## Question #1: Literature

*10 points*

| In this novel, the last guest to arrive at a party is described as "talking in a luxurious, self-taught stammer". That character, an open homosexual who reads lines from *The Waste Land* through a megaphone in this novel, is Anthony Blanche. Another character in this novel writes a note saying "Aloysius [al-oh-ISH-uss] won't speak to me until he sees I am forgiven", which is a reference to that character's teddy bear. That character in this novel, who belongs to the Marchmain family, is Lord Sebastian Flyte. Name this English novel about Charles Ryder written by Evelyn [EE-vuh-lin] Waugh. | ***Brideshead Revisited****(: The Sacred & Profane Memories of Captain Charles Ryder)* |
|---|---|

## Question #2: Miscellaneous

*10 points*

| Using an ancient version of this instrument involved getting equal rates of water going out of both sides of a reed. This tool can be tested by using it, then rotating it 180 degrees, using it again, and checking for consistency. The word "spirit" is sometimes added to the name of this tool because of the liquid used inside of it, and the word "bubble" is sometimes added because using it often involves paying attention to the location of a bubble. This instrument is used for a similar purpose as a plumb bob, but in a perpendicular direction. Name this tool that checks whether a counter, shelf, picture, or other item is horizontal. | (spirit or bubble) **level**s |
|---|---|

## Question #3: Science

*10 points*

| | |
|---|---|
| One estimate of this quality is the square root of cohesive energy density, which is the Hildebrand parameter of this quality. The partition coefficient compares two of these qualities and is also known as the distribution coefficient. Rules for this quality generally have several exceptions; for example, silver nitrate has this quality even though most salts of silver do not have this quality. Also, chlorides generally have this quality, but mercury chloride does not. Determining this quality is equivalent to finding the saturation point. Name this ability to be dissolved. | **solubility** [accept being **soluble**; accept **dissolvability** or **dissolvable** before the end and prompt on them thereafter] |

## Question #4: Social Studies

*10 points*

| | |
|---|---|
| This person proposed the Liberal Paradox, which shows that it is impossible to combine the Unrestrictedness Condition, Pareto [puh-RAY-toe] Condition, and tangible freedom. The ideas in this person's book *Commodities and Capabilities* were developed further by the philosopher Martha Nussbaum [NOOS-bawm] to create what is now called the capability approach. This person's other books include *Development as Freedom*, which stated that freedom of opportunity includes access to credit [pause] and that there should be protections from extreme poverty. Name this person who was given the Nobel Prize "for his contributions to welfare economics" and who is from India. | Amartya (Kumar) **Sen** |

## Question #5: Mathematics

*10 points*

| | |
|---|---|
| Measurements of how often periods undergo this operation in chaotic situations led to the discovery of the Feigenbaum constant. The Delian [DEE-lee-un] problem, which was proven impossible, was an attempt to perform this operation on the volume of a cube using a straightedge and compass. The Rule of 72 is used to approximate the amount of time it takes for an investment to undergo this operation. Performing this operation on the input of an exponential function has the effect of squaring the output. This operation is performed on the sum of length plus width to find the perimeter of a rectangle. Name this operation that is done to a power of 2 in order to get the next power of 2. | **doubling** [accept **double** or **multiply by 2** or **times 2** or **product with 2**; accept **add**ing to **itself**; prompt on **multiply**ing] |

## Question #6: Literature

*10 points*

| | |
|---|---|
| This character gives the advice to move to Morocco where there are orangutans living in bushes after hearing a speech from Huhu. That occurs shortly after Dr. Begriffenfeldt finds this character talking to the Sphinx. Much earlier, this character takes Ingrid away from her wedding but then tells her to go away. That occurs after Solveig [SOHL-vay] refuses to dance with this man. Even earlier, this character exaggerates a story about a deer hunt. At another point, this character is asked "What is the difference between troll and man?" by the Troll Mountain King. Name this title character of a play by Henrik Ibsen. | **Peer Gynt** [accept either] |

## Question #7: Fine Arts

*10 points per part*

| | This opera is about the relationships between both Don José [dohn zhoh-say] and Escamillo [ess-kah-MEE-loh] with the title character. | |
|---|---|---|
| **1** | Name this opera by Georges Bizet [zhorzh bee-zay]. | ***Carmen*** |
| **2** | This one-word title is often given to the *Carmen* aria whose proper title means "Love is a rebellious bird." | ***Habanera*** |
| **3** | What two words begin the "Toreador Song" in *Carmen*? Give your answer in French. | "**Votre toast**" |

## Question #8: Fine Arts

*10 points per part*

| | This movement is between a minuet [min-yoo-et] and a passepied [pass-pyay]. | |
|---|---|---|
| **1** | Name this third movement of *Suite bergamasque [bair-gah-mask]* that is based on a poem by Paul Verlaine. | "**Clair de lune**" |
| **2** | This composer wrote *Suite bergamasque*, *La mer*, and *Prelude to the Afternoon of a Faun*. | (Achille-)Claude **Debussy** |
| **3** | "Clair de lune" is in this unusual time signature. Dave Brubeck used it for most of "Blue Rondo à la Turk". | **9/8** ["nine eight"] time |

## Question #9: Science

*10 points per part*

| | The "Large" one of these things was the location of the supernova SN 1987A. | |
|---|---|---|
| 1 | Give the common name of these two irregular dwarf galaxies in the Local Group. They are probably orbiting the Milky Way. | (Large and Small) **Magellanic Cloud**s |
| 2 | By studying the Small Magellanic Cloud, Henrietta Leavitt [LEV-it] discovered this type of star that is now used to determine astronomical distances. | **Cepheid** [**SEFF-ee-id**] **variable** stars or **Cepheid variable**s [prompt on partial answers] |
| 3 | Scientists are trying to determine whether there will eventually be a merger of the Milky Way, Andromeda, Magellanic Clouds, and this third-largest galaxy in the Local Group. The stars Horna and Mothallah [muh-THAH-luh] are in this galaxy. | **Triangulum** Galaxy [prompt on **Pinwheel** Galaxy] |

## Question #10: Science

*10 points per part*

| | These objects orbit the sun, have enough mass to be nearly round, have *not* cleared the neighborhood around their orbit, and are not moons. | |
|---|---|---|
| 1 | Name these objects such as Ceres [SEAR-eez] and Pluto. | **dwarf planet**s [do not prompt on partial answers] |
| 2 | Though Pluto is the largest dwarf planet, this one is the most massive. This dwarf planet is orbited by the moon Dysnomia [diss-NOH-mee-uh]. | **Eris** |
| 3 | Eris is in this region whose inner portion overlaps the Kuiper [KY-pur] belt. | **scattered disk** |

## Question #11: Social Studies

*10 points per part*

| | A wide variety of religions are practiced in Africa. | |
|---|---|---|
| 1 | While much of southern Africa has converted to Christianity, most people in northern Africa have converted to this religion. | **Islam** [accept **Muslim**] |
| 2 | Traditional people of this African ethnicity believe that Chukwu [CHOOK-woo] is the supreme being. | **Igbo** [accept **Ibo**; prompt on **Nigeria**n] |
| 3 | This term describes many native African religions. This term describes the belief that all things are alive and have souls. | **animist** religions or **animism** |

## Question #12: Social Studies

*10 points per part*

| | Answer these questions about Moses: | |
|---|---|---|
| 1 | Whose bones did Moses take out of Egypt because of a promise made by the sons of Israel? | **Joseph**'s bones [or **Yosef**] |
| 2 | What man, the father-in-law of Moses, suggested that Moses appoint judges instead of judging every case himself? | **Jethro** [or **Yitro**] |
| 3 | Moses was tending to Jethro's flock when he saw an angel and heard from the Lord on Mount Horeb. The Lord spoke from what object, which burned but was not consumed by the fire? | burning **bush** [accept **seneh** or **brambles**] |

## Question #13: Literature

*10 points per part*

| | In some early texts, this name refers to a primordial force, though it generally became a place in the Underworld. | |
|---|---|---|
| 1 | Name this place, sometimes said to be below Hades [HAY-deez], where most of the Titans were banished by Zeus. | **Tartarus** |
| 2 | Instead of being sent to Tartarus, this Titan was sentenced to holding up the sky. Some people mistakenly believe that this Titan holds up the Earth. | **Atlas** |
| 3 | This king of the Lapiths, who killed his father-in-law and mated with a cloud shaped like Hera, was punished by being bound to a fiery wheel. Later writings place this king in Tartarus. | **Ixion** [ihk-SY-un] |

## Question #14: Literature

*10 points per part*

| | This god is sometimes called Svayambhu [svah-yuhm-BOO] and associated with Prajapati [prah-juh-PAH-tee]. | |
|---|---|---|
| 1 | Name this creator that is in the Trimurti with Vishnu and Shiva. | **Brahma** |
| 2 | Chinese people sometimes refer to Brahma as Simianshen [sih-MEE-ahn-shen] because he has this number of faces. | **four** faces |
| 3 | In one of Brahma's four hands, he holds these objects that represent time and that many Westerners associate with Catholicism. | (108 or 109) prayer **bead**s [accept japa**mala** or aksha**mala** or **rosary** beads; prompt on **seed**s] |

## Question #15: Fine Arts

*10 points*

| | |
|---|---|
| In one painting by this artist, an old man wearing green [pause] deposits coins into a sack held by a demon inside a trunk, and a white version of Death enters the room through a door while holding an arrow. That painting is this artist's *Death and the Miser*. In another painting by this artist, a monk and a nun both try to take a bite out of a suspended crepe. Another work by this painter shows God presenting Eve to Adam on the left and shows nightmarish creatures including a pair of ears brandishing a knife on the right. Name this Dutch painter of *Ship of Fools* and *The Garden of Earthly Delights*. | Hieronymus **Bosch** [or Jheronimus van **Aken**] |

## Question #16: Science

*10 points*

| | |
|---|---|
| This structure contains polysaccharides ["poly-SACK-uh-rides"] that are arranged into hexagonal rosettes that can spin. This structure often contains a lot of xylan [ZY-lan]. The primary compound in these structures is also the primary compound in cotton. The outer layer of these things contain many pectins and are called the middle lamella [luh-MEL-luh]. In wood and bark, these structures contain lignin [LIG-nin]. The ability of these structures to prevent outflow allows for the build-up of turgor pressure. Name these structures that do not exist in animals but that are the outermost part of plant cells. | **cell wall**s |

## Question #17: Social Studies

*10 points*

| | |
|---|---|
| Some of the first white people to live in what is now this city made attempts to convert the Kumeyaay [KOO-mee-"eye"] people to Christianity, causing a 1775 uprising. A statue in this city commemorates the landing of Juan Rodríguez Cabrillo [kah-BREE-yoh] and is near the North Island Naval Air Station on Point Loma Peninsula. Some of the suburbs of this city are Chula Vista, Oceanside, and Escondido. This city's zoo is in Balboa Park, and the organization that runs it also runs a popular Safari Park. Before Orlando and San Antonio, this city was the site of the original SeaWorld. Name this major city in California south of Los Angeles and adjacent to Mexico. | **San Diego**, California |

## Question #18: Literature

*10 points*

| | |
|---|---|
| One poem by this writer begins "I saw him once before, as he passed by the door." That poem, which ends with the narrator hoping that people will smile if he lives as long as the poem's subject, is "The Last Leaf". Another poem by this writer states "Thanks for the heavenly message brought by thee, child of the wandering sea." This poet began the last stanza of that poem with the lines "Build thee more stately mansions, O my soul, As the swift seasons roll!". Another poem by this writer, which begins "Aye tear her tattered ensign down, Long has it waved on high", is sometimes credited for preventing a famous ship from being decommissioned. Name this poet who wrote "The Chambered Nautilus" and "Old Ironsides". | Oliver Wendell **Holmes** Sr. |

## Question #19: Science

*10 points*

| | |
|---|---|
| Infections caused by this disease are sometimes treated with Entecavir [en-TEK-uh-veer], which is known as Baraclude ["BEAR"-uh-klood]. The CDC recommends giving the vaccine for this disease to newborns in their first 24 hours. About half of the people who have this disease in the U.S. have Asian heritage. This disease often spreads the same way as AIDS, and people who are HIV-positive are told to screen for this disease. Though this disease often does not lead to serious symptoms, it can cause cirrhosis [sih-ROH-siss] or liver cancer. Name this sexually transmitted inflammation of the liver. | **hepatitis** B |

## Question #20: Social Studies

*10 points*

| | |
|---|---|
| During the early to mid-20th century, political prisoners from what is now this country were sent to Boven–Digoel [boh-VEN dee-"GOAL"] concentration camp. Those prisoners included Mohammad Hatta, who became this country's first vice president, and Sutan Sjahrir [soo-TAHN shah-RIR], who became its first prime minister. Shortly after an attempted coup by the 30 September Movement, this country transitioned into its New Order when President Suharto took power from President Sukarno. This country has more recently been led by Joko Widodo [wee-doh-doh]. In 2002, East Timor [TEE-mor] seceded from this country. Name this country that includes the world's most populous island, Java—the location of its capital, Jakarta. | (Republic of) **Indonesia** |

## Question #21: Mathematics

*10 points per part*

| | With one variable, this type of polynomial can have at most five terms. | |
|---|---|---|
| **1** | Give the name for a polynomial of degree 4. | **quartic** polynomial |
| **2** | Find all real solutions to the equation "$x$ to the 4th power minus 10 $x$ squared plus 9 equals zero". | **1** and **−1** and **3** and **−3** [any order; allow 1 and −1 to be replaced by **plus** and/or **minus 1** or **positive** and/or **negative 1**, and likewise for 3 and −3] |
| **3** | Find all complex solutions to the equation "$x$ to the 4th power minus one equals zero". | **1** and **−1** and **$i$** and **−$i$** [any order; same allowance for **±1** as in part 2 and likewise with **±$i$**] |

## Question #22: Mathematics

*10 points per part*

| | For the cosecant function, this set consists of all real numbers except integer multiples of pi. | |
|---|---|---|
| **1** | Give this term for the set of possible inputs to a function. | **domain** |
| **2** | Find the two values of theta between zero and 360 degrees that are *not* in the domain of the tangent function. Give your answers in degrees. | **90** degrees and **270** degrees [either order] |
| **3** | Find the lowest value in the range of the arccosecant function. Again, give your answer in degrees. | **−90** degrees [do not prompt on "90 (degrees)"] |

## Question #23: Literature

*10 points per part*

| | Despite the title of this novel, the title character is Hungarian. | |
|---|---|---|
| 1 | Name this novel set during World War II in which the title character suffers from amnesia and befriends a Sikh [seek] person named Kip. | *The **English Patient*** |
| 2 | This Canadian author wrote *The English Patient.* He depicted his native Sri Lanka in *Running in the Family.* | (Philip) Michael **Ondaatje** |
| 3 | In *The English Patient,* this Canadian thief is sometimes referred to as "the man with bandaged hands." | **David** **Caravaggio** [accept either] |

## Question #24: Literature

*10 points per part*

| | This literary movement was more against Enlightenment ideas than the Weimar ["VIE-mar"] Classicism movement that followed it. | |
|---|---|---|
| 1 | Name this late-18th-century German literary movement that was named after a play by Friedrich Maximilian Klinger. | **Sturm und Drang** [**shtoorm oont drahng**] [accept **storm and stress**] |
| 2 | This playwright's *The Robbers* is considered part of the Sturm und Drang movement, while his *William Tell* is more Weimar Classicist. | (Johann Christoph) Friedrich von **Schiller** |
| 3 | An explicit move towards supporting democracy and nationalism is made in this Johann Wolfgang von Goethe [GRR-tuh] play set during the Eighty Years' War. | ***Egmont*** |

## Question #25: Social Studies

*10 points per part*

| | After Republicans won every presidential election from 1860 to 1880, this Democrat won the election of 1884. | |
|---|---|---|
| **1** | Name this only president to serve two non-consecutive terms. | (Stephen) Grover **Cleveland** |
| **2** | Cleveland used the U.S. Army to stop a combined strike, boycott, and blockade by the American Railway Union against this company. | **Pullman** Company |
| **3** | Cleveland lowered tariffs by signing the Revenue Act of 1894, which is commonly named for these two Congresspeople. | William L(yne) **Wilson** and Arthur P(ue) **Gorman** [either order; accept **Wilson–Gorman** Tariff] |

## Question #26: Social Studies

*10 points per part*

| | This policy is summarized by the statement "The American continents…are henceforth not to be considered as subjects for future colonization by any European powers." | |
|---|---|---|
| **1** | Identify this policy named for the president who stated it in 1823. | **Monroe Doctrine** |
| **2** | The Monroe Doctrine was developed by this secretary of state. | John **Quincy Adams** [prompt on **Adams**; do not accept or prompt on "John Adams" or "J. Adams"] |
| **3** | This secretary of state under Grover Cleveland extended the Monroe Doctrine, saying that the United States was "practically sovereign" over the Americas. | Richard **Olney** |

## Question #27: Science

*10 points per part*

| | For an ideal gas, this quantity is the same as pressure. | |
|---|---|---|
| **1** | Name this quantity that takes the place of pressure in calculations of chemical equilibrium constants for *real* gases. | **fugacity** [**"few-GAS"-ih-tee**] |
| **2** | Fugacity can be calculated from this factor, equal to the ratio of the molar volume of a gas to the molar volume of an ideal gas at the same temperature and pressure. | **compressibility** factor [accept **compression** factor] |
| **3** | This scientist is credited with coining the term "fugacity". He is the namesake of the dot structures used to diagram covalent molecules [pause] and of a definition of acids. | Gilbert (Newton) **Lewis** |

## Question #28: Science

*10 points per part*

| | Dispersion forces are small attractions between neutral molecules. | |
|---|---|---|
| **1** | Dispersion forces are named after this German scientist, though some people mistakenly believe they are named after a city. | Fritz (Wolfgang) **London** [accept **London** dispersion forces] |
| **2** | Dispersion forces are often explained using the "induced" type of this concept in which there are equal and opposite charges. Its strength is called its moment. Your answer should be a six-letter word. | **dipole**(s) ["DIE-pole"] |
| **3** | A force named for this person and Dirk Polder occurs between a neutral particle and a neutral surface. A similar small attractive force named for him occurs between two parallel, uncharged conducting plates. | Hendrik **Casimir** |

## Question #29: Mathematics

*10 points*

| | |
|---|---|
| This number equals the nested expression "the square root of 1 plus the square root of 1 plus the square root of 1, et cetera". This number also equals 1 plus this number's reciprocal. This number equals the ratio of the length of a diagonal of a regular pentagon to the side length. This number is the limit of the ratio of each Fibonacci [fib-oh-NAH-chee] number divided by the previous Fibonacci number. If a rectangle has side lengths that form a ratio equal to this number, then the rectangle can be divided into a square and a rectangle similar to the original. Give this irrational number equal to approximately 1.618. | **golden** ratio [or **phi** or **golden** proportion or **golden** mean or **golden** number or **golden** section or **divine** proportion] |

## Question #30: Literature

*10 points*

| | |
|---|---|
| One poem by this writer begins "Now the leaves are falling fast, nurse's flowers will not last." That poem, "Autumn Song", is in this writer's collection *Twelve Songs*. Another poem in that collection by this author ends with the line "For nothing now can ever come to any good" and is called "Stop All the Clocks". This poet disowned his work that states "We must love one another or die", which he wrote just after moving to the United States and which he set on the date of the beginning of World War II. Another poem by this writer is set in an art museum in Brussels. Name this poet of "September 1, 1939" and "Musée des Beaux Arts" [moo-zay day bohz art]. | W(ystan) H(ugh) **Auden** |

## Question #31: Social Studies

*10 points*

| | |
|---|---|
| This person successfully led troops at the Battles of Palo Alto and Resaca [ray-SAH-kuh] de la Palma. After many of his troops were transferred to a different commander, this person built a defensive position that allowed him to repel a large force at the Battle of Buena Vista, stopping an advance by Antonio López de Santa Anna. As a politician, this person antagonized southerners by encouraging California and New Mexico to apply for statehood. This person's political career was cut short possibly because he ate contaminated fruit or milk. Name this president who was nicknamed "Old Rough and Ready" and was replaced by Millard Fillmore when he died in office. | Zachary **Taylor** |

## Question #32: Science

*10 points*

| | |
|---|---|
| The way that a singularity within this phenomenon disappears led David Mermin to spend years popularizing the use of the word "boojum". The Hess–Fairbank effect of this phenomenon describes the way it ignores a spinning bucket. This phenomenon exhibits film creep, which is sometimes named for Bernard Rollin, and it also exhibits extremely high conductivity. That creep allows materials to flow over obstacles when exhibiting this phenomenon. The most common example of this phenomenon is in extremely cold helium. Name this phenomenon in which flow does not cause a loss of kinetic energy because there is no viscosity. | **superfluid**ity |

## Extra Question #1: Fine Arts

*10 points*

| | |
|---|---|
| One opera by this composer opens with a character representing human frailty being mocked by characters representing time, fortune, and love. That opera, based on Homer's *Odyssey*, is this composer's *Il ritorno d'Ulisse [doo-LEE-say] in patria*. Another opera by this composer begins with a character representing music that introduces the protagonist. That opera by this composer, which premiered in 1607, is the oldest opera that is still commonly performed. This composer wrote that opera about a hero whose wife is killed by a snake, so he goes to the underworld in an attempt to bring her back. Name this Italian composer of *L'Orfeo* [lor-FAY-oh]. | Claudio (Giovanni Antonio) **Monteverdi** |

## Extra Question #2: Mathematics

*10 points*

| | |
|---|---|
| Computability theory is the study of computable types of these things. Computable types of these things are usually primitive recursive, but a counterexample is named after Wilhelm Ackermann. These things are called analytic if they are equal to their power series. If these things are invertible, then they must be injective or one-to-one. If these things have a codomain and range that are equal, they are called surjective or onto. Name these relations that map each input to a single output, which is why graphs of them pass the vertical-line test. | **function**s [prompt on **map**pings] |

## Extra Question #3: Literature

*10 points*

| | |
|---|---|
| In Aztec mythology, a group of 400 of these animals were called Centzon Totochtin [SENT-sun toh-TOH-chin] and known for wild parties. In several Asian mythologies, particularly in China, this animal uses a mortar and pestle. In those myths, this animal is a companion of Chang'e [CHAHNG-ay] on the Moon and is sometimes said to be made of jade. Starting in the 1930s, the Herrick brothers attached antlers to the carcasses of these animals to form a fictional animal called the jackalope. Name these animals whose reputations as tricksters in African mythology led Joel Chandler Harris to write about one named "Br'er", who gets thrown in the briar patch. | **rabbit**s [accept **hare**s, **jackrabbit**s, **bunny**, or **bunnies**] |

## Extra Question #4: Social Studies

*10 points*

| | |
|---|---|
| Just after this event, there were claims that nine-year-old Henri [awn-ree], Count of Chambord [sham-bor] was the king. Before this event, the actual king—who was Henri's grandfather—issued what is sometimes called the Four Ordinances of Saint-Cloud, which increased his control over the media and the government. This event was a consequence of the king not supporting the Address of the 221, which was a a motion of no confidence against Polignac [poh-leen-yak]. The person who gained power during this event became known as the "Citizen King". Name this event that replaced King Charles X with Louis-Philippe [loo-ee fih-leep]. | **July Revolution** [accept **French Revolution of 1830** or **révolution de Juillet** or **July Days** or **Second French Revolution** or **Trois Glorieuses** or **Three Glorious Days**; do not prompt on "French Revolution"] |

## Extra Question #5: Science

*10 points*

| | |
|---|---|
| This region of the atmosphere shares its name with the traditional name of the Earth's inner mantle. Though most lightning is below this atmospheric layer, this layer is the location of red sprites. Near the poles, this layer contains noctilucent [nahk-tuh-LOO-sent] clouds, and this layer contains the lowest part of the ionosphere ["eye-ON-uh-sphere"]. This layer is just below the Kármán [KAR-mun] line, which is considered the beginning of outer space. Name this atmospheric layer whose top is the coldest part of the Earth's atmosphere, and which is between the stratosphere and thermosphere. | **mesosphere** [**MEH-zoh-"sphere"**] |

## Extra Question #6: Science

*10 points per part*

| | Depending on the source, this process can be considered equivalent to conception or part of conception. | |
|---|---|---|
| **1** | Name this process in which a sperm and an egg fuse. | **fertilization** [or **fertilizing** or **fertilize**d] |
| **2** | Human fertilization usually takes place in the ampulla of this organ between the ovaries and the uterus. This organ is often called an oviduct [OH-vih-"duct"] in nonhuman animals. | **Fallopian tube**s [accept **salpinges** or **salpinx**] |
| **3** | This process takes place eight or nine days after fertilization. This process is supposed to take place in the uterus, but in an ectopic [ek-TAH-pik] pregnancy, it takes place in the Fallopian tubes. | **implant**ation [or **implant**ing or the zygote being **implant**ed] |

## Extra Question #7: Science

*10 points per part*

| | This term means the contents of the cell outside the nucleus. | |
|---|---|---|
| **1** | Name this substance that is mostly clear and mostly water. | **cytoplasm** [accept **protoplasm**; prompt on **cytosol**, **endoplasm**, or **ectoplasm**] |
| **2** | This process, sometimes called the Embden–Meyerhof–Parnas pathway, takes place in the cytoplasm and creates ATP and either pyruvate ["pie"-ROOV-"ate"] or pyruvic ["pie"-ROO-vik] acid. | **glycolysis** [accept **glycolytic** pathway; prompt on **respiration**] |
| **3** | Cytoplasm fills these ameba extensions whose name means "false foot". | **pseudopod**s [or **pseudopodia** or **pseudopodium**] |

## Extra Question #8: Social Studies

*10 points per part*

| | The Golden Age of Piracy lasted from about 1650 to 1730. | |
|---|---|---|
| 1 | Give the nickname of Edward Teach, whose ship was *Queen Anne's Revenge.* | **Blackbeard** |
| 2 | Mary Read and this other female pirate worked together and usually hid the fact that they were women. | Anne **Bonny** |
| 3 | This collective name was given to the political entities on the North Coast of Africa that were attacked by the United States, Sweden, and Sicily because they supported piracy. | **Barbary** States [or the **Barbary** Coast; accept **Berber**y] |

## Extra Question #9: Social Studies

*10 points per part*

| | This meeting was meant to take place after the downfall of Napoleon, but it actually ended nine days before Waterloo. | |
|---|---|---|
| 1 | Name this meeting of the countries of Europe in 1814 and 1815 that was headed by Klemens von Metternich [MET-ur-nik]. | **Congress of Vienna** [or **Wiener Kongress**] |
| 2 | This Russian tsar was active at the Congress of Vienna, making deals that allowed him to also become the King of Congress Poland. | **Alexander I** [prompt on **Alexander**] |
| 3 | The major European powers met three years later in 1818 at this city, where France agreed to pay its war indemnity in exchange for other countries withdrawing troops. | **Aix-la-Chapelle** ["ex" lah shah-pell] [or **Aachen**] |