

Brett Robbins Academic Consulting

# Biology 30 Practice Test

## Unit C: Cell Division, Genetics & Molecular Biology

5 Questions

Original practice questions written to the Alberta curriculum, in the style of past diploma examinations. Work through each question, then check your answers with the key at the end.

**This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, contact Brett for clarification.**

Question 1

The diploid chromosome number in dogs is 78.

A skin cell of a dog divides by mitosis. The number of chromosomes in each daughter cell is

- A) 39
- B) 78
- C) 156
- D) 23

Question 2

In organisms that reproduce sexually, the primary purpose of meiosis is

- A) to produce genetically identical body cells
- B) to repair damaged chromosomes
- C) to produce gametes with half the chromosome number
- D) to double the chromosome number before fertilization

Question 3

In a molecule of DNA, 30% of the nitrogen bases are adenine.

The percentage of the bases that are guanine is

- A) 20%
- B) 30%
- C) 25%
- D) 70%

Question 4

In pea plants, the allele for tall stems ( $T$ ) is dominant to the allele for short stems ( $t$ ).

A heterozygous tall plant is crossed with a short plant. The probability that an offspring will be short is

- A) 0.00
- B) 0.25
- C) 0.75
- D) 0.50

Question 5

A segment of the template strand of a gene has the base sequence TAC TTT.

The base sequence of the mRNA transcribed from this segment is

A) ATG AAA

B) AUG AAA

C) UAC UUU

D) AUG UUU

# Answer Key

- |      |      |      |
|------|------|------|
| 1. B | 3. A | 5. B |
| 2. C | 4. D |      |

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