MITOSIS, MEIOSIS, DNA STRUCTURE AND REPLICATION - PRACTICE TEST | NEW BRUNSWICK BIOLOGY 121-122 · UNIT A · 25 QUESTIONS

Mitosis, Meiosis, DNA Structure and Replication, 25-question test — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1

A human body cell has 46 chromosomes. After mitosis each daughter cell has how many chromosomes

Question 1

A cell with 8 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is

ANSWER

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2

A human body cell has 44 chromosomes. After mitosis each daughter cell has how many chromosomes

Question 2

A human body cell has 46 chromosomes. After mitosis each daughter cell has how many chromosomes

ANSWER

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3 A human body cell has 20 chromosomes. After mitosis each daughter cell has how many chromosomes

Question 3

A plant cell has 30 chromosomes. After one mitotic division each daughter cell has how many chromosomes

ANSWER

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4 A human body cell has 38 chromosomes. After mitosis each daughter cell has how many chromosomes

Question 4

An animal has 24 chromosomes in body cells. The number in a gamete is

ANSWER

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5 A cell with 8 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is

Question 5

An organism has 46 chromosomes in a body cell. A gamete produced by meiosis has how many chromosomes

ANSWER

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6

A cell with 10 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is

Question 6

A DNA sample has 200 adenine bases. By base pairing the number of thymine bases is

ANSWER

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7

A cell with 14 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is

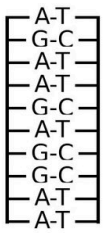
Question 7

A DNA sample has 150 cytosine bases. By base pairing the number of guanine bases is

ANSWER

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8 A cell with 6 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is



Question 8

The diagram shows a short section of a DNA molecule. Each rung is a base pair, labelled A – T or G – C.

The number of guanine bases in the section shown is

A) 2

B) 3

C) 4

D) 6

ANSWER

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9 An organism has 46 chromosomes in a body cell. A gamete produced by meiosis has how many chromosomes

Question 9

Adenine pairs with which base in DNA

A) guanine

B) cytosine

C) thymine

D) uracil

ANSWER

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10 An organism has 44 chromosomes in a body cell. A gamete produced by meiosis has how many chromosomes

Question 10

Chromosomes line up at the equator during

A) metaphase

B) interphase

C) anaphase

D) telophase

ANSWER

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11 An organism has 20 chromosomes in a body cell. A gamete produced by meiosis has how many chromosomes

Question 11

Crossing over occurs during prophase of which division

A) mitosis

B) meiosis II

C) cytokinesis

D) meiosis I

ANSWER

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12 One cell divides by mitosis 2 times in succession. The number of cells produced is

Question 12

DNA is made of two strands held together by

A) peptide bonds

B) hydrogen bonds

C) ionic bonds

D) covalent bonds only

ANSWER

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13 One cell divides by mitosis 3 times in succession. The number of cells produced is

Question 13

DNA replication is semiconservative because each new molecule has

A) two old strands

B) two new strands

C) one RNA strand

D) one old and one new strand

ANSWER

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14 A DNA sample has 200 adenine bases. By base pairing the number of thymine bases is

Question 14

During interphase DNA replication occurs in which subphase

A) G1 phase

B) S phase

C) G2 phase

D) M phase

ANSWER

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15 A DNA sample of 1000 bases has 300 adenine bases. The number of guanine bases is

Question 15

Guanine pairs with which base in DNA

A) adenine

B) thymine

C) cytosine

D) uracil

ANSWER

Understand It with Pulse

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16

The phase of mitosis when sister chromatids separate is

Question 16

A cell with 10 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is

A anaphase

B prophase

C metaphase

D telophase

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17 During interphase DNA replication occurs in which subphase

Question 17

A human body cell has 44 chromosomes. After mitosis each daughter cell has how many chromosomes

- A G1 phase
- B S phase
- C G2 phase
- D M phase

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18 Meiosis produces cells that are genetically

Question 18

A plant cell has 28 chromosomes. After one mitotic division each daughter cell has how many chromosomes

- A identical to the parent
- B diploid in humans
- C different from the parent
- D formed by mitosis

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19 Crossing over occurs during prophase of which division

Question 19

An animal has 18 chromosomes in body cells. The number in a gamete is

A mitosis

B meiosis II

C cytokinesis

D meiosis I

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20

The structure that pulls chromatids apart is the

Question 20

An organism has 44 chromosomes in a body cell. A gamete produced by meiosis has how many chromosomes

A spindle

B ribosome

C nucleolus

D cell wall

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21 DNA is made of two strands held together by

Question 21

A cell with 14 chromosomes replicates its DNA in interphase. The number of chromatids present after replication is

A peptide bonds

B hydrogen bonds

C ionic bonds

D covalent bonds only

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22 Adenine pairs with which base in DNA

Question 22

A human body cell has 20 chromosomes. After mitosis each daughter cell has how many chromosomes

A guanine

B cytosine

C thymine

D uracil

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23 DNA replication is semiconservative because each new molecule has

Question 23

A plant cell has 16 chromosomes. After one mitotic division each daughter cell has how many chromosomes

A two old strands

B two new strands

C one RNA strand

D one old and one new strand

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24

The enzyme that unwinds DNA during replication is

Question 24

An animal has 40 chromosomes in body cells. The number in a gamete is

A helicase

B ligase

C polymerase only

D amylase

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25

In meiosis homologous chromosomes separate during

Question 25

An organism has 20 chromosomes in a body cell. A gamete produced by meiosis has how many chromosomes

A anaphase II

B anaphase I

C prophase

D metaphase of mitosis

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ANSWER KEY

1.	46	**10.**	22	**19.**	D
2.	44	**11.**	10	**20.**	A
3.	20	**12.**	4	**21.**	B
4.	38	**13.**	8	**22.**	C
5.	16	**14.**	200	**23.**	D
6.	20	**15.**	200	**24.**	A
7.	28	**16.**	A	**25.**	B
8.	12	**17.**	B		
9.	23	**18.**	C		

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