

Genetics and heredity II



Name Class_____ Date____



In a human, what is the **ratio** of the normal chromosome number in a nucleus produced by **mitosis** to the normal chromosome number in a nucleus produced by **meiosis**?

- A 1:1
- B 2:1
- C 3:1
- **D** 4:1



The principles of **dominance**, **segregation**, and **independent assortment** were first described by

- A Watson
- **B** Linnaeus
- C Mendel
- Morgan





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In humans, the gene for polydactyly (having extra fingers or toes) is dominant over the gene for the normal number of digits. If parents who are both homozygous dominant for polydactyly have four children, how many of these children would most



A cross between two plants that have pink flowers produced plants that have red, pink, or white flowers. Which is the most likely explanation for these results?

- A Intermediate inheritance involved alleles that were not clearly dominant or recessive.
- Mutations assured during comptagancie



PREVIEW



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- favorable variations
- not due to genetic changes and result in unfavorable variations
- D not due to genetic changes and result in favorable variations

- **c** all the gametes produced by a population
- D the mutated alleles for a particular trait





A homozygous condition resulting in the formation of **abnormal hemoglobin** that distorts certain blood cells is known as

- A hemophilia
- **B** phenylketonuria
- C Tay-Sachs
- D sickle-cell anemia





Using the results of his experiments with plant crosses, Gregor Mendel discovered

- A the principles of dominance, segregation and independent assortment
- B that pea plants develop mutation after exposure to radiation
- C intermediate inheritance and gene linkage
- D that DNA is involved in the inheritance of dominant traits



Genetics and heredity II - Answer Key

BIO

Name Class Date In a human, what is the ratio of the normal The principles of dominance, segregation, chromosome number in a nucleus produced and independent assortment were first by mitosis to the normal chromosome described by number in a nucleus produced by meiosis? A Watson B **B** Linnaeus A 1:1 C Mendel B 2:1 D Morgan C 3:1 **D** 4:1 A cross between two plants that have pink In humans, the gene for polydactyly 3 flowers produced plants that have red, pink, or white flowers. Which is the most likely (having extra fingers or toes) is dominant over the gene for the normal number of explanation for these results? digits. If parents who are both homozygous A Intermediate inheritance involved alleles that dominant for polydactyly have four children, were not clearly dominant or recessive. how many of those children would mos 5 D **PREVIEW** Please Sign In or Sign Up to download the printable version of this worksheet B favorable variations C all the gametes produced c not due to genetic changes and result in by a population unfavorable variations D the mutated alleles for not due to genetic changes and result in a particular trait favorable variations A homozygous condition resulting in the Using the results of his experiments with formation of abnormal hemoglobin that plant crosses, Gregor Mendel discovered distorts certain blood cells is known as A the principles of dominance, segregation A hemophilia and independent assortment B that pea plants develop mutation after **B** phenylketonuria exposure to radiation C Tay-Sachs intermediate inheritance and gene linkage D sickle-cell anemia D that DNA is involved in the inheritance of

dominant traits