1. Combine each type of mutations (in numbers) with its correct example (in letters).

|  |  |
| --- | --- |
| * + - 1. Aneuploidy
 |  |
| * + - 1. Polyploidy
 |  |
| * + - 1. Single gene mutations
 |  |

A. Inversion or translocation

B. Dominant or recessive

C. Monosomy or trisomy

D. Triploidy or tetraploidy.

2. Fill in:

The centromere joins together ………………………………….. until anaphase.

1. Sister chromatids 2. Ribosomal subunits 3. Complementary DNA strands

3. Match the numbers to phases of mitosis to indicate their chronological order:

|  |  |
| --- | --- |
| 1. | Anaphase  |
| 2. | Metaphase |
| 3. | Prophase  |
| 4. | Telophase |

4. Match the following processes with the respective phase of mitosis (in letters):

|  |  |
| --- | --- |
| Chromosomes become visible |  |
| Chromosomes are at the equator |  |
| Chromosomes are moved to the poles |  |
| New nuclear envelopes are formed |  |

A. Metaphase

B. Anaphase

C. Prophase

D. Telophase

5. Fill in:

Without meiosis, chromosomes would …………………… with each round of sexual reproduction.

1. Increase in number 2. Decrease in number 3. Disappear

6. Match the following processes with the respective phase of meiosis (in letters):

|  |  |
| --- | --- |
| Homologous chromosomes separate  |  |
| Bivalents are formed |  |
| Bivalents are at the equator |  |
| Sister chromatids separate |  |

A. Prophase I

B. Metaphase I

C. Anaphase I

D. Anaphase II

7. Fill in:

Next to the mature oocyte, we find a smaller cell called:

1. Sertoli cell 2. Polar body 3. Zona pellucida

8. In ovulated human oocytes, the chromosomes are ………………………………………..

(in the nucleus, in the meiotic spindle, in the mitotic spindle)

9. In ovulated human oocytes, meiosis arrested at ……………….

(metaphase I, anaphase I, metaphase II)

10. What is the aim of the first meiotic arrest of oogenesis? In which phase the oocyte is arrested for the first time?