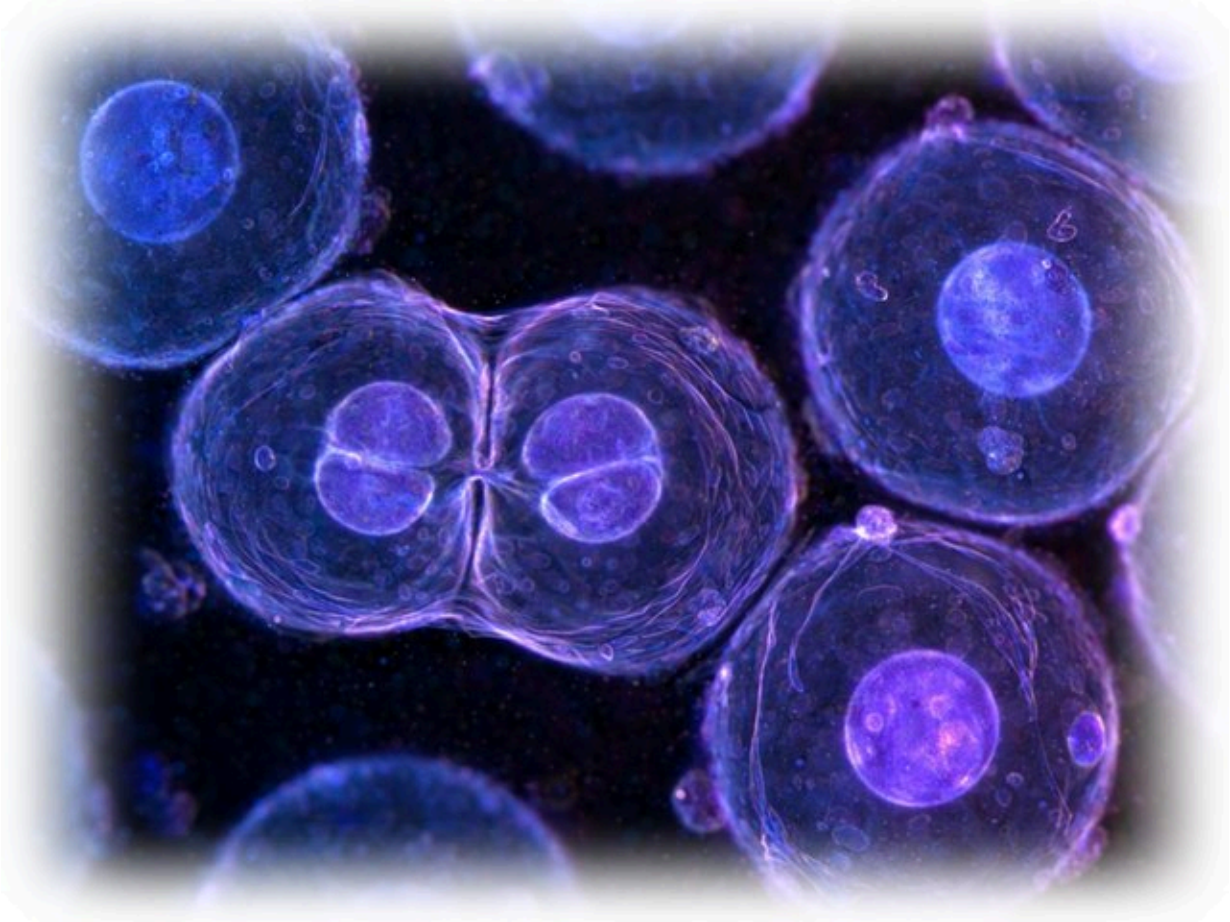
ARKANSAS BIOLOGY · UNIT 2 · 10 QUESTIONS

Genetics and Heredity — 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 insulin gene is inserted into bacteria by genetic engineering. What do the bacteria then produce?**



A Become human cells

B Produce human insulin

C Lose all plasmids

D Stop dividing

Understand It with Pulse | Flag a mistake

2 **Gel electrophoresis separates DNA fragments mainly by**

A Colour

B Charge of the gene name

C Size, with smaller fragments moving farther

D Temperature

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3 **A karyotype is a picture of an organism chromosomes arranged by size, used to detect**

A Enzyme rates

B Blood type antigens

C Membrane lipids

D Extra or missing chromosomes

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4 **A heterozygous parent Aa crossed with aa gives 40 offspring, how many are expected to be aa**

ANSWER _____

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5 **A cell with 8 chromosomes replicates its DNA and enters mitosis, how many chromosomes are in each daughter cell**

ANSWER _____

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6 **A dihybrid heterozygous cross gives 160 offspring, how many are expected to show both recessive traits**

ANSWER _____

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7 **Polygenic traits such as human height are controlled by**

- A One gene only
- B One chromosome only
- C Mitochondria only
- D Many genes + environment

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8 **Environmental factors can affect phenotype, for example identical twins may differ in height because of**

- A Nutrition and health
- B Different DNA sequences
- C Different chromosome numbers
- D Different species

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9 **A test cross uses a recessive parent to reveal the genotype of an organism showing the dominant trait, because any recessive offspring prove the parent is**



A Homozygous dominant

B Heterozygous

C Haploid

D Mutant

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10 **Linked genes on the same chromosome tend to be inherited together unless separated by**

A Mitosis

B Fertilization only

C Crossing over

D Mutation only

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. B
2. C
3. D
4. 20
5. 8
6. 10
7. D
8. A
9. B
10. C

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