undergo each type of cell division	body cells except nerve/brain	sex cells
Number of divisions	1	2
<b>Daughter Cells</b>		
Number	2	4
Haploid or diploid	diploid	haploid
Identical or Unique	identical	unique
Number of Chromosomes (in a human cell)	46	23
Differences in <u>Events of the Phases</u>	PMAT once no crossing over sister chromatids separate	PMAT I & II crossing over homologous pairs separate

2. Identify three similarities of mitosis and meiosis.

- (i) nuclear membrane dissolves in prophase
- (ii) involves cells splitting in half
- (iii) DNA replicates in interphase before mitosis/meiosis
- (iv) chromosomes line up along equator
- (v) nucleus cells splitting in two
- (vi) DNA condenses before dividing occurs

# KEY

Mitosis or meiosis or both?

	<u>Statement</u>	
1	Type of asexual reproduction	Mitosis
2	Part of process of sexual reproduction	Meiosis & Mitosis for many
3	Increases genetic diversity	Meiosis
4	Nuclear membrane <sup>one</sup> dissolves.	Both
5	Cells split once	Mitosis
6	Daughter cells have same DNA as original cell	Mitosis
7	Daughter cells have different DNA	Meiosis
8	Daughter cells are haploid	Meiosis
9	Results in 2 daughter cells	Mitosis
10	Involves cells splitting in half	Both
11	Produces gametes (sperm and ova)	Meiosis
12	Daughter cells are diploid	Mitosis
13	DNA thickens	Both
14	DNA replicates before process starts	Both
15	Daughter cells have 46 chromosomes	Mitosis
16	Cells split twice	Meiosis
17	Chromosomes line up along equator	Both
18	Almost all cells go through process	Mitosis
19	Daughter cells have 23 chromosomes	Meiosis
20	Daughter cells have 2n chromosomes	Mitosis