Human physiology

Science, Genetics

Human Physiology Packet #1 Slate Masunaga Period 6 Table Of Contents: Chapter 1 Vocabulary Chapter 2 Vocabulary Chapter 3 Vocabulary Did you get it Questions Chapters 1-3 (in order) Review Questions Chapters 1-3 Chapter 1 Vocabulary Anatomy: structure Physiology: function Transverse/horizontal: plane that divides body into superior/upper & an inferior/lower sections Sagittal lengthwise plane dividing the body into right & left sections Midsagittal/median: lengthwise plane passing along the midline dividing body into equal parts Oblique a diagonal section Frontal/coronal forehead, a plane dividing body into anterior/front and posterior/back regions, Superior/cranial above or near the head Inferior: below or toward the feet Anterior/ventral: toward front Posterior/dorsal: toward back Medial: imaginary midline dividing the body into equal right & left halves; (body part medial if closer to this line than another part) Lateral/side: away from the midline, toward the side Intermediate: between a more lateral and more medial point Proximal: body part closer to part to point of attachment to trunk than another body part Distal: body part farther from point of attachment to trunk than to another body part Superficial: situated near the surface, i. e. skin is superficial to muscle Deep: further away from the surface, internal Abdominal: region between thorax & pelvis Acromial: point of the shoulder Antecubital: space in front of elbow Axillary: armpit Brachial: upper arm Buckle: cheek area Carpal: wrist Cervical: neck Coal: hip Rural: anterior lower leg; shin Digital: fingers Femoral: thigh Fibular: lateral part of thigh Inguinal: depressed area of abdominal wall near thigh, groin; area where thigh meets body. Nasal: nose Oral: mouth Orbital: eye cavity Patellar: front of knee Pelvic: area inferior to the naval Sternal:

breastbone area Tarsal: instep of foot Thoracic: chest Umbilical: naval Cephalic: posterior head Deltoid: posterior shoulder muscle Gluteal: buttocks Lumbar: lower back Occipital: lower posterior region of the head; Base of skull Popliteal: area behind knee Sacral: posterior region between hips; tailbone Scapular: shoulder blade region Surely: calf Vertebral: spinal column Integumentary system: including hair, nails, skin and sweat glands. Provides protection from infections, dehydration, temperature change, regulates body temperature, maintains homeostasis, excretes waste, acts as receptor for pain, touch, pressure Skeletal system: including bones, ligaments, tendons, muscles & cartilage; provides framework, makes blood cells Muscular: system including muscles and tendons; they provide strength, balance, posture, movement and heat for body warmth Nervous: system including the brain, spinal cord, nerves, and sense organs; control and response; Cardiovascular: system including the heart and blood vessels; transport Lymphatic: system including lymph nodes and vessels, seen, etc.; immune response Respiratory: system including lungs, bronchi, and trachea; gas exchange Digestive: system including the mouth, esophagus, stomach, intestines, rectum, anus, liver, and gall bladder; nutrients Urinary: system including the kidneys, ureters, bladder; remove nitrogen waste, water balance Reproductive system: produces offspring, organ system which functions in creating offspring (penis and testes in males, ovaries, uterus, and vagina in females) Necessary life: functions maintaining boundaries, movement, responsiveness, digestion, metabolism, excretion, reproduction, and growth, 1. Maintaining boundaries between internal and external environments 2. Movement (contractility) 3. Responsiveness: The ability to

sense and respond to stimuli 5. Metabolism: All chemical reactions that occur in body cell 6. Excretion: The removal of wastes from metabolism and digestion 7. Reproduction 8. Growth: Increase in size of a body part or of organism Parietal serosa: the part of the membrane lining the cavity walls Visceral serosa: Serous membrane covers the external surface of organs within the body cavities Negative feedback: mechanism most feedback mechanisms in body are negative; decreases original stimulus variable; (blood pressure, heart rate, blood glucose levels, breathing rate,) Positive feedback: mechanism usually produces unstable conditions, has specific functions & operates for short time (blood clotting, contractions in childbirth, controls milk production) Abdominopelvic regions: right to left by rows, top to bottom: right hypochondriac region, digastric region, left hypochondriac region, right lumbar region, umbilical region, left lumbar region, right iliac region, hypogastria region, left iliac region Survival needs: nutrients, oxygen, water, body temperature, atmospheric pressure Caudal: tail-end, inferior toward the feet Infra: below, under Visceral organs: within thoracic & abdominopelvic cavities Parietal: outer wall of the body cavity; also parietal bone of the skull forming sides & roof of cranium Cubical: elbow Ante brachial: forearm Genital: reproductive organs Mental: chin Optic: ear Palmar: palm of the hand Pectoral: chest Pedal: foot Perinea: region between anus & external reproductive organs Plantar: sole of foot Matter: is composed of atoms Append: to hang something Cardi: heart Cran: helmet Dors: back Home: same -logy: study of Meta: change Parried: wall Pelv: basin Peri: around Pleur: rib -stasis: standing still -tom: cutting Atom: chemicals consisting of microscopic particles Molecules: are formed by atoms joined

together Macromolecules: are small molecules combined in complex ways Cell: basic unit of structure and form sharing certain characteristics & contain organelles Chapter 2 Vocabulary Chapter 2 Dehydration Synthesis: A chemical reaction in which large molecules are formed by removing water from smaller molecules and joining them together. Hydrolysis: The process in which water is used to spilt a substance into smaller particles. Carbohydrates: Organic compounds made of carbon, hydrogen, and oxygen atoms in the proportion of 1: 2: 1. Saccharides: The subunits of Carbohydrates. There are mono-, di-, and polysaccharides. Monosaccharides: = single sugars. Disaccharides = double sugars. Polysaccharides = starches. Sugars: Carbohydrates found both in food and in the body. Sugar Uses: Metabolic fuel in the body, makes up some of humans diet and used to sweeten foods, and maintains energy. Sugar and Respiration: During respiration sugars turn into ATP and is a more efficient energy source. Sugars and ATP: ATP is made of three things. In the middle there is sugar (ribose) then there is adenine and lastly phosphate. The sugar is stored then released in the form of energy. Starches: Complex carbohydrates that are composed of many sugars linked together. Polymers: The larger units of macromolecules (monomers combine to form this). Starches Uses Starches along with sugars energize the body. Cellulose: A carbohydrate, the chief constituent of the cell walls of plants, wood, paper and much more. Lipids Energy-rich organic compounds, such as fats, oils, and waxes, that are made of carbon, hydrogen, and oxygen. Lipid Components: Lipids are made of fatty acids which is made of fats oils and waxes in other words glycerol. Glycerol: A sugar alcohol; one of the buliding blocks of fats. Its made from the

saponification (to make fats into soap) of fats and fixed oils. Fatty Acids: A large group of organic acids, especially those found in animal and vegetable fats and oils; building blocks of lipids. Lipid Uses: Used as energy reserves, enery storage and source, insulation, structural component, chemical messengers, and protection. Proteins: Any of a group of complex organic macromolecules that contain carbon, hydrogen, oxygen, nitrogen, and usually sulfur and are composed of one or more chains of amino acids. Amino Acids: Any of a large number of compounds found in living cells that contain carbon, oxygen, hydrogen, and nitrogen, and join together to form proteins. Amino Acid Structure: There are 20 different amino acid structures. R Group: A letter used to represent an unspecified side chain in an organic compound. In this case a group of amino acids Primary Structure: The linear sequence of amino acids in a protein. Peptide Bond: A chemical bond formed between two molecules when the carboxyl group of one molecule reacts with the amine group of the other molecule, thereby releasing a molecule of water. It is a dehydration synthesis. Secondary Structure: The protein structure characterized by folding of the peptide chain into an alpha helix, beta sheet, or random coil. Ex: helical structure of double-stranded DNA. Helix: A spiral structure in a macromolecule that contains a repeating pattern. Tertiary Structure: The three-dimensional structure of a protein or nucleic acid. Denaturation: A process in which proteins or nucleic acids lose their tertiary structure and secondary structure by application of some external stress or compound, such as a strong acid or base. Quaternary Structure: The structure formed by the noncovalent interaction of two or more macromolecules. Protien Synthesis: The process of anabolic

metabolism (simple substances converted into more complex compounds) that forms new proteins. Protein Uses: Protein is used for growth and repair. If you remove the water from the body, about half of the remaining weight (called the dry weight) is protein. Enzymes: A substance formed by living cells that acts as a catalyst. Catalysts: a substance that initiates or accelerates a chemical reaction without itself being affected something that causes an important event to happen. Activation Energy: The minimum energy required to start a chemical reaction. Nucleic Acids: Class of organic molecules that includes DNA and RNA. Nucleotides: The building blocks of nucleic acids. Nitrogenous Bases: An organic base compound that contains nitrogen, such as a purine or pyrimidine. Adenine: Adenine is a nucleobase purine base found in DNA and RNA; pairs with thymine in DNA and with uracil in RNA. Cytosine: A base found in DNA and RNA and derived from pyrimidine; pairs with guanine in DNA. Guanine: A substance first obtained from guano; it is a nucleic base and pairs with cytosine in DNA and RNA. DNA / Deoxyribonucleic Acid: Nucleic acid found on all living cell; carries the organism's hereditary infromation. RNA / Ribonucleic Acid: The nucleic acid that contains ribos; acts in protien synthesis. Thymine: A base found in DNA (but not in RNA) and derived from pyrimidine; pairs with adenine. Uracil: A base containing nitrogen that is found in RNA (but not in DNA) and derived from pyrimidine; pairs with adenine. Repleaces thymine in RNA. DNA Structure: The structure of DNA shows a variety of forms, both double-stranded and single-stranded. Chemistry: science that investigates matter and its interactions Atoms: basic particles of matter Matter: anything that takes up space Elements: made up of atoms and cannot be changed or

broken down into simpler substances Molecule: chemical structure that contains more than one atom bonded together by shared electrons Compound: chemical substance made up of atoms of two or more molecules Metabolism: all of the chemical reactions in the body Catabolism: decomposition of complex molecules; covalent bond is broken and kinetic energy is released Anabolism: synthesis of new compounds Exergonic: reactions that release energy (catabolism) Endergonic: reactions that absorb energy (anabolism) Water: single most important thing for the body; accounts for 2/3 of the total body weight Carbohydrates: main source of cellular fuel monosaccharide: simple, pure sugar (e. g., glucose) disaccharide: two simple sugars joined together (e. g., sucrose, lactose) polysaccharide: lots of sugars joined together (e. g., starches) Chapter 3 Vocabulary Chapter 3 passive processes substances cross the membrane from an area of high concentration to an area of low concentration (move WITH the concentration gradient), without any expenditure of energy (ATP) by the cell. Passive trasnport the diffusion of materials across the cell membrane without energy Peripheral proteins are not embedded in the lipid bilayer at all. Instead, the are loosely bound to the surface of the protein, often connected to integral proteins Peroxisomes Contain oxidase enzymes that detoxify alcohol, hydrogen peroxide, and other harmful chemicals Phagocytosis process in which phagocytes engulf and digest microorganisms and cellular debris Phagosome A membrane-enclosed compartment containing foreign material or infectious agents that the cell has engulfed. Phospholipids A molecule that is a constituent of the inner bilayer of biological membranes, having a polar, hydrophilic head and a nonpolar,

hydrophobic tail. Pinocytosis process by which certain cells can engulf and incorporate droplets of fluid Plasma membrane a thin membrane around the cytoplasm of a cell Polar head part of the phospholipid that is water loving Polarity having an indicated pole (as the distinction between positive and negative electric charges) Polarized state of electrical charge in living cells Polyribosome string of ribosomes simultaneously translating regions of the same mRNA strand during protein synthesis Power stroke propulsive; nearly straight moves in an arc Primary active transport Form of active transport in which ATP is hydrolyzed, yielding the energy required to transport ions against their concentration gradients. Primary germ layers Name of the strata of the first organization of human cells into tissues during development Primary transcript An initial RNA transcript; also called pre-mRNA when transcribed from a protein-coding gene. Principle of complementarity sturcture and function biochemical activities of cells are dictated by the relative number of their specific subcellular structures Promoter A specific nucleotide sequence in DNA that binds RNA polymerase and indicates where to start transcribing RNA. Prophase the first stage of mitosis Proteases enzymes that break down proteins proteasomes a giant protein complex that recognizes and destroys proteins tagged for elimination by the small protein ubiquitin Protein kinase enzymes transfer a phosphate group from ATP to proteins Protein synthesis the formation of proteins by using information contained in DNA and carried by mRNA Proteoglycans a glycoprotein consisting of a small core protein with many carbohydrate chains attached, found in the extracellular matrix of animal cells. Pseudostratified columnar epithelium Epithelial tissue that only appears to

be stratified. There is only one layer of cells, but there often appears to be two or more layers. This is because some of the cells are tall and reach the free surface, while others are short and do not reach the surface. These cells line certain glands and ducts, auditory tubes, the nasal cavity, and trachea. There is cilia located on the free surface of these cells. Receptor mediated endocytosis The movement of specific molecules into a cell by the inward budding of membranous vesicles containing proteins with receptor sites specific to the molecules being taken in; enables a cell to acquire bulk quantities of specific substances. Recovery stroke return of cilium or flagellum to original position Reticular fibers fine, collagenous fibers whose networks surround and support the soft tissue of organs, and stabilize the positions of functional cells Reticular cells Reticular connective tissue: Cells that produce fibers Recticular connective tissue liver, spleen, lymph Regeneration forming again (especially with improvements or removal of defects) Resting membrane potential An electrical potential established across the plasma membrane of all cells by the Na+/K+ ATPase and the K+ leak channels. IN most cells, the resting membrane potential is approximately -70 mV with respect to the outside of the cell. Ribosomal RNA The most abundant type of RNA, which together with proteins, forms the structure of ribosomes. Ribosomes coordinate the sequential coupling of tRNA molecules to mRNA codons. Riboswitches Folded RNAs that code for a particular protein; also can start and stop production of the protein Riplisome large complex of several different proteins RNA polymerase an enzyme that pries the 2 strands of DNA apart and hooks together the RNA nucleotides as they base pair along the DNA template RNA primers Small segments of RNA

that indicate to DNA polymerase where to begin replication Rough endoplasmic reticulum System of internal membranes within the cytoplasm. Membranes are rough due to the presence of ribosomes. functions in transport of substances such as proteins within the cytoplasm Scar tissue the connective tissue that forms a scar Second messengers small, nonprotein, water-soluble molecules or ions Sarcoplasmic reticulum The smooth ER of a muscle cell, enlarged and specialized to act as a Ca2+ reservoir. The SR winds around each myofibril in the muscle cell. Secretion a functionally specialized substance (especially one that is not a waste) released from a gland or cell secretory unit acinus Secretory vesicles membrane-bound vesicles produced by the Golgi apparatus; contains protein and other compounds to be secreted by the cell Defferentially permeable barrier allows some substances to pass while excluding others Semiconservative replication DNA replication in which each of the parental strands is read to make a complementary daughter strand, ethus each new DNa molecule is composed of half the parental molecule paired with a newly synthesized strand. Serous membranes A membrane that consists of simple squamous epithelium. This membrane lines the pleural and peritoneal cavities, and the organs in them. This membrane prevents damage from abrasion when organs rub against one another. Serosae other name for serous membrane Signal sequence A short sequence of amino aids, usually found at the N-terminus of a protein being translated, that directs the ribosome and its associated mRNa to the membranes of the rough ER where trasnlation will be completed. Signal sequences are found on membrane-boudn proteins, secreted proteins, and proteins destined for other organelles. Signal

transduction triggering a chain reaction of othe proteins which relay the signal to the specific acting molecule Simple columnar epithelium A single layer of tall, thin cells. These large cells contain organelles that enable them to perform complex functions. In the intestines, it produces and secretes mucus and digestive enzymes. These often have cilia and microvilli on the surface. Simple cuboidal epithelium lines kidney tubules and ducts of salivary glands Simple diffusion movement from a high concentration area to a low concentration area, only works with oily substances, needs to cross oily cell membrane (nonpolar substances), no energy is required Simple epithelia composed of a single cell layer, typically found where filtration and absorption occur and a thin barrier is desirable Simple Glands Glands with a single unbranched duct Simple squamous epithelium A single layer of thin, flat cells. It is often found where diffusion or filtration take place (alveoli in lungs, kidneys). It also covers organs in the pericardial, pleural, and peritoneal cavities. Skeletal muscle a muscle that is connected at either or both ends to a bone and so move parts of the skeleton Smooth endoplasmic reticulum An endomembrane system where lipids are synthesized, calcium levels are regulated, and toxic substances are broken down. Smooth muscle Involuntary, non striated muscle that controls movement of internal organs Sodium potassium pump a carrier protein that uses ATP to actively transport sodium ions out of a cell and potassium ions into the cell Solute pumps move solutes " uphill" against a concentration gradient expending ATP Specialized contacts Epithelial cells fit close together to form continuous sheets. Adjacent cells are bound together at many points by lateral contacts, including tight junctions and desmosomes. Sphingolipids Complex lipids that

are mostly glycospingolipids and contain sugar and no phosphate. Spliceosomes particles made of RNA and protein that cut intron from mRNA primary transcript and joins together the remaining coding exon regions Squamous cells Flattened and scalelike epithelial cells Stem cells unspecialized cells that retain the ability to become a wide variety of specialized cells Striated striped grooved or banded Stratified columnar epithelium More than one layer of epithelial cells, where only the surface cells are columnar in shape. It is only found in the mammary gland ducts, the larynx, and a portion of the male urethra. It functions in secretion, protection, and some absorption. Stomatic cell division single cell duplicates itself Structural Protein shape; anchor; bind Stratified cuboidal 2-3 layers of cubed shaped cells, lines ducts of mammary, salivary and sweat glands Stratified epithelia consisting of two or more cell layers, common in high abrasion areas where protection is important, such as the skin and the lining of the mouth Stratified squamous epithelium thick membrane with several cell layers, surface cells can contain keratin. protects underlying tissues in areas that can be rubbed or injured Stroma cushion, mattress Structural classification Based on two things: Material or type of CT that binds bones together Presence or absence of joint cavity Subphases G1, S (Synthetic), G2 (Gaps) where the cell grows by producing proteins and organelles, but chromatin is only reproduced during the S subphase. Supported by connective tissue reticular and basal laminae (characteristic of epithelial tissue) Symport system two substances are moved across a membrane in the same direction Synovial membranes Loose, connective tissue that lines the joint cavity Tay sachs Disease A human genetic disease caused by a

recessive allele for a dysfunctional enzyme, leading to accumulation of certain lipids in the brain. Seizures, blindness, and degeneration of motor and mental performance usually become manifest a few months after birth. Telomerase An enzyme that catalyzes the lengthening of telomeres. The enzyme includes a molecule of RNA that serves as a template for new telomere segments. Telophase the final stage of meiosis when the chromosomes move toward opposite ends of the nuclear spindle Telomers chromosomes end in protective caps and they consist of DNA associated with protiens and they areprotective Tendons tough connective tissue that joins skeletal muscles to bones Terminal web A protein mesh that anchors toe microvillus to the inside of the plasma membrane. Termination stop of mRNA synthesis (i. e., transcription) at the terminator site Tight junctions Membranes of neighboring cells are pressed together, preventing leakage of extracellular fluid Tissues groups of similar cells that perform a specific function in an organism Tonicity The ability of a solution to cause a cell within it to gain or lose water. Transcription (genetics) the organic process whereby the DNA sequence in a gene is copied into mRNA Transcytosis passage of material across endothelium in tiny vesicles by endocytosis and exocytosis Transitional epithelium similar to stratified squamous and stratified cuboidal epithelium. Basal cells are cuboidal or columnar. Surface cells are dome-shaped depending on amount of organ stretch. Stretches and permits distension of bladder Trans face the " shipping" side of the golgi apparatus; further away from the ER Transfer RNA type of RNA molecule that transfers amino acids to ribosomes during protein synthesis Translation (genetics) the process whereby genetic information coded in messenger RNA

directs the formation of a specific protein at a ribosome in the cytoplasm Transmembrane proteins proteins that penetrate through the membrane... contained in the eukaryotic and prokaryotic phospholipid bilayers Triplet sequence of three bases; triplets in each gene forms a sentence that tells exactly how a particular polypeptide is to be made Tubular having hollow tubes (as for the passage of fluids) Tubuloalveolar These glands have both alveolar and tubular cells. Ubiquitins Mark proteins that need to be destroyed in an ATP dependent reaction. The tagged proteins are then hydrolyzed to small peptides by soluable enzymes or by proteasomes Unicellular having or consisting of a single cell Unicellular endocrine glands mucous cells; goblet cells Vesicle small membrane-bound sac that functions in moving products into, out of, and within a cell Vesicular trafficking moving substances from one area *or organelle) in the cell to another Vesicular transport Transport from ER to Golgi and to the exterior of the cell. Utilizes membrane bound organelles. Transport between organelles. Voltage electrical potential energy from separation of oppositely charged particles Voluntary muscle striated muscle that can be controlled voluntarily Wear and tear theory A theory of aging that states that the human body wears out because of the passage of time and exposure to environmental stressors. White blood cells diease fighting cells in blood White adipose tissue *Large cells - One dominant lipid droplet when mature -Nucleus pushed out of center and flattened *Don't confuse with sebaceous gland, which will have variation within cell White fat most adipose tissue. Did You Get it? Questions Chapter 1 1. Anatomy and physiology are related. A given function can occur only if the corresponding structure allows it. 2. The stomach exhibits the organ level of structural

organization. Glucose is at the chemical level. 3. The organs are part of the respiratory system. 4. Survival depends on the ability to maintain ones boundaries. 5. All the chemical reactions In the body all require oxygen in order for the function to work. 6. They vary between a narrow and regulated range. 7. Thirst is part of the negative feedback system. 8. Most of the descriptions used to describe the body or in anatomical terminology. 9. The axillary region is the armpit, The acromial region is the point of the shoulder. 10. A coronal or frontal section cut. 11. It separates the thoracic and abdominal cavities by making a transverse section 12. The spinal cord is the only organ that is in the dorsal body cavity. Chapter 2 1. Chemical changes involve bond formation, or breakage. Most result in a different substance. 2. Matter is the substance of living and non-living objects, Energy is their so you can function. 3. When energy is transferred from one thing to another, a little bit of heat is given off. 4. Carbon, oxygen, hydrogen, nitrogen. 5. An atom is the smallest particle of an element. 6. The atoms atomic number is 4, its atomic mass is 9 7. Radioisotope 8. A molecule is 2 atoms put together 9. A molecule of an element is a chemical combination bound together. 10. In ionic bonds, electrons are completely transferred from one atom to another, in covalent bond; the interacting atoms share one or more electron pairs. 11. Hydrogen Bonds. 12. A decomposition reaction. 13. A reversible reaction. 14. The high heat capacity of water prevents rapid changes in body temperature. 15. Acids are proton donors 16. A pH of 11 is basic. 17. All chemical reactions in the body take place in a watery environment. 18. The structural units of carbohydrates are monosaccharides. 19. Triglycerides are abundant in subcutaneous fat tissue. 20. DNA contains the base ATGC and

sugar deoxyribose. 21. ATP is the immediately useful form of energy for all body cells. Chapter 3 1. Oxygen and Carbon 2. They are able to carry an electrical current and are essential to nervous system function and muscle activation. 3. The generalized cell is a concept that describes organelles and functions common to all cells. 4. It is the control center of the cell. 5. The nuclear envelope is the double membrane barrier surrounding the nucleus. 6. The phospholipids have both polar and non polar regions. 7. They act as receptors and determine blood type 8. Communication and binded respectively. 9. The cytosol is the liquid portion of the cytoplasm. 10. Lysosomes break down ingested bacteria, worn out organelles, and dead cells. 11. Mitochondria are the major site of ATP synthesis. 12. Microtubules, intermediate filaments. 13. Fibroblasts and erythrocytes 14. Neurons gather information and control body functions. 15. The transport process is active if cellular energy is used to drive it. 16. The concentration gradient determines the direction that water and solutes move by diffusion. 17. Receptor mediated endocytosis. 18. DNA is double stranded. When it is replicated, each strand serves as a template to build a complementary strand. 19. Cytokinesis does not occur, the result is a binucleate cell. 20. mRNA carries the coded information for building proteins from the DNA gene to the ribosome were protein synthesis occurs. 21. Transcription and translation Proteins are synthesized during translation. 22. Cell shape and cell arrangement are two criteria used to classify epithelium. 23. Exocrine glands have ducts that carry their secretion to a free body surface. 24. Connective tissues differ from other tissues because of the nonliving matrix they produce and which surrounds their living cells. 25. Skeletal and cardiac

muscles are striated. Skeletal muscle is voluntary. 26. Epithelium and some connective tissues remain mitotic. 27. Neoplasm means “ new growth" it is an abnormal growth or tumor. 28. Endocrine activity tends to decline with age. Review Questions Chapters 1-3 Chapter 1 1. D 2. All of the above 3. C 4. Superior, deep, proximal or lateral, proximal, medial, posterior 5. E, c, I, f, g, a, b, d, g 6. C 7. C 8. C Chapter 2 1. A, c, d 2. A, c, e 3. A, b, c, d, e 4. C, e 5. B, c 6. D 7. A, b, c, d, e 8. C 9. A Chapter 3 1. C 2. B, e 3. C, e 4. C 5. A, c, c 6. D 7. C 8. A 9. 1-3, 2-3, 3-f, 4-b, 5-g, 6-c