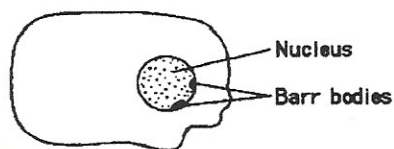


29. The figure below represents the stained nucleus from a cheek epithelial cell of an individual whose genotype would probably be

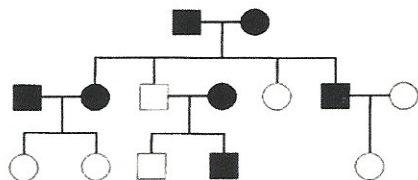


- A. XX
B. XY
C. XXY
D. XXX
E. XYY

30. Individuals with extra or missing copies of some of their chromosomes are called

- A. polyploids.
B. haploids.
C. aneuploids.
D. triploids.
E. diploids.

31. Examine the pedigree in the figure below, where individuals that have the genetic condition being tested are marked with filled squares or circles. Which of the following inheritance patterns is **most likely** correct for this condition?



- A. autosomal dominant
B. X-linked recessive
C. X-linked dominant
D. mitochondrial
E. autosomal recessive

32. One possible result of chromosomal breakage is for a fragment to join a nonhomologous chromosome. This is called

- A. a deletion.
B. a disjunction.
C. an inversion.
D. a translocation.
E. a duplication.

33. "Some dogs have three legs". This statement is:

- A. verifiable and falsifiable.
B. verifiable but not falsifiable.
C. falsifiable but not verifiable.
D. neither verifiable nor falsifiable.
E. scientific, according to Karl Popper's criterion.

34. Which of the following statements distinguishes between Darwin's and Lamarck's theories of evolution?

- A. Darwin's theory assumed inheritance of favourable traits; Lamarck's theory did not.
B. Darwin's theory predicted adaptation to local environments; Lamarck's theory did not.
C. Darwin's theory assumed that species evolve through differential reproductive success; Lamarck's did not.
D. Darwin's theory incorporated particulate inheritance; Lamarck's theory did not.
E. All of the above statements distinguish between Darwin's and Lamarck's theories.

35. Which of the following pairs is **mismatched**?

- A. Le Comte du Buffon – hypothesized that the apparently non-functional traits which some organisms have were once functional in an ancestral species.
B. Aristotle – suggested that all matter could be ranked in a hierarchy of increasing perfection.
C. Charles Darwin – argued that organisms have an innate tendency that directs their evolution towards perfect adaptation to their environment.
D. Jean-Baptiste Lamarck – argued that species evolved in response to their environment.
E. All of A, B, C and D are **correctly** matched.