

BIOLOGY

1. BIOLOGY

Toss Up: Short Answer

In eukaryotes, which enzyme proofreads while DNA replication takes place?

Bonus Answer: DNA Polymerase (accept DNA Polymerase III)

Bonus: Short Answer

What is the general name for a point mutation in a stop codon which causes the polypeptide chain to be longer than intended?

Bonus Answer: Sense mutation

=====

2. BIOLOGY

Toss Up: Multiple Choice

Modern research has shown that silent mutations can be harmful in all of the following ways except:

- W) Causing a short pause during codon-anticodon pairing in translation
- X) Reducing the stability of the mRNA's 3D structure
- Y) Causing improper splicing of the primary transcript
- Z) Slowing the rate of transport of mRNA across the nuclear membrane

Toss Up Answer: Z

Bonus: Short Answer

Which type of RNA is most common in the cell?

Bonus Answer: rRNA

=====

3. BIOLOGY

Toss Up: Multiple Choice

Which of these is not a stop codon?

- W) UAA
- X) UGG
- Y) UGA
- Z) UAG

Toss Up Answer: X

Bonus: Short Answer

What was the first codon-amino acid pair to be identified? (Give both the codon and the amino acid)

Bonus Answer: UUU and phenylalanine

=====

4. BIOLOGY

Toss Up: Short Answer

Which amino acid would constitute a disulfide bridge?

Bonus Answer: Cysteine

Bonus: Short Answer

What is the name of the cellular machinery that removes introns?

Bonus Answer: Spliceosome

=====

5. BIOLOGY

Toss Up: Multiple Choice

Which process is in play when we respond less strongly to repeated stimuli over time?

- W) Sensory Adaptation
- X) Habituation
- Y) Accomodation
- Z) Maturation

Toss Up Answer: X

Bonus: Multiple Choice

The learning phase during which a conditioned response is established is called:

- W) Learning
- X) Possession
- Y) Acquisition
- Z) Incubation

Bonus Answer: Y

=====

6. BIOLOGY

Toss Up: Multiple Choice

Which of the following refers to the fact that when we have experienced a conditioned stimulus by itself many times, it can be difficult to later condition to another stimulus?

- W) Blocking
- X) Dormant Inhibition
- Y) Extinction
- Z) Latent Inhibition

Toss Up Answer: Z

Bonus: Short Answer

What is the corepressor molecule in the trp operon?

Bonus Answer: tryptophan

=====

7. BIOLOGY

Toss Up: Multiple Choice

Where might a proteasome be found?

- W) Nucleus
- X) Plasma membrane
- Y) Extracellular Matrix
- Z) Lysosome

Toss Up Answer: W

Bonus: Short Answer

Which small protein tags other proteins for degradation?

Bonus Answer: Ubiquitin

=====

8. BIOLOGY

Toss Up: Multiple Choice

Which is not associated with the proteasomal degradation pathway?

- W) Response to oxidative stress
- X) Regulation of gene expression

Y) Kinetochore attachment

Z) The Cell cycle

Toss Up Answer: Y

Bonus: Short Answer

If a reaction with a Delta G of +3.4 kcal/mol is coupled with ATP hydrolysis, what is the net Delta G?

Bonus Answer: -3.9 kcal/mol

=====

9. BIOLOGY

Toss Up: Short Answer

The strongest known biological oxidizing agent plays a key role in photosynthesis. What is it called?

Bonus Answer: P680

Bonus: Short Answer

What was the phage that Hershey and Chase used in their experiments, and what two radioactive substances did they tag it with?

Bonus Answer: T2, S35 and P32 (Do NOT accept Sulfur and Phosphorus)

=====

10. BIOLOGY

Toss Up: Multiple Choice

Which experimental treatment would increase the rate of sucrose transport into a plant cell?

W) decreasing extracellular sucrose concentration

X) decreasing extracellular pH

Y) decreasing cytoplasmic pH

Z) adding a substance that makes the membrane more permeable to H⁺ ions

Toss Up Answer: X

Bonus: Short Answer

If the entire cell cycle in a certain cell takes 24 hours, how long does mitosis take?

Bonus Answer: 2 hours

=====

11. BIOLOGY

Toss Up: Multiple Choice

After three rounds of cell fractionation, the pellet would be rich in:

W) nuclei

X) microsomes

Y) mitochondria

Z) ribosomes

Toss Up Answer: X

Bonus: Multiple Choice

P53 is a

W) tumor-inducing protein

X) tumor-suppressing protein

Y) tumor-inducing hormone

Z) tumor-suppressing hormone

Bonus Answer: X

=====

12. BIOLOGY

Toss Up: Multiple Choice

Which of these would not be found in a plant vacuole?

W) pigments

X) poisons

Y) inorganic ions

Z) smaller organelles

Toss Up Answer: Z

Bonus: Short Answer

Which cytoskeletal element has a diameter of 7nm?

Bonus Answer: Microfilament

=====

13. BIOLOGY

Toss Up: Short Answer

Which model is currently accepted as representative of the dynamic nature of the Golgi apparatus?

Bonus Answer: Cisternal Maturation model

Bonus: Short Answer

Which cytoskeletal element functions in cleavage furrow formation?

Bonus Answer: Microfilament

=====

14. BIOLOGY

Toss Up: Short Answer

Name the two types of cell death.

Bonus Answer: Apoptosis, Necrosis

Bonus: Short Answer

In C4 and CAM photosynthesis, which specific enzyme is used to fix CO₂ in lieu of RuBisCO?

Bonus Answer: PEP Carboxylase

=====

15. BIOLOGY

Toss Up: Short Answer

Give the genus and species name of the organism that Beadle and Tatum worked with.

Bonus Answer: Neurospora crassa

Bonus: Short Answer

Archibald Garrod is credited with the discovery of which disease, characterized by blackened urine?

Bonus Answer: Alkaptonuria

=====

16. BIOLOGY

Toss Up: Multiple Choice

What branching nerve fibers receive messages?

- W) Axons
- X) Axes
- Y) Dendrons
- Z) Dendrites

Toss Up Answer: Z

Bonus: Multiple Choice

What protein was first isolated in red blood cells?

- W) Myoglobin
- X) Hemocyanin
- Y) Spectrin
- Z) Collagen

Bonus Answer: Y

=====

17. BIOLOGY

Toss Up: Multiple Choice

Which mollusk does not possess a radula?

- W) Squid
- X) Scallop
- Y) Snail
- Z) Chiton

Toss Up Answer: X

Bonus: Short Answer

What is the scientific name for the job or role an organism plays in its habitat?

Bonus Answer: Niche

=====

18. BIOLOGY

Toss Up: Multiple Choice

How many cotyledons do edicts have?

- W) 5
- X) 1
- Y) 0
- Z) 2

Toss Up Answer: Z

Bonus: Short Answer

How many stages in a butterfly's life cycle?

Bonus Answer: Four (4)

=====

19. BIOLOGY

Toss Up: Multiple Choice

In which fluid-filled cavity do organs develop in organisms such as earthworms?

- W) Ring
- X) Column
- Y) Coelom
- Z) Peritoneal cavity

Toss Up Answer: Y

Bonus: Short Answer

How do pythons and boas move?

Bonus Answer: Rectilinear Motion

20. BIOLOGY

Toss Up: Multiple Choice

What is an algal bloom that occurs in salt water called?

W) Pelagic tide

X) Red tide

Y) Red spring

Z) Nitrifying effect

Toss Up Answer: X

Bonus: Short Answer

What process is involved in the breakdown of fats?

Bonus Answer: Beta Oxidation

21. BIOLOGY

Toss Up: Multiple Choice

Which of these human diseases is not cause by roundworms?

W) Filariasis

X) Ancylostomiasis

Y) Ascariasis

Z) Typhoid fever

Toss Up Answer: Z

Bonus: Short Answer

What hormone causes vesicles carrying aquaporins to imbed in the membranes of cells in the collecting duct?

Bonus Answer: ADH (Antidiuretic hormone); Vasopressin

22. BIOLOGY

Toss Up: Multiple Choice

Which of the following is most closely related to sharks?

W) Trout

X) Blue Gill

Y) Manta Ray

Z) Octopus

Toss Up Answer: Y

Bonus: Short Answer

Who invented the polio vaccine?

Bonus Answer: Jonas Salk

23. BIOLOGY

Toss Up: Multiple Choice

Which part of the brain is associated with coordinated movement?

W) Cerebrum

- X) Cerebellum
- Y) Diencephalon
- Z) Corpus Callosum

Toss Up Answer: X

Bonus: Short Answer

What is the major excitatory neurotransmitter in the brain?

Bonus Answer: Glutamate

=====

24. BIOLOGY

Toss Up: Multiple Choice

What is another name for the cell body of neurons?

- W) Stroma
- X) Soma
- Y) Cellulite
- Z) Thylakoid

Toss Up Answer: X

Bonus: Short Answer

What molecule do Ras protein's hydrolyze?

Bonus Answer: GTP

=====

25. BIOLOGY

Toss Up: Multiple Choice

What is MYC?

- W) Holoenzyme
- X) Oncogene
- Y) DNA
- Z) Scientist name

Toss Up Answer: X

Bonus: Short Answer

What is the pacemaker of the heart?

Bonus Answer: SA (sinoatrial) node

=====

26. BIOLOGY

Toss Up: Multiple Choice

How are insects classified from other arthropods?

- W) The body is divided into four segments.
- X) They are parasites.
- Y) The body is divided into three segments.
- Z) They require water to survive.

Toss Up Answer: Y

Bonus: Short Answer

What is the only molecule that exists in all three states of matter on Earth?

Bonus Answer: Water

=====

27. BIOLOGY

Toss Up: Multiple Choice

How many amino acids are there?

- W) 18
- X) 20
- Y) 22
- Z) Too many to count.

Toss Up Answer: Z

Bonus: Short Answer

In feet, how long is the small intestine?

Bonus Answer: 20

=====

28. BIOLOGY

Toss Up: Multiple Choice

Researchers in 2015 reported that resistance to a certain antibiotic was found in a growing number of bacteria from meat samples in China. What is the name of this antibiotic that treats Gram-negative bacteria?

- W) Colistin
- X) Carbapenems
- Y) Linezolid
- Z) Vancomycin

Toss Up Answer: W

Bonus: Short Answer

What is the name of polymer in bacterial walls not found in Gram-negative bacteria?

Bonus Answer:

Peptidoglycan

=====

29. BIOLOGY

Toss Up: Short Answer

Where are lipids most commonly found in cells?

Bonus Answer: Cell Membrane (Accept: Membrane)

Bonus: Short Answer

Where is mRNA synthesized?

Bonus Answer: Nucleus

=====

30. BIOLOGY

Toss Up: Multiple Choice

What is active transport?

- W) Transport of substances through a membrane by means of diffusion
- X) Transport without energy consumption
- Y) Endocytosis of a substance by a membrane
- Z) Transport against a concentration gradient

Toss Up Answer: Z

Bonus: Short Answer

Caffeine blocks a certain neurotransmitter whose transmission causes drowsiness. What is the name of this neurotransmitter?

Bonus Answer: Adenosine

=====

31. BIOLOGY

Toss Up: Multiple Choice

Ordinary table salt is sodium chloride. What is baking soda?

- W) Potassium chloride
- X) Sodium bicarbonate
- Y) Potassium hydroxide
- Z) Potassium carbonate

Toss Up Answer: X

Bonus: Short Answer

What is the fourth most abundant element in the universe in terms of mass?

Bonus Answer: Carbon

=====

32. BIOLOGY

Toss Up: Multiple Choice

Movement of cell against concentration gradient is called

- W) Gradient
- X) Osmosis
- Y) Diffusion
- Z) Active Transport

Toss Up Answer: Z

Bonus: Short Answer

What is the third most common gas found in the air we breathe?

Bonus Answer: Argon

=====

33. BIOLOGY

Toss Up: Multiple Choice

You find a new creature measuring over 4 millimeters in size in your bedroom. You notice that it has 6 legs so you know it is some type of:

- W) Arachnid
- X) Larva
- Y) Insect
- Z) Echinoderm

Toss Up Answer: Y

Bonus: Short Answer

Which class does a spider belong to?

Bonus Answer: Arachnid

=====

34. BIOLOGY

Toss Up: Short Answer

Which structural component of the cell cytoskeleton has alpha and beta subunits and is involved with intracellular transport?

Bonus Answer: Microtubules

Bonus: Short Answer

What are the units of inheritance?

Bonus Answer: Genes (accept DNA)

=====

35. BIOLOGY

Toss Up: Multiple Choice

Each of the following molecules is a polymer EXCEPT:

- W) protein
- X) glucose
- Y) cellulose
- Z) starch

Toss Up Answer: X

Bonus: Multiple Choice

Hydrophilic properties are characteristic of all of the following EXCEPT:

- W) polar molecules
- X) molecules soluble in water
- Y) molecules that readily ionize in water
- Z) the long hydrocarbon chain components of some molecules

Bonus Answer: Z

=====

36. BIOLOGY

Toss Up: Multiple Choice

All of the following processes release carbon dioxide EXCEPT:

- W) the Kreb's cycle
- X) alcohol fermentation
- Y) oxidative phosphorylation
- Z) the conversion of pyruvate to acetyl CoA

Toss Up Answer: Y

Bonus: Multiple Choice

All of the following processes produce ATP EXCEPT:

- W) glycolysis
- X) the Kreb's cycle
- Y) lactic acid fermentation
- Z) oxidative phosphorylation of NADH

Bonus Answer: Y

=====

37. BIOLOGY

Toss Up: Short Answer

How many turns of the Calvin Cycle are needed to make 1 glucose molecule?

Bonus Answer: 6

Bonus: Short Answer

How many molecules of ATP are required to make a glucose molecule in the Calvin Cycle?

Bonus Answer: 18 molecules of ATP (also accept "18", or "18 molecules")

=====

38. BIOLOGY

Toss Up: Multiple Choice

A product of noncyclic photophosphorylation is

- W) NADPH
- X) water
- Y) carbon dioxide
- Z) ADP

Toss Up Answer: W

Bonus: Multiple Choice

All of the following occur in cyclic photophosphorylation EXCEPT:

- W) Electrons move along an electron transport chain.
- X) Electrons in chlorophyll become excited.
- Y) ATP is produced.
- Z) NADPH is produced.

Bonus Answer: Z

=====

39. BIOLOGY

Toss Up: Multiple Choice

If a cell has 46 chromosomes at the beginning of mitosis, then at anaphase there would be a total of

- W) 23 chromatids
- X) 23 chromosomes
- Y) 46 chromosomes
- Z) 92 chromosomes

Toss Up Answer: Z

Bonus: Multiple Choice

All of the following statements are true EXCEPT:

- W) spindle fibers are composed largely of microtubules.
- X) centrioles consist of nine triplets of microtubules arranged in a circle.
- Y) all eukaryotic cells have centrioles
- Z) many of the microtubules in a spindle apparatus attach to kinetochores of chromosomes

Bonus Answer: Y

=====

40. BIOLOGY

Toss Up: Multiple Choice

The inheritance of skin color in humans is an example of which of the following?

- W) pleiotropy
- X) codominance
- Y) epistasis
- Z) polygenic inheritance

Toss Up Answer: Z

Bonus: Multiple Choice

A human genetic defect that is caused by nondisjunction of the sex chromosomes is
W) sickle-cell disease
X) hemophilia
Y) red-green color blindness
Z) Turner syndrome

Bonus Answer: Z

=====

41. BIOLOGY

Toss Up: Multiple Choice

Genetic variation can be introduced into bacteria by all of the following methods EXCEPT:

W) transfer of DNA between bacteria through pili
X) mutation
Y) transformation
Z) DNA amplification

Toss Up Answer: Z

Bonus: Multiple Choice

An mRNA actively being translated in the cytoplasm would have all of the following EXCEPT:

W) a poly-A tail
X) a 5' (read as 5 prime) cap
Y) exons
Z) introns

Bonus Answer: Z

=====

42. BIOLOGY

Toss Up: Multiple Choice

All of the following are examples of evolution EXCEPT:

W) mutations in an individual
X) changes in an allele frequency in a population
Y) changes in an allele frequency in a species
Z) adaptive radiation

Toss Up Answer: W

Bonus: Multiple Choice

Which of the following generates the formation of adaptations?

W) Genetic drift
X) Mutations
Y) Gene Flow
Z) Natural Selection

Bonus Answer: Z

=====

43. BIOLOGY

Toss Up: Multiple Choice

All of the following are examples of substances found in bacteria or archaea EXCEPT:

- W) peptidoglycan
- X) flagellin
- Y) chitin
- Z) phycobilin

Toss Up Answer: Y

Bonus: Multiple Choice

Which of the following groups of organisms lacks motility?

- W) Cellular slime molds
- X) Ciliates
- Y) Dinoflagellates
- Z) Apicomplexans

Bonus Answer: Z

=====

44. BIOLOGY

Toss Up: Multiple Choice

In plants, male gametes are produced by the

- W) ovary
- X) pistil
- Y) antheridium
- Z) archegonium

Toss Up Answer: Y

Bonus: Multiple Choice

The deuterostomes differ from protostomes in all of the following respects EXCEPT:

- W) early cleavage of the zygote
- X) ultimate function of the opening to the archenteron
- Y) number of germ layers in the developing embryo
- Z) embryonic origin of the mouth

Bonus Answer: Y

=====

45. BIOLOGY

Toss Up: Multiple Choice

All of the following are found in both roots and stems EXCEPT:

- W) Casparian strip
- X) primary phloem
- Y) primary xylem
- Z) secondary xylem

Toss Up Answer: W

Bonus: Multiple Choice

All of the following occur in a phototropic response EXCEPT:

- W) Shoots bend toward light

- X) Auxin is produced at the shoot tip and diffuses down the stem
- Y) Auxin accumulates on the shady side of the shoot
- Z) Auxin transport is unidirectional

Bonus Answer: X

=====

46. BIOLOGY

Toss Up: Multiple Choice

Which of the following is an example of an excretory mechanism?

- W) Antibodies
- X) Flame cells
- Y) Neurosecretory cells
- Z) The sarcomere

Toss Up Answer: X

Bonus: Multiple Choice

Body temperature can be increased by all of the following EXCEPT:

- W) muscle contractions
- X) drinking alcohol, which results in vasodilation
- Y) puffing up feathers or hair
- Z) reducing blood flow to ears

Bonus Answer: X

=====

47. BIOLOGY

Toss Up: Multiple Choice

Oogenesis in humans begins

- W) during embryonic development
- X) at birth
- Y) at puberty
- Z) monthly during the menstrual cycle

Toss Up Answer: W

Bonus: Multiple Choice

In birds and mammals, gastrulation begins at the

- W) trophoblast
- X) blastodisc
- Y) blastocyst
- Z) primitive streak

Bonus Answer: Z

=====

48. BIOLOGY

Toss Up: Multiple Choice

What hormone is an antioxidant, forms cadmium with other metals, and is produced to help regulate the circadian cycle for animals?

- W) Epinephrine
- X) Thyroxine

Y) Calcitonin

Z) Melatonin

Toss Up Answer: Z

Bonus: Short Answer

Myasthenia gravis is a disease characterized by muscle weakness and fatigue, and is caused when antibodies inhibit a chemical in the human body. What is this chemical?

Bonus Answer: Acetylcholine

=====

49. BIOLOGY

Toss Up: Short Answer

What phenomenon explains why bacteria rapidly adapt to new treatments?

Bonus Answer: Punctuated equilibrium

Bonus: Multiple Choice

What genetic relationship is present if there are 36 blue flowers, 9 white flowers, and 3 blue flowers are present in a group?

W) Recessive epistasis

X) Dominant epistasis

Y) Complementation

Z) No linkage

Bonus Answer: X

=====

50. BIOLOGY

Toss Up: Multiple Choice

If the recessive allele of gene A is epistatic to gene B, what is the phenotypic ratio of the two genes?

W) 9:3:3:1

X) 12:4:3

Y) 9:4:3

Z) 9:7

Toss Up Answer: Y

Bonus: Short Answer

What genetic structure is responsible for the metabolism of lactose in E. Coli?

Bonus Answer: the lac operon

=====

51. BIOLOGY

Toss Up: Short Answer

How many ATP molecules are produced by the Calvin cycle?

Bonus Answer: 0

Bonus: Short Answer

How many ATP molecules are used in the Calvin cycle to make one glucose molecule?

Bonus Answer: 18

=====

52. BIOLOGY

Toss Up: Multiple Choice

The phenomenon by which diploid cells cease to divide is known as

- W) parthenogenesis
- X) alternation of generations
- Y) cellular senescence
- Z) lysis

Toss Up Answer: Y

Bonus: Short Answer

What country has the highest human life expectancy?

Bonus Answer: Japan

=====

53. BIOLOGY

Toss Up: Short Answer

What are the two types of genetic engineering?

Bonus Answer: restriction enzymes and gene cloning

Bonus: Short Answer

Define Population

Bonus Answer: A group of individuals of the same species living in the same place.

=====

54. BIOLOGY

Toss Up: Short Answer

What is powerhouse of cell?

Bonus Answer: mitochondria

Bonus: Short Answer

what are building blocks of life?

Bonus Answer: cell in perfect form

=====

55. BIOLOGY

Toss Up: Multiple Choice

Who is considered the father of paleontology?

- W) Marquis de Condorcet
- X) George Cuvier
- Y) Marie Antoinette
- Z) Auguste Compte

Toss Up Answer: X

Bonus: Short Answer

List the taxonomic groups from least to most specific

Bonus Answer: KINGDOM, PHYLUM, CLASS, ORDER, FAMILY, GENUS, SPECIES

=====

56. BIOLOGY

Toss Up: Multiple Choice

Three bony shelves that project inferiorly in the nasal cavity are called

- W) paranasal sinuses.
- X) nasal conchae.
- Y) the greater wing.
- Z) the crista galli.

Toss Up Answer: X

Bonus: Multiple Choice

The olfactory foramina are found in the

- W) nasal septum
- X) cribriform plate
- Y) hard palate
- Z) lacrimal bone

Bonus Answer: X

=====

57. BIOLOGY

Toss Up: Multiple Choice

During life, the pituitary gland is located in the...

- W) cribriform plate
- X) foramen magnum
- Y) sella turcica
- Z) jugular foramen

Toss Up Answer: X

Bonus: Multiple Choice

Pregnancy is most likely to contribute to which of these conditions?

- W) kyphosis
- X) lordosis
- Y) scoliosis
- Z) death

Bonus Answer: X

=====

58. BIOLOGY

Toss Up: Multiple Choice

The openings between vertebrae through which spinal nerves exit from the spinal cord are...

- W) transverse foramina
- X) intervertebral foramina
- Y) vertebral foramina
- Z) spinal foramina

Toss Up Answer: X

Bonus: Multiple Choice

The vertebral arch...

- W) consists of two laminae and two pedicles
- X) is anterior to the body of the vertebra
- Y) is the passageway for the vertebral arteries
- Z) is present only in the cervical vertebrae

Bonus Answer: W

=====

59. BIOLOGY

Toss Up: Multiple Choice

The internal gelatinous portion of the intervertebral disk is called the...

- W) nucleus pulposus
- X) pedicle
- Y) inferior articular process
- Z) annulus fibrosus

Toss Up Answer: W

Bonus: Multiple Choice

The region of the vertebral column that is most susceptible to herniated disks is the...

- W) cervical region
- X) sacral region
- Y) lumbar region
- Z) coccygeal region

Bonus Answer: Y

=====

60. BIOLOGY

Toss Up: Multiple Choice

In the sacrum, the landmark that separates the abdominal cavity from the pelvic cavity is the...

- W) alae
- X) median sacral crest
- Y) sacral promontory
- Z) sacral foramina

Toss Up Answer: Y

Bonus: Multiple Choice

Of the 12 pairs of ribs, how many pair(s) is/are vertebrochondral?

- W) 7
- X) 5
- Y) 3
- Z) 6

Bonus Answer: Y

=====

61. BIOLOGY

Toss Up: Multiple Choice

The part of the scapula that articulates with the humerus is the...

- W) acromion process.
- X) glenoid fossa.
- Y) infraspinous fossa.
- Z) supraspinous fossa.

Toss Up Answer: X

Bonus: Multiple Choice

The clavicle articulates with what two bones?

- W) scapula and sternum
- X) humerus and vertebra
- Y) humerus and sternum
- Z) scapula and vertebra

Bonus Answer: W

=====

62. BIOLOGY

Toss Up: Multiple Choice

Two bones that have prominent epicondyles are the...

- W) radius and ulna
- X) femur and humerus
- Y) femur and scapula
- Z) tibia and radius

Toss Up Answer: X

Bonus: Multiple Choice

The radial notch is found on the..

- W) ulna
- X) radius
- Y) carpals
- Z) humerus

Bonus Answer: W

=====

63. BIOLOGY

Toss Up: Multiple Choice

The depression on the coxa where the head of the femur articulates is the...

- W) acetabulum
- X) auricular surface
- Y) iliac crest
- Z) ischial tuberosity

Toss Up Answer: W

Bonus: Multiple Choice

The bumps that a person sits on are their...

- W) acetabulums
- X) auricular surfaces
- Y) pubic symphyses
- Z) ischial tuberosities

Bonus Answer: Z

=====

64. BIOLOGY

Toss Up: Multiple Choice

This structure on the fibula forms part of what we commonly call our "ankle bone."

- W) lateral malleolus

- X) medial malleolus
- Y) lateral condyle
- Z) lateral epicondyle

Toss Up Answer: W

Bonus: Multiple Choice

The ball of the foot is the junction between the...

- W) carpals and metacarpals.
- X) metatarsals and phalanges.
- Y) metacarpals and phalanges.
- Z) tarsals and metatarsals.

Bonus Answer: X

=====

65. BIOLOGY

Toss Up: Multiple Choice

Which of these bones is part of the axial skeleton?

- W) rib
- X) clavicle
- Y) coxa
- Z) femur

Toss Up Answer: W

Bonus: Multiple Choice

A small, flattened articular surface is a

- W) facet
- X) fossa
- Y) tuberosity
- Z) ramus

Bonus Answer: W

=====

66. BIOLOGY

Toss Up: Multiple Choice

The general term for a depression in a bone is

- W) fossa
- X) canal or meatus
- Y) facet
- Z) foramen

Toss Up Answer: W

Bonus: Multiple Choice

The suture that separates the parietal bones from the occipital bone is the...

- W) coronal suture
- X) lambdoid suture
- Y) sagittal suture.
- Z) squamous suture.

Bonus Answer: X

=====

67. BIOLOGY

Toss Up: Multiple Choice

In living cells, chemical processes, such as synthesis, all require the action of

- W) specialized antibiotics
- X) hormones
- Y) salts
- Z) biological catalysts

Toss Up Answer: Z

Bonus: Short Answer

The process of meiotic cell division in a human male usually forms what?

Bonus Answer: Four monoploid cells

=====

68. BIOLOGY

Toss Up: Short Answer

What sequence on the mRNA of specific proteins determines whether or not the ribosome translating the mRNA will be bound to the rough endoplasmic reticulum?

Bonus Answer: Signal sequence (OR targeting signal, localization signal, localization sequence, transit peptide, or leader sequence)

Bonus: Short Answer

What are the three types of articulating vertebrae in the human vertebral column?

Bonus Answer: Cervical, thoracic, and lumbar vertebrae

=====

69. BIOLOGY

Toss Up: Multiple Choice

What structure is present in cilia and flagella?

- W) 9+0
- X) 9+1
- Y) 9+2
- Z) 9+3

Toss Up Answer: Y

Bonus: Short Answer

Dicots feature vascular bundles arranged in what formation within the stem?

Bonus Answer: Arranged in a ring.

=====

70. BIOLOGY

Toss Up: Multiple Choice

Which of the following is a ground tissue with thick secondary cells walls reinforced with lignin?

- W) Collenchyma
- X) Parenchyma
- Y) Cleochyma
- Z) Sclerenchyma

Toss Up Answer: Z

Bonus: Short Answer

What anatomical structure is a projection of the cell membrane used for phagocytosis?

Bonus Answer: Pseudopods/pseudopodia

=====

71. BIOLOGY

Toss Up: Multiple Choice

Which of the following is a neurotransmitter important for the functioning of myofilaments?

- W) Dopamine
- X) Acetylcholine
- Y) Serotonin
- Z) Acetaminophen

Toss Up Answer: X

Bonus: Multiple Choice

Which of the following is not a layer of the epidermis in thin skin?

- W) Stratum corneum
- X) Stratum lucidum
- Y) Stratum spinosum
- Z) Stratum basale

Bonus Answer: X

=====

72. BIOLOGY

Toss Up: Multiple Choice

Which of the following proteins is involved in forming the cleavage furrow of a cell during cytokinesis?

- W) G-coupled proteins
- X) Keratin
- Y) Myosin
- Z) Tubulin

Toss Up Answer: Y

Bonus: Short Answer

Name the method in which a new species develops due to a population separated from one another by geographical isolation.

Bonus Answer: Allopatric speciation (OR geographic speciation)

=====