1. All animals along a particular branch of a cladogram:
   A) share specific physical or behavioral traits.
   B) are genetically identical to one another.
   C) are genetically unrelated to one another.
   D) are behaviorally dissimilar.

2. The full set of a species' genes is known as its:
   A) genome.
   B) phenome.
   C) chromosome.
   D) nucleosome.

3. Modern chimpanzees and humans share about _____ percent of their genes.
   A) 75
   B) 95
   C) 87
   D) 99

4. The fossil evidence suggests that _____ was the first hominid to walk upright.
   A) *Australopithecus*
   B) *H. habilis*
   C) *H. erectus*
   D) *H. americanus*

5. The first hominids to walk upright probably appeared about _____ million years ago.
   A) 1–2
   B) 3–5
   C) 6 – 8
   D) 9–10

6. I left footprints over 3 million years ago. I was found by R. A. Dart. He named me:
   A) *Homo habilis*.
   B) Bigfoot.
   C) *Homo erectus*.
   D) *Australopithecus*.

7. I made simple stone tools. I am about 2 million years old. Louis Leakey found me in the Olduvai Gorge. My name is _____.
   A) *Australopithecus*.
   B) *Homo erectus*.
   C) *Homo habilis*.
   D) *Homo sapiens*.

8. Which of the following is MOST ancient?
   A) *H. erectus*
   B) *A. africanus*
   C) *A. robustus*
   D) *H. habilis*

9. Mammals with EQs larger than 1.0 would most likely have a _____ brain than is expected for mammals of that particular body weight.
   A) smaller
   B) larger
   C) more complex
   D) less complex

10. The average weight of the human brain is between _____ ml.
   A) 800 and 1000
   B) 1300 and 1400
   C) 5000 and 10,000
   D) 500 and 600

11. Choose the correct ordering of encephalization quotients for the following list of species (from highest to lowest).
   A) chimpanzee, human, monkey, cat
   B) human, monkey, chimpanzee, cat
   C) human, chimpanzee, monkey, cat
   D) human, cat, chimpanzee, monkey

12. The encephalization quotient of modern humans is _____ that of chimpanzees.
   A) equal to
   B) two times
   C) three times
   D) five times

13. Which of the following has the highest EQ?
    A) dolphin
    B) elephant
    C) cat
    D) rat

14. The encephalization quotient relates a mammalian species':
    A) number of gyri to number of sulci.
    B) actual brain size to the brain size of humans.
    C) actual brain size to its expected brain size.
    D) average brain weight to average body weight.

15. The evolutionary adaptation by which juvenile features of predecessor species become the adult features of descendent species is:
    A) phylogeny.
    B) monotony.
    C) neoteny.
    D) ontogeny.

16. Falk has suggested that the opportunity for brain expansion in the hominids is directly related to:
    A) bipedalism.
    B) development of more dispersed blood flow.
    C) tool making.
    D) language development.

17. The anatomical structures of rat or monkey brains:
    A) are functionally, but not structurally, similar to those of the human brain.
    B) are structurally, but not functionally, similar to those of the human brain.
    C) are structurally and functionally similar to the human brain.
    D) cannot be compared to those of the human brain.

18. The MOST recent stage of hominid evolution has involved the:
    A) development of tool use.
    B) development reading and writing.
    C) development of agriculture.
    D) development of artistic relics.

19. Homeobox genes dictate both _____ in fruit flies and _____ in the human nervous system.
    A) brain segmentation; cortical laminations
    B) body segmentation; central nervous system segmentation
    C) cortical segmentation; ocular development
    D) cortical laminations; increased parietal lobe development

20. The study of nonhuman species is NOT useful in _____.
    A) understanding basic mechanisms of brain function
    B) producing models of human neurological disorders
    C) describing evolutionary adaptations
    D) developing treatments for aphasia

21. A phylogenetic lineage refers to a:
    A) known sequence of fossil records describing the evolution of a species.
    B) hypothetical sequence of animals representing consecutive stages in evolutionary history.
    C) sequence of living animals having identical neurobiological and cognitive abilities.
    D) listing of animals that have almost but not quite evolved.

22. Which of the following evolutionary sequences is correct, based on the phylogenetic lineage described in the textbook?
    A) striate cortex, large temporal lobes, large parietal lobes, large frontal lobes
    B) large temporal lobes, large parietal lobes, large frontal lobes, striate cortex
    C) striate cortex, large temporal lobes, large frontal lobes, large parietal lobes
    D) large temporal lobes, striate cortex, large frontal lobes, large parietal lobes

23. Which of the following is phylogenetically furthest from humans?
    A) hedgehog
    B) bush baby
    C) rhesus monkey
    D) opossum

24. According to the textbook, the brain region whose growth is MOST associated with the evolution of modern humans is the:
    A) cerebellum.
    B) limbic system.
    C) temporal lobe.
    D) parietal lobe.

25. The larger frontal lobes in primates have come to be associated with:
    A) emotional processing.
    B) visual functions.
    C) balance and coordination.
    D) complex social behaviors.

26. Relative to animals with poor vision, animals that have high-acuity color vision and good depth perception would be expected to have:
    A) a relative expansion of the occipital cortex.
    B) a relative expansion of the frontal cortex.
    C) a relative shrinkage of the occipital cortex.
    D) no differences in cortical structure.

27. The human genome is comprised of:
    A) about 20,000 genes.
    B) about 200,000 genes.
    C) about 2 million genes.
    D) about 23 genes.

28. Variables that influence whether and how a gene is expressed do NOT include:
    A) nutrition.
    B) neglect.
    C) education.
    D) phrenological profile

29. Each human somatic cell contains _____ chromosomes comprised of _____ autosomes and _____ sex chromosomes.
    A) 46 pairs of; 23; 2
    B) 46; 44; 2
    C) 23 pairs of; one pair of; 22 pairs of
    D) 23; 22; 2

30. Genetic mutations are:
    A) usually disruptive.
    B) usually beneficial.
    C) sometimes both disruptive and beneficial.
    D) only known to be neutral.

31. Tay-Sachs disease is inherited through a _____ gene and Huntington's disease is inherited through a _____ gene.
    A) dominant; recessive
    B) recessive; dominant
    C) recessive; recessive
    D) dominant; dominant

32. Down syndrome is an _____, while Tay-Sachs disease involves an _____.
    A) inherited dominant allele; abnormality in chromosome number
    B) inherited dominant allele; inherited dominant allele
    C) inherited recessive allele; inherited dominant allele
    D) abnormality in chromosome number; inherited recessive allele

33. Phenotypic plasticity accounts for:
    A) the way that identical genotypes produce identical phenotypes.
    B) the way that identical genotypes do not produce identical phenotypes.
    C) the way that clones always look identical to the parent whose genotype is used.
    D) the way that environmental differences don't alter the phenotype of identical twins.

34. Phenotypic plasticity is due in part to:
    A) changes in a genotype.
    B) a genome's capacity to express a large number of phenotypes.
    C) the variability of the Y chromosome.
    D) errors in chromosome number.

35. The epigenetic code is a second code governing protein production through environmental influences that:
    A) turn on all genes.
    B) turn off all genes.
    C) block (suppress) the expression of some genes and unlock the expression of others.
    D) alter some genetic sequences.

36. A common epigenetic mechanism that suppresses gene expression is:
    A) gene mutation.
    B) chromosomal trisomy.
    C) latent allele dominance.
    D) DNA methylation.

37. According to Mendelian genetics theory experience _____, but it appears that through epigenetic mechanisms it _____.
    A) is often inherited; is never inherited
    B) cannot be inherited; can be inherited
    C) can be inherited in one subsequent generation; can be inherited across many generations
    D) is sometimes inherited; is only inherited

Answer Key

1. A
2. A
3. D
4. A
5. B
6. D
7. C
8. B
9. B
10. B
11. C
12. C
13. A
14. C
15. C
16. B
17. C
18. B
19. B
20. D
21. B
22. C
23. D
24. D
25. D
26. A
27. A
28. D
29. B
30. C
31. B
32. D
33. B
34. B
35. C
36. D
37. B