



# HSAPQ

High School Academic Pyramid Questions

2008-2009  
ACF-Format Set #3

Round 3

Tossups

**1. This author co-wrote a work in which Laura Hawkins kills Colonel Selby and Senator Dilworthy is disgraced. Theodor, Niklaus, and Seppi are three Austrian boys visited by Satan in another of his works. The title character of another of this man's works deduces that Roxy has switched Chambers and Tom Driscoll at a young age by using (\*) fingerprints. This author of *The Gilded Age*, *The Mysterious Stranger*, and *Pudd'nhead Wilson* also wrote about a jumping frog named Dan'l Webster. For 10 points, name this author of *Huck Finn* and *Tom Sawyer*.**

ANSWER: Mark Twain [accept Samuel Langhorne Clemens; accept Charles Dudley Warner before "Theodor"]

**2. He created *The Prayer* as part of a funeral monument in the Buzau Cemetery, and merged a shrieking infant's head and egg-shaped object in the work *The Newborn*. Works by this artist located in his home country include the World War I memorial *Table of Silence* and a work with trapezoidal-shaped segments, the *Endless Column*. He created many ovoid heads, including *Sleeping Muse*. One work by this artist was (\*) classified as raw material by U.S. customs authorities, and depicts an avian with its head raised in flight. For 10 points, name this abstract sculptor of the *Bird in Space* series.**

ANSWER: Constantin Brancusi

**3. John Hunt Morgan led a Confederate raid into this state in 1863, and its first capital was Corydon. David Curtiss Stephenson made this state a stronghold for the Ku Klux Klan in the 1920s, and it was the site of the Utopian town of New Harmony. George Rogers Clark captured Fort (\*) Vincennes in this state during the American Revolution, and William Henry Harrison served as governor of this state's namesake territory. For 10 points, name this home state of former vice-president Dan Quayle, the Hoosier State.**

ANSWER: Indiana

**4. One group of these objects is named after Heinrich Kreutz. A transparent, silicon-based solid known as aerogel is used to collect samples of these objects. They can be divided into Type I and Type II depending on the nature of their (\*) coma. These objects are divided into short-period, which come from the Kuiper Belt, and long-period, which come from the Oort Cloud. For 10 points, name these astronomical objects often described as "dirty snowballs," the most famous of which is named after Edmond Halley.**

ANSWER: comets

5. This deity was known as Harpokrates after birth, when he emerged paralyzed from the waist down. He is sometimes associated with the war god Nemty. This god spread his semen on some lettuce, which was eaten by his rival, and he beat that rival in a boat race due to his rival's poor choice of stone as building material. He represents both the (\*) sun and the moon, and is often depicted as a falcon and as the husband of Hathor. In another role, he is the ancestor of all pharaohs. For 10 points, name this defeater of Seth, the sky-god son of Osiris and Iris.

ANSWER: Horus [or Heru; or Har; or Nekheny; or Kemwer]

6. Eoin O'Duffy founded a group named for the "blue" type of these items in Ireland. The reforms of Lazaro Cardenas were opposed by Mexican Revolutionary Action, known as the "gold" ones. The supporters of Juan Perón were characterized by the lack of these items. Another group known for using these items organized the 1922 (\*) March on Rome and used their "black" variety. Another group nicknamed for these was led by Ernst Rohm and was purged in the Night of the Long Knives. For 10 points, identify these articles which the Nazi SA wore in "brown" versions.

ANSWER: shirts

7. This phrase is featured on the website tasteyoulove.com, and Fabio says this phrase while dressed as Tarzan in TV commercials. At the "Adult Learning Annex," Homer Simpson claims that his only skill is the ability to distinguish a product named for this phrase from its authentic counterpart. Peter Griffin notes that he will run for mayor of Quahog in the next episode after saying this phrase a (\*) second time in the episode in which Meg is sold to Mort Goldman. For 10 points, name this double-negative phrase, the exclamatory name of a brand of margarine.

ANSWER: "I can't believe it's not butter!"

8. In one of this man's works, an angel holds a crown over the Virgin Mary as she presents the infant Jesus to a Burgundian politician. This artist of *The Madonna of Chancellor Rolin* painted *Man in a Red Turban* and completed a work featuring a central panel showing the Adoration of the (\*) Lamb that was begun by his brother Hubert. Another of his works shows a chandelier hanging over a woman in a green dress and her top-hat-wearing husband. For 10 points, name this Dutch artist of the *Ghent Altarpiece* and *The Arnolfini Wedding*.

ANSWER: Jan van Eyck

9. Proteins required for transport of molecules into this structure include the Tic and Toc complexes, and adding two arginine residues to the N terminus of proteins marks them for one part of this structure. Along with an analogous structure found in all eukaryotes, this organelle is evidence for the (\*) endosymbiotic theory. It consists of stacks of thylakoids called grana; outside the thylakoids is a space called the stroma in which the Calvin cycle occurs. For 10 points, name this organelle responsible for carbon fixation through photosynthesis.

ANSWER: chloroplasts

10. One section of this work deals with a gold find and contrasts the Beresford's appeal to tradition with Sir Ernest Oppenheimer's call for a mining camp. The protagonist leaves Mrs. Lithebe's after Johannes and Matthew are acquitted. This novel begins when the protagonist receives ill-tidings in a letter from Theophilus (\*) Msimangu revealing that Gertrude is sick. The protagonist of this work discovers that his son Absalom has shot Arthur Jarvis. For 10 points, name this novel about Stephen Kumalo by South African author Alan Paton.

ANSWER: *Cry, the Beloved Country*

11. He attempted to define his best-known theory in “Letter to a Japanese Friend,” and that theory is the namesake of the Yale School, whose members included Paul de Man. He published a translation of Husserl’s *The Origin of Geometry*, and he relied on graphic effects in his work *The Post Card*. He coined the term “différance” in his work *Speech and Phenomena*, and he argued that language cannot be the unambiguous carrier of (\*) truth. For 10 points, name this French philosopher who wrote *Of Grammatology* and developed the theory of deconstruction.

ANSWER: Jacques Derrida

12. He rose to prominence at the Fifth Land Conference, and he later led his country through the Informbiro Period. His system of “symmetrical federalism” remade his country, and followed this man’s leadership of the CPY partisans during World War II and the deposition of King Peter II. The theorist Edvard Kardelj supported this ruler’s model of “national communism,” which balanced ethnic interests and led to his prominent role in the (\*) Nonaligned Movement. For 10 points, name this longtime dictator of Yugoslavia.

ANSWER: Josip Broz Tito [or Josip Broz]

13. This man claimed that murder “has a mask like Castlereagh” in a poem lambasting the Peterloo massacre. He argued that the “savage” created through imitation while the poet created through imagination in a critical work. This author of “The Masque of Anarchy” and “A Defence of Poetry” wrote a poem that begins (\*) “Hail to thee, blithe Spirit!” and another about “two vast and trunkless legs of stone,” a statue of a “king of kings” who instructs “ye mighty” to despair. For 10 points, name this author of “Ode to the West Wind,” “To a Skylark,” and “Ozymandias.”

ANSWER: Percy Bysshe Shelley

14. This city entirely contains Tijuca National Park, which boasts the largest urban forest in the world. This city’s edges are home to the infamous slums known as favelas, which are far from its major attractions such as Maracanã Stadium. Its other points of interest include (\*) Sugar Loaf Mountain and a giant statue atop Corcovado Mountain known as Christ the Redeemer. Also home to Copacabana beach, for 10 points, identify this second-largest city of Brazil, misnamed because Portuguese explorers mistook its harbor for an estuary.

ANSWER: Rio de Janeiro [prompt on Rio]

15. This composer’s incidental music to a play by Helmina von Chezy includes a shepherd’s melody. That work, *Rosamunde*, was quoted in his *Impromptu Number Three in B flat*, and one of his early songs is named *Gretchen at the Spinning Wheel*. His fourteenth quartet includes variations on (\*) *Death and the Maiden*, and he wrote a piano quintet called *The Trout*. His most famous work in B-minor only has two completed movements. For 10 points, name this composer of *The Elf King* and an “Unfinished” *Symphony No. 8*.

ANSWER: Franz Schubert

16. These devices are the only suitable source for Raman spectroscopy. They can come in four-level and three-level varieties depending on how much pumping energy is required to excite particles to a metastable state and produce a population inversion. The absorption of photons results in the (\*) spontaneous emission of incoherent radiation that competes with the collimated and coherent radiation produced by stimulated emission in these devices. For 10 points, name these devices that produce high intensity, monochromatic radiation through light amplification.

ANSWER: lasers [or Light Amplification through Stimulated Emission of Radiation]

**17. The first attempt to calculate two-dimensional interaction energy between two particles in this system was made by Hórvölgyi, while its stability in three dimensions is given by the DLVO model. Gibbs' Phase Rule does not apply to systems of this type. When a beam of light passes through this kind of (\*) mixture, it scatters in the Tyndall effect. Depending on the phases involved, it may be called a sol, an emulsion, or an amalgam. For 10 points, name this kind of mixture in which the dispersed particles are smaller than in a suspension and larger than in a solution.**

ANSWER: colloid

**18. He resigned from the Cabinet to protest George Canning's plan for Catholic Emancipation. However, during his later time as Prime Minister, this man was forced by the election of Daniel O'Connell to push Emancipation through Parliament. Earlier, he had denounced his troops as "the scum of the earth" for being drunk during the (\*) Peninsular War. Shortly thereafter, he collaborated with von Blücher to win a battle that ended the Hundred Days. For 10 points, name this British general of the Napoleonic Wars, the victor at Waterloo.**

ANSWER: the Duke of Wellington [or Arthur Wellesley]

**19. Four adherents of this religion, including William Robinson and Mary Dyer, were hung in Boston Common for returning to Massachusetts colony despite their banishment. William Edmondson and John Archdale were notable early adherents of this religion, and a refuge colony for them was given to one adherent by King (\*) Charles II as payment for a debt owed to his father. Also known as the Religious Society of Friends, for 10 points, name this religion founded by George Fox and whose adherents included the founder of Pennsylvania, William Penn.**

ANSWER: Quakers [accept Religious Society of Friends before mentioned]

**20. The protagonist of this novel discovers a fleur-de-lis burned into the skin of one character before being sent to the siege of La Rochelle. That character is beheaded in Flanders after poisoning Constance and trying to kill the protagonist. Earlier, she uses two diamonds stolen from the Duke of (\*) Buckingham to blackmail the French Queen Anne of Austria in a plot concocted by Cardinal Richelieu. For 10 points, name this novel in which Milady de Winter's schemes are stopped by Athos, Porthos, Aramis, and D'Artagnan, a work of Alexandre Dumas.**

ANSWER: *The* Three Musketeers [or *Les* Trois Mousquetaires]

**21. One general in this war displayed a crest of three ostrich feathers and participated in the Good Parliament. That general captured John II during one battle in this conflict, whose middle stages focused on control of Flanders. Its first major battle was a naval conflict at (\*) Sluys, and it later saw a victory for Edward the Black Prince at Crécy. Its other major battles included Poitiers and the 1415 Battle of Agincourt, whose results were contested by a female mystic. For 10 points, Joan of Arc was involved in what lengthy war between England and France?**

ANSWER: the Hundred Years War

**22. A con man surnamed Bender searches for hidden diamonds in a novel written by authors from this country in *The Twelve Chairs*. This country was the birthplace of the poets of *The Twelve* and *Babi Yar*, and the home of the Acmeist literary movement. Another author from this country wrote a dystopian novel where (\*) D-503 rebels against the One State. In a novel set in this country, Komarovsky rapes Lara, the lover of an idealistic doctor. For 10 points, name this country home to Yevgeny Zamiatin and the author of *Doctor Zhivago*, Boris Pasternak.**

ANSWER: Russia [accept *The* Twelve Chairs before mentioned]

**23. The Hill one arises in the solution of a second-order differential equation. The Wronskian and Jacobian are examples of them, and they can be interpreted as being equivalent to the volume of a parallelepiped. They are used in solving systems of equations in (\*) Cramer's rule, and when this value is zero, the corresponding matrix is singular. For 10 points, name this quantity, which is defined only for square matrices, and for a two by two matrix with first row a, b, and second row c, d, is equal to ad minus bc.**

ANSWER: determinant



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Bonuses

1. This play ends with the Boy shooting himself after the Son discovers the Child's drowned body. For 10 points each:

[10] Name this play which features a scene in Madame Pace's brothel, where the Father hires the Step-Daughter as a prostitute.

ANSWER: **Six Characters in Search of an Author**

[10] This Italian playwright examined the nature of identity in plays such as *Right You Are! (If You Think You Are)* and *Six Characters in Search of an Author*.

ANSWER: Luigi **Pirandello**

[10] This character directs the rehearsal of *Mixing it Up*, which is interrupted by the arrival of the six characters. At the end of the play, he exclaims "Pretence! Reality! To hell with it all!...I've lost a whole day over these people, a whole day!"

ANSWER: the Stage **Manager**

2. In one chapter of this work, incontinence is said to be better than profligacy. For 10 points each:

[10] Name this work which argues that eudaimonia, or happiness, is the goal of life. It discusses the Greek virtues of arête, and states that politics is the title discipline on a larger scale.

ANSWER: **Nicomachean Ethics** [or **Ta Ethika**]

[10] *Nicomachean Ethics* was written by this disciple of Plato, who had a theory of universals, wrote *Physics* and *Metaphysics*, and tutored Alexander the Great.

ANSWER: **Aristotle**

[10] A later tract concerning ethics was written by this Dutch-Jewish philosopher, who opposed Cartesian mind-body dualism and also wrote the *Theologico-Political Treatise*.

ANSWER: Baruch **Spinoza** [or Benedict de **Spinoza**]

3. For 10 points each, name these terms that are used to denote similar, but not identical, atoms or molecules.

[10] This term denotes two atoms with the same atomic number but different atomic mass.

ANSWER: **isotopes**

[10] This term denotes two or more distinct forms of the same element; for instance, diamond and graphite, or red and white phosphorus.

ANSWER: **allotropes**

[10] Sugars like alpha- and beta-glucose are examples of these diastereomers whose configuration differs in one stereogenic center.

ANSWER: **epimers**

4. This man served with the King's African Rifles in Burma during World War Two and later named Lake Edward after himself. For 10 points each:

[10] Name this man who overthrew Milton Obote in 1971, and who expelled all Asians from his country a year later.

ANSWER: Idi **Amin** Dada

[10] Milton Obote and Idi Amin served as presidents of this nation, which has been led by Yoweri Museveni since 1986.

ANSWER: Republic of **Uganda**

[10] The issuer of the Arusha Declaration outlining Ujamaa, this Tanzanian president deposed Idi Amin when he invaded Uganda.

ANSWER: Julius Kambarage **Nyerere**

5. According to the Born-Oppenheimer approximation, it is stationary with respect to electron motion. For 10 points each:

[10] Name this structure that can be defined by a mass number and is composed of baryons such as the proton and neutron.

ANSWER: the atomic **nucleus**

[10] The three quarks that make up a baryon interact through emission and absorption of these hypothetical messenger particles that bind the quarks together inside protons and neutrons.

ANSWER: **gluons**

[10] This classification system developed by Murray Gell Mann divides hadrons into groups defined by their symmetry properties and aided in the discovery of the omega-minus particle.

ANSWER: **Eightfold Way**

6. This work was rescored for a solo piano by Serghey Rachmaninoff, and it opens with a very chromatic violin soloist. For 10 points each:

[10] Name this entr'acte from act three of *The Tale of Tsar Saltan*, representing Guidon traveling to Tmutarakan in the form of a striped buzzing insect.

ANSWER: *The* **Flight of the Bumblebee**

[10] *The Flight of the Bumblebee* is a composition by this composer of *Sadko*, as well as a work that includes a movement about Sinbad the sailor, *Scheherezade*.

ANSWER: Nikolai **Rimsky-Korsakov**

[10] Rimsky-Korsakov also edited many works by the "Mighty Five," including the opera *William Ratcliff* by this composer of *Prisoner of the Caucasus*.

ANSWER: Cesar **Cui**

7. For 10 points each, identify the following about a former British colony in the Far East.

[10] This port city, now a Special Administrative Region of China, was ceded to Britain via 1842's Treaty of Nanjing and reverted to Chinese control amidst much fanfare in 1997.

ANSWER: **Hong Kong** [or **Xianggang**]

[10] Located about fifty miles west of Hong Kong is this casino-rich former European colony, which passed from the Portuguese to the Chinese in 1999.

ANSWER: **Macao** [or **Macau**]

[10] Hong Kong and Macao lie upon opposite sides of the estuary of this major river, which also flows through the city of Guangzhou.

ANSWER: **Pearl** River [or **Zhu** Jiang]

8. The protagonist of this novel becomes a doctor after being rescued from poverty by Thorpe Athelney. For 10 points each:

[10] Name this autobiographical novel about the club-footed Philip Carey.

ANSWER: **Of Human Bondage**

[10] This novelist fictionalized Paul Gauguin as Charles Strickland in *The Moon and Sixpence*, in addition to writing *Of Human Bondage*.

ANSWER: William Somerset **Maughm**

[10] In this Maughm novel, Ashenden narrates the life of Rosie, the free-spirited wife of Victorian novelist Edward Driffeld.

ANSWER: **Cakes and Ale**

9. These entities were controlled by the machine-tractor-stations, which leased out equipment in exchange for a tribute paid in produce. For 10 points each:

[10] Name these basic units of agricultural organization in the Soviet Union from the time of Stalin on, which existed in “sovkhoz” and “kolkhoz” varieties.

ANSWER: **collective farms** [accept equivalents; prompt on partial answer]

[10] Part of the collectivization process involved “liquidating” these people, defined variously as the richest fifteen percent of peasants, or those who owned animals or could employ labor.

ANSWER: **kulaks**

[10] Along with industrialization, collectivization was a lynchpin of this first of a series of thirteen documents explaining goals for the Soviet economy in the namesake timeframe.

ANSWER: **Five-Year Plans** [or **Pyatiletka**]

10. He coined the term bricolage for processes of myth-formation, and developed the alliance theory of kinship, which emphasizes relations between groups by marriage. For 10 points each:

[10] Name this French anthropologist whose works include the memoir *Tristes Tropiques* and the collection *Mythologiques*, the first volume of which is *The Raw and the Cooked*.

ANSWER: Claude **Lévi-Strauss**

[10] This Swiss linguist advocated the synchronic system of describing language at a particular point in time. His work *Course in General Linguistics* was posthumously published.

ANSWER: Ferdinand de **Saussure**

[10] This ten-letter term describes both the school of anthropology introduced by Claude Levi-Strauss and the branch of linguistics associated with Ferdinand de Saussure.

ANSWER: **structural**

11. A missionary from Portugal comes to this country in the novel *Silence*, and it is also the setting of the novel *The Makioka Sisters*. For 10 points each:

[10] Name this country, the homeland of writers Shusaku Endo and Junichiro Tanizaki.

ANSWER: **Japan** [or **Nippon**]

[10] This literary work from the Heian period was written by Sei Shonagon and contains many lists of observations of courtly life.

ANSWER: *The **Pillow Book*** [or ***Makura no soshi***]

[10] The collection *The Narrow Road to the Deep North*, written by Matsuo Basho, contains many examples of this poetic form that contains three lines of five, seven, and five syllables.

ANSWER: **haiku**

12. It is composed of a granular outer cortex containing glomeruli and an inner striated medulla containing collecting tubules. For 10 points:

[10] Name this organ that is responsible for maintaining water balance and filtering metabolic waste products from the blood.

ANSWER: **kidney**

[10] Also found in the medulla, this U-shaped portion of the nephron is the primary source of water recovery and lies between the proximal and distal convoluted tubules.

ANSWER: **loop of Henle**

[10] Water reuptake in the kidney is also regulated by this pituitary hormone that acts on aquaporins found in the collecting ducts of nephrons.

ANSWER: **ADH** [or **antidiuretic** hormone; or **vasopressin**]

13. An oil lamp provides the only light for the five peasants sitting around a small table in this painting. For 10 points each:

[10] Name this painting, in which the peasants are dining on the titular food.

ANSWER: *The* **Potato Eaters**

[10] *The Potato Eaters* is a painting by this French artist who cut off his own ear and painted the village of Saint-Rémy in his *Starry Night*.

ANSWER: Vincent **van Gogh**

[10] This van Gogh painting depicts a clock hanging above numerous liquor bottles and a pool table in the center.

ANSWER: *The* **Night Café**

14. This author has written such novels as *The Flood* and *War*. For 10 points each:

[10] Name this author of *The Interrogation*, the French winner of the 2008 Nobel Prize in Literature.

ANSWER: Jean-Marie Gustave [J.M.G.] **Le Clezio**

[10] This New York Times columnist analyzed economies of scale and took home the 2008 Nobel in Economics.

ANSWER: Paul Robin **Krugman**

[10] Shimomura, Chalfie, and Tsien won the 2008 Chemistry Nobel for their work on green fluorescent protein, first observed in the *A. victoria* species of this type of cnidaria.

ANSWER: **jellyfish** [accept hydrozoan **jellyfish**; accept hydro**medusae**]

15. A chief figure in this mission was Enrico Dandolo, the doge of Venice, who persuaded the participants to sack Zara. For 10 points each:

[10] Name this event, called by Innocent III in 1198, which deposed the Byzantine emperor and never reached Jerusalem.

ANSWER: the **Fourth Crusade**

[10] In order to install a Catholic on the Byzantine throne, the Crusaders sacked this capital of the Byzantine Empire.

ANSWER: **Constantinople** [prompt on **Istanbul**]

[10] A decade after the Fourth Crusade, the shepherd Stephen of Cloyes led this unsanctioned movement, which ended with most of its youthful participants drowned or sold into slavery.

ANSWER: the **Children's Crusade**

16. She becomes the Queen of Epirus after marrying Helenus, and earlier serves as Neoptolemus's concubine. For 10 points each:

[10] Name this Trojan woman, originally the wife of Hector, who dies in Pergamum and is held captive by Pyrrhus in a dramatic adaptation of her story.

ANSWER: **Andromache**

[10] This Trojan woman either goes insane after seeing the corpses of her children, or is turned into a dog after being given to Odysseus as a slave. She was the queen of Troy and Priam's wife.

ANSWER: **Hecuba** [or **Hekabe**]

[10] This woman from Troy originally marries Menelaus. Her face can launch a thousand ships, and Paris runs off with her, starting the Trojan War.

ANSWER: **Helen** of Troy [or **Helen** of Sparta]

17. Name these related units, for 10 points each.

[10] This unit, equivalent to about one point five times ten to the twelfth meters, is approximately the mean distance from the Earth to the sun.

ANSWER: **astronomical unit** [accept **au**]

[10] In astronomy, a more common unit for measuring interstellar distances is this one, approximately equal to nine point four six times ten to the fifteenth meters.

ANSWER: **light year**

[10] Yet another unit commonly used in astronomy is this unit, defined as the distance from an object to the Sun such that it would have a parallax of one second of arc to an Earth observer.

ANSWER: **parsec**

18. The home of Millard Fillmore and Grover Cleveland, this city was the site of the Pan-American Exposition of 1901. For 10 points each:

[10] Name this city in upstate New York.

ANSWER: **Buffalo**

[10] Buffalo was the site of the assassination of this president, the man who oversaw the Spanish-American War.

ANSWER: William **McKinley**

[10] The construction of the Erie Canal was one of the key reasons for Buffalo's growth. Name the nineteenth century governor of New York who oversaw the building of the canal.

ANSWER: DeWitt **Clinton** [prompt on **Clinton**]

19. This country is home to Viipuri Library designer Alvar Aalto. For 10 points each:

[10] Name this country whose noted architects also include a father-son duo named Eliel and Eero.

ANSWER: **Finland** [or **Suomi**]

[10] The aforementioned Eliel and Eero share this surname; the younger one designed the TWA Terminal at JFK, Dulles International, and a St. Louis landmark.

ANSWER: **Saarinen**

[10] Eero Saarinen also designed this St. Louis fixture, a curved metal monument.

ANSWER: the **Gateway Arch** [prompt on St. Louis **Arch**]

20. Jim Conklin dies and Wilson loses his swagger in this work. For 10 points each:

[10] Name this novel in which Henry Fleming fights in the Civil War.

ANSWER: *The Red Badge of Courage*

[10] This author of short stories like “The Blue Hotel” and “The Open Boat” wrote *The Red Badge of Courage*.

ANSWER: Stephen Crane

[10] In this naturalist Crane novel, the title sister of Jimmy and Tommie and daughter of drunks is forced into prostitution.

ANSWER: *Maggie: A Girl of the Streets*

21. The first ruler of Russia to take the title tsar, he established the Oprichniki to help control the populace. For 10 points each:

[10] Name this ruler who killed his eldest son in a fit of anger, and did many awful things like killing a third of the city of Novgorod.

ANSWER: Ivan the Terrible [or Ivan IV Vasilyevich; or Ivan Grozny; prompt on Ivan]

[10] Ivan fought extensive conflicts with a coalition of this nation and Lithuania, led by Stephen Bathory. Sigismund II later formalized this nation’s commonwealth with Lithuania.

ANSWER: Kingdom of Poland

[10] Ivan was the first to call this early representative assembly. It met to consider the Livonian War, and, later, another one of these elected Boris Godunov tsar.

ANSWER: Zemsky Sobor [prompt on sobor; accept Assembly of the Land or English equivalents]

22. He wrote about the actress Ellen Thatcher in *Manhattan Transfer*. For 10 points each:

[10] Name this author of *The 42nd Parallel* and *1919*.

ANSWER: John Dos Passos

[10] Dos Passos included *The 42nd Parallel* and *1919* in this trilogy.

ANSWER: U.S.A. Trilogy

[10] Dos Passos used biographies, Newsreel, and Camera Eye sections in this third novel of the trilogy.

ANSWER: *The Big Money*

23. It consists of a multimeric protein composed of cytochrome *b-sub-6* and cytochrome *f*, and spans the thylakoid membrane between Photosystem II and Photosystem I. For 10 points:

[10] Name this protein complex that pumps protons across the thylakoid membrane through the transfer of a namesake charged subatomic particle.

ANSWER: electron transport chain

[10] Consisting of a magnesium atom surrounded by a porphyrin ring, this photosynthetic pigment is found within Photosystem II and primarily absorbs red and blue wavelengths.

ANSWER: chlorophyll  $\alpha$

[10] Chlorophyll is found in thylakoids, which can be arranged in these stacks.

ANSWER: grana [accept granum]