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

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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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