CLICKERS Mitosis Meiosis combined

 1 In sexually reproducing species, the chromosome number remains stable over time because \_\_\_\_\_ and
 \_\_\_\_\_ always alternate.

 A meiosis ... fertilization

 B meiosis ... mitosis

 C mitosis ... fertilization

 D meiosis ... interphase

 E meiosis I ... meiosis II

 2 How many pairs of autosomes do humans have?

 A 23

 B 22

 C 2

 D It depends on the sex of the individual

 3 Which of the following statements about homologous chromosomes is correct?

 A They are found in animal cells but not in plant cells

 B They have genes for the same traits at the same loci.

 C They pair up in prophase II

 D They are found in haploid cells

 E They are found in the cells of human females but not in human males.

 4 When we say that an organism is haploid, we mean that \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 A its cells each have one chromosome

 B it has one half of a chromosome

 C its cells have a single set of chromosomes

 D its cells have two sets of chromosomes

 E none of the above

 5 Spores and gametes are different in that \_\_\_\_\_\_\_\_\_\_\_

 A gametes never resemble spores morphologically

 B gametes are always haploid while spores are diploid

 C gametes can fuse to form a zygote, but spores can develop into independent organisms without
 first forming a zygote

 D only the formation of gametes contributes to genetic variation

 E gametes are derived directly from sporophytes to form gametophytes

 6 Somatic cells in humans contain \_\_\_\_\_\_\_ set(s) of chromosomes and are therefore termed \_\_\_\_\_\_\_\_\_.

 A one . . . diploid

 B two . . . haploid

 C one . . . haploid

 D two . . . diploid

 E three . . . triploid

 7 The egg (ovum) of a rabbit contains 22 chromosomes. How many chromosomes are in the somatic (body)
 cells of a rabbit?

 A 11

 B 22

 C 44

 D 88

 E 132

 8 At the end of telophase I of meiosis and cytokinesis, there are \_\_\_\_\_

 A four haploid cells

 B two diploid cells

 C four diploid cells

 D one haploid ovum and three polar bodies

 E two haploid cells

 9 Synapsis occurs during \_\_\_\_\_\_\_\_\_\_\_

 A anaphase I

 B prophase I

 C cytokinesis

 D prophase II

 E metaphase I

 10 During anaphase I \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 A homologues separate and migrate toward opposite poles

 B sister chromatids separate and migrate toward opposite poles

 C nuclei reform

 D chromosomes line up in one plane

 E the cell is haploid

 11 Crossing over occurs during \_\_\_\_\_\_\_\_

 A cytokinesis

 B metaphase I

 C prophase II

 D metaphase II

 E prophase I

 12 Regions of chromosomes where nonsister chromatids cross over are called \_\_\_\_\_\_\_\_\_\_\_\_.

 A inversions

 B homologues

 C kinetochores

 D chiasmata

 E tetrads

 13 In a male mammal, every cell that undergoes meiosis gives rise to \_\_\_\_ sperm.

 A one

 B two

 C four

 D no set number

 E zero

 14 Which function below makes meiosis more complicated than mitosis?

 A decreasing the chromosome number to haploid

 B introducing genetic variation among the daughter cells

 C ensuring that each daughter cell gets a single, complete set of chromosomes

 D undergoing two round of cytokinesis

 E all of the above

 15 Which of the following does NOT contribute to genetic variation in sexually reproducing species?

 A crossing over

 B independent assortment

 C random fertilization

 D cytokinesis

 E segregation

 16 In humans, the haploid number of chromosomes is 23. Independent assortment has the possibility of
 producing \_\_\_\_ different types of gametes.

 A 232
 B 1 million
 C 223
 D 24
 E 100,000

17 The diploid number of chromosomes in a certain animal is 8 (2n=8). How do the four pairs of homologous
 chromosomes align and separate during meiosis?

 A All of the maternal chromosomes always move to one pole, and all the paternal chromosomes
 always move to the other pole

 B All 16 chromatids move together

 C Exactly two maternal and two paternal chromosomes always move to each of the two poles

 D The first to move influences all the other

 E They align and assort independently to form any of 16 different combinations

 18 Which of the following is a reason cells undergo meiosis?

 A repair injuries

 B growth of organism

 C produce gametes

 D replace worn out cells

 19 Which of the following is TRUE about crossing over?

 A Crossing over happens in spermatogenesis but not oogenesis.

 B Crossing over happens in mitosis but not meiosis

 C Crossing over happens during prophase II

 D The farther apart gene loci are the more likely crossing over will occur

 E The farther apart gene loci are the less likely crossing over will occur

 20 Bacteria reproduce using \_\_\_\_\_\_\_\_\_

 A meiosis

 B binary fission

 C sexual reproduction

 D random fertilization

 E budding and regeneration

 21 All of the following happen in meiosis but not mitosis EXCEPT \_\_\_\_\_\_\_\_

 A segregation

 B crossing over

 C independent assortment

 D DNA synthesis during interphase II

 E synapsis

22 Independent assortment happens during \_\_\_\_\_\_\_\_ of meiosis.

 A Prophase I

 B Prophase II

 C Anaphase I

 D Anaphase II

 E Telophase I

 23 Sperm and eggs could also be called \_\_\_\_\_\_\_\_.

 A polar bodies

 B spores

 C diploid cells

 D somatic cells

 E gametes

 24 After telophase I of meiosis, the chromosomal makeup of each daughter cell is \_\_\_\_\_\_\_\_.

 A diploid and chromosomes are composed of a single chromatid

 B diploid and the chromosomes are composed of two chromatids

 C haploid and the chromosomes are composed of a single chromatid

 D haploid and the chromosomes are composed of two chromatids

 E tetraploid and the chromosomes are composed of tetrads

 25 In animals\_\_\_\_\_\_\_\_\_\_ are produced by mitosis and \_\_\_\_\_\_\_ are produced by meiosis.

 A somatic cells ; gametes

 B spores ; gametes

 C gametes ; somatic cells

 D zygotes ; gametes

 E haploid cells ; diploid cell

 26 In plants, gametes are produced by \_\_\_\_\_\_\_\_\_\_ and spores are produced by \_\_\_\_\_\_\_\_.

 A meioisis ; mitosis

 B mitosis ; meiosis

 C fertilization ; binary fission

 D mitosis ; fertilization

 E meiosis ; budding

 Mitosis Meiosis combined *Page 6*

 Answer Key : Mitosis Meiosis combined

 **Question:** **Answer**

 1 A

 2 B

 3 B

 4 C

 5 C

 6 D

 7 C

 8 E

 9 B

 10 A

 11 E

 12 D

 13 C

 14 E

 15 D

 16 C

 17 E

 18 C

 19 D

 20 B

 21 D

 22 C

 23 E

 24 D

 25 A

 26 B

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