GENE EXPRESSION, MENDELIAN GENETICS, INHERITANCE, AND GENETIC ENGINEERING - PRACTICE TEST | NEW BRUNSWICK BIOLOGY 121-122 · UNIT B · 25 QUESTIONS

Gene Expression, Mendelian Genetics, Inheritance, and Genetic Engineering — 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 **Two heterozygous parents Aa cross. The percent of offspring expected to be homozygous recessive is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **Two heterozygous parents Aa cross. The percent of offspring expected to be heterozygous is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **Two heterozygous parents Aa cross. The percent of offspring expected to be homozygous dominant is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **Two heterozygous parents Aa cross and have 160 offspring. The expected number showing the recessive trait is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A dihybrid cross produces 160 offspring. The expected number with both dominant traits is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A dihybrid cross produces 160 offspring. The expected number with one dominant and one recessive trait in a named combination is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A test cross of Aa with aa produces 80 offspring. The expected number showing the dominant trait is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **A gene has two alleles with complete dominance. A cross of AA with aa produces 100 offspring. The number showing the dominant trait is**

ANSWER

Understand It with Pulse | Flag a mistake

9 **In a pedigree 4 children are shown and 1 is affected by a recessive condition. The number affected is**

ANSWER

Understand It with Pulse | Flag a mistake

10 **A couple has 3 children. Each child independently has a 50 percent chance of inheriting a dominant allele. The probability all 3 inherit it in percent is**

ANSWER

Understand It with Pulse | Flag a mistake

11 **A DNA codon has 3 bases. The number of different codons possible from 4 bases is**

ANSWER

Understand It with Pulse | Flag a mistake

12 **The tree shows all offspring combinations from a cross of Aa with Aa. The number of leaf combinations shown is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **Transcription produces which molecule from a DNA template**

A tRNA only

B mRNA

C DNA

D protein

Understand It with Pulse | Flag a mistake

14 **Translation occurs at the**

A nucleus only

B ribosome

C Golgi body

D lysosome

Understand It with Pulse | Flag a mistake

15 **A codon is a sequence of how many bases**

A 1

B 2

C 3

D 4

Understand It with Pulse | Flag a mistake

16 **The start codon AUG codes for which amino acid**

A alanine

B glycine

C serine

D methionine

Understand It with Pulse | Flag a mistake

17 **A mutation that changes one base is called a**

A point mutation

B frameshift only

C chromosomal deletion

D translocation

Understand It with Pulse | Flag a mistake

18 **A dominant allele is expressed when present in**

A no copies

B one or two copies

C two copies only

D neither copy

Understand It with Pulse | Flag a mistake

19 **Genotype refers to an organism's**

A appearance only

B chromosome number

C genetic makeup

D habitat

Understand It with Pulse | Flag a mistake

20 **Phenotype refers to an organism's**

A DNA sequence only

B gamete number

C parents

D observable traits

Understand It with Pulse | Flag a mistake

21 **Incomplete dominance in snapdragons gives pink flowers from a cross of red and**

A white

B red

C pink

D purple

Understand It with Pulse | Flag a mistake

22 **Codominance is shown when both alleles are**

A hidden

B fully expressed

C lost

D mutated

Understand It with Pulse | Flag a mistake

23 **Genetic engineering can insert a human gene into bacteria to produce**

A oxygen

B glucose

C insulin

D starch

Understand It with Pulse | Flag a mistake

24 **A carrier of a recessive condition usually shows**

A the full condition

B a dominant trait

C infertility

D no symptoms

Understand It with Pulse | Flag a mistake

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

A X chromosome

B Y chromosome only

C autosome 1

D mitochondrion only

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	25	**10.**	12.5	**19.**	C
2.	50	**11.**	64	**20.**	D
3.	25	**12.**	4	**21.**	A
4.	40	**13.**	B	**22.**	B
5.	90	**14.**	B	**23.**	C
6.	30	**15.**	C	**24.**	D
7.	40	**16.**	D	**25.**	A
8.	100	**17.**	A		
9.	1	**18.**	B		

© 2026 Brett Robbins. All Rights Reserved.