PRINCE EDWARD ISLAND BIOLOGY 12 · UNIT C

Heredity and Molecular Genetics — Practice Test

Prince Edward Island Biology 12 • 25 questions

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 **Two heterozygous parents for a recessive trait have offspring. The probability of a recessive phenotype as a decimal is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A heterozygous parent crossed with a homozygous recessive parent gives offspring. The probability of a recessive phenotype as a decimal is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **In DNA, if adenine is 30 percent of bases, thymine is this percent**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **In DNA, if guanine is 20 percent of bases, cytosine is this percent**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A DNA segment has 100 bases with 40 adenine bases. The thymine count is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A messenger RNA has 90 nucleotides. The number of codons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **In DNA, adenine pairs with**

A thymine

B guanine

C cytosine

D uracil

Understand It with Pulse | Flag a mistake

8 **In DNA, guanine pairs with**

A adenine

B thymine

C uracil

D cytosine

Understand It with Pulse | Flag a mistake

9 **In RNA, uracil replaces**

A guanine

B cytosine

C thymine

D adenine

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10 **Transcription produces**

A a new chromosome

B messenger RNA from DNA

C DNA from RNA

D protein from lipids

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11 **Translation produces**

A a polypeptide at a ribosome

B DNA at a ribosome

C messenger RNA in the nucleus

D a chromosome in the cytoplasm

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12 **A codon is a sequence of**

A 2 nucleotides

B 4 nucleotides

C 1 nucleotide

D 3 nucleotides

Understand It with Pulse | Flag a mistake

13 **A genotype is**

A the chromosome count

B the phenotype only

C the genetic makeup of an organism

D the visible trait

Understand It with Pulse | Flag a mistake

14 **A phenotype is**

A the DNA sequence only

B the observable trait

C the genetic makeup

D the allele count

Understand It with Pulse | Flag a mistake

15 **A recessive allele is expressed only when**

A two copies are present

B one copy is present

C it is dominant

D it is on a sex chromosome

Understand It with Pulse | Flag a mistake

16 **Sex linked traits in humans are most often carried on the**

A Y chromosome only

B autosome only

C mitochondrial DNA only

D X chromosome

Understand It with Pulse | Flag a mistake

17 **A cross of Aa with Aa gives 16 offspring. The expected number with a recessive phenotype is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A cross of Aa with aa gives 20 offspring. The expected number with a recessive phenotype is**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **If cytosine is 15 percent of DNA bases, guanine is this percent**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A DNA molecule has 200 bases with 60 guanine bases. The cytosine count is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A gene with 300 nucleotides in its coding region specifies this many amino acids, ignoring a stop codon**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A cross of AA with aa gives offspring. The probability of a heterozygous genotype as a decimal is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **If guanine is 30 percent of DNA bases, adenine plus thymine together are this percent**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A messenger RNA has 150 nucleotides. The number of codons is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25

A cross of Aa with Aa gives 80 offspring. The expected number with a heterozygous genotype is

ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	0.25	**10.**	B	**19.**	15
2.	0.5	**11.**	A	**20.**	60
3.	30	**12.**	D	**21.**	100
4.	20	**13.**	C	**22.**	1
5.	40	**14.**	B	**23.**	40
6.	30	**15.**	A	**24.**	50
7.	A	**16.**	D	**25.**	40
8.	D	**17.**	4		
9.	C	**18.**	10		

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