BRITISH COLUMBIA ANATOMY AND PHYSIOLOGY 12 (MATPH12) · UNIT A · 25 QUESTIONS

Cell Biology and Gene Expression — 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 **The organelle that releases most of the usable energy in an animal cell is the**



A mitochondrion

B nucleus

C ribosome

D vacuole

Understand It with Pulse | Flag a mistake

2 **The organelle where proteins are assembled from amino acids is the**

A lysosome

B ribosome

C Golgi body

D cell membrane

Understand It with Pulse | Flag a mistake

3 **The structure that controls which substances enter and leave a cell is the**



A Vacuole

B Nucleus

C Cell membrane

D Cytoskeleton

Understand It with Pulse | Flag a mistake

4 **In an animal cell, most of the DNA is stored in the**

A mitochondrion

B ribosome

C Golgi body

D nucleus

Understand It with Pulse | Flag a mistake

5 **The organelle that packages proteins for transport out of a cell is the**

A Golgi body

B lysosome

C nucleus

D vacuole

Understand It with Pulse | Flag a mistake

6 **The organelle that breaks down worn out cell parts with enzymes is the**

A Ribosome

B Lysosome

C Mitochondrion

D Cell membrane

Understand It with Pulse | Flag a mistake

7 **In a DNA molecule, the base adenine always pairs with**



A guanine

B cytosine

C thymine

D uracil

Understand It with Pulse | Flag a mistake

8 **The shape of a DNA molecule is best described as a**

A Single strand

B Triple helix

C Flat sheet

D Double helix

Understand It with Pulse | Flag a mistake

9 **The monomer that makes up a protein is an**

A Amino acid

B Fatty acid

C Nucleotide

D Glucose unit

Understand It with Pulse | Flag a mistake

10 **The monomer that makes up a nucleic acid is a**

A Amino acid

B Nucleotide

C Fatty acid

D Glycerol unit

Understand It with Pulse | Flag a mistake

11 **An enzyme speeds up a chemical reaction in a cell by**



A Raising the temperature of the whole cell

B Being used up in the reaction

C Lowering the activation energy needed

D Adding energy to the products

Understand It with Pulse | Flag a mistake

12 **The process in which a DNA sequence is copied into messenger RNA is called**

- A Translation
- B Replication
- C Mutation
- D Transcription

Understand It with Pulse | Flag a mistake

13 **Transcription in a human cell takes place in the**

- A nucleus
- B ribosome
- C lysosome
- D Golgi body

Understand It with Pulse | Flag a mistake

14 **During translation, the molecule that carries an amino acid to a ribosome is**

- A DNA
- B transfer RNA
- C glucose
- D ATP

Understand It with Pulse | Flag a mistake

15 **A group of three bases on messenger RNA that codes for one amino acid is a**

- A Gene
- B Chromosome
- C Codon
- D Anticodon

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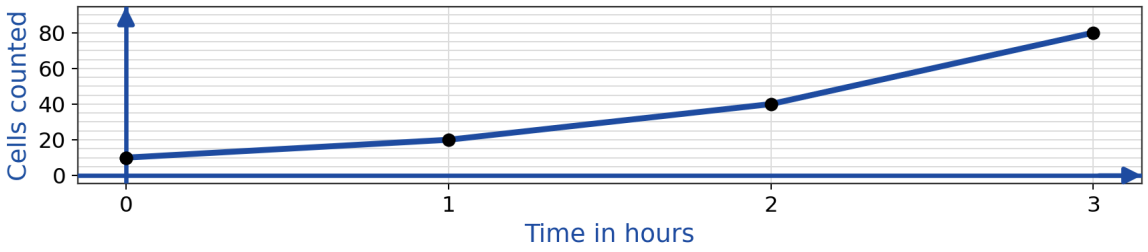
16 **The number of bases in one codon is**

ANSWER

Understand It with Pulse | Flag a mistake

17 **The graph shows the number of cells in a culture as the cells divide by mitosis. Between hour 1 and hour 3, the cell count**



A stayed at 20

B increased from 20 to 80

C decreased from 80 to 20

D increased from 20 to 40

Understand It with Pulse | Flag a mistake

18 **The diagram compares mitosis and meiosis. The feature shared by both kinds of cell division is that they**

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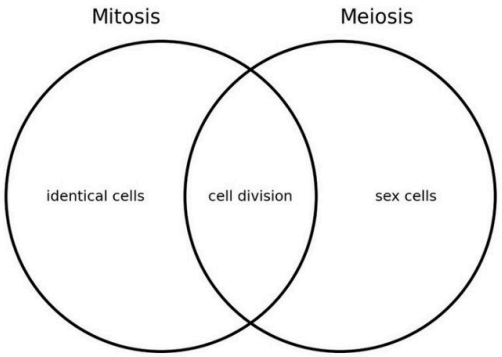

Question 18

The diagram compares mitosis and meiosis. The feature shared by both kinds of cell division is that they

A) produce sex cells only

B) halve the chromosome number

C) divide a cell into daughter cells

D) produce identical daughter cells

A produce sex cells only

B halve the chromosome number

C divide a cell into daughter cells

D produce identical daughter cells

A produce sex cells only

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Understand It with Pulse | Flag a mistake

19 **After mitosis, each daughter cell normally has the same number of chromosomes as the**

A parent cell

B sex cell

C gamete

D egg cell

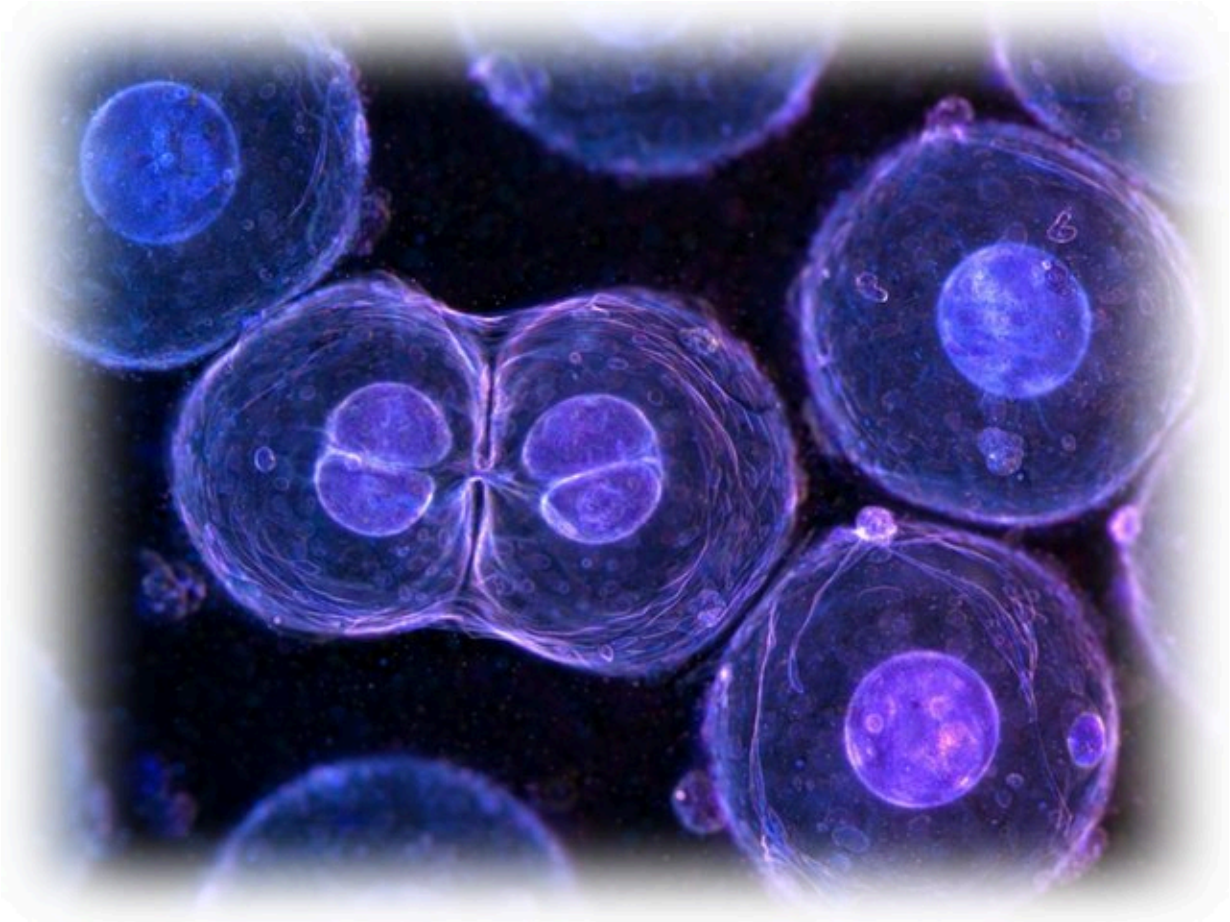
Understand It with Pulse | Flag a mistake

20 **In a human body cell with 46 chromosomes, a gamete formed by meiosis normally has**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **The phase of mitosis in which sister chromatids are pulled apart is**



A Prophase

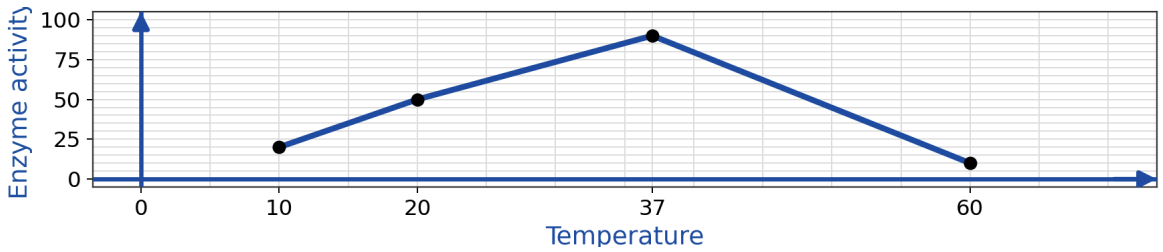
B Anaphase

C Telophase

D Interphase

Understand It with Pulse | Flag a mistake

22 **The graph shows enzyme activity at different temperatures. Enzyme activity is highest at**



- **A** 10 degrees
- **B** 20 degrees
- **C** 37 degrees
- **D** 60 degrees

Understand It with Pulse | Flag a mistake

23 **Identical twins have the same genes but can differ in traits such as skin tone. This difference is best explained by**

- **A** different numbers of chromosomes
- **B** the environment affecting gene expression
- **C** different DNA base pairs
- **D** mutations in every gene

Understand It with Pulse | Flag a mistake

24 **A phenotype is best described as the**

A set of alleles a person inherits

B DNA sequence of one gene

C observable traits that result from genes and environment

D number of chromosomes in a cell

Understand It with Pulse | Flag a mistake

25 **A change in a DNA sequence that can be passed to offspring must occur in a**

A skin cell

B muscle cell

C nerve cell

D gamete cell

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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