



NASAT 2015 - Round 13 - Tossups

1. An attack on a port in this present-day country began Operation Catapult and was followed up by a failed raid on Dakar. An event in this country was used as justification at Jean Bastien-Thiry's trial for an attempted assassination. This country's first president was placed under house arrest after a coup led by Houari Boumedienne (**oo-AH-ree boom-dee-EN**). Colonial loyalists during this country's war of independence included *harkis* and *pied-noirs*. Following that war, Ahmed Ben Bella became this country's first president. The Evian Accords, signed by this country's FLN and representatives of Charles de Gaulle, guaranteed its independence. For 10 points, name this large north African country once controlled by France.

ANSWER: **Algeria** [or People's Democratic Republic of **Algeria**; or Al Jumhuriyah **al Jaza'iriyah** ad Dimuqratiyah ash Sha'biyah] <Golimlim>

2. A ternary solvus involving the orthorhombic and monoclinic forms of this mineral group is used to determine the temperature of formation of high-grade metamorphic rocks. The most important members of this mineral group for that purpose are pigeonite, augite, and enstatite. These minerals are mostly of the form X, Y, Si-2, O-6, where X is sodium or calcium and Y is magnesium, iron, or aluminum. They are single chain inosilicates, as opposed to the hydroxyl-containing, double chain inosilicates of the amphibole group. Peridotite, the dominant rock in the mantle, contains a high proportion of the "ortho" and "clino" forms of this mineral group. For 10 points, name this mineral group that, with olivine, constitutes most of the mantle and is also common in basalt and gabbro.

ANSWER: **pyroxenes** [or **Px**] <Voight>

3. In response to this event, a man claimed "not even death will stop the avalanche that is coming" before attending a rally for his country's Independent Liberal Party. The FBI placed a woman connected to it in protective custody after she claimed that being a "female Muslim whistleblower" is what "really pisses off" extremists. Fikile Mbalula denied any wrongdoing in this event, despite statements by Chuck Blazer. In response to this event, Jack Warner held up a copy of an *Onion* article in a YouTube video. This event included the accusation that Qatar paid millions in bribes, and it resulted in the resignation of Sepp Blatter. For 10 points, name this 2015 investigation into the corrupt practices of an organization that organizes the World Cup.

ANSWER: 2015 **FIFA** scandal [or 2015 **Federation Internationale de Football Association** scandal; or 2015 **International Federation of Association Football** scandal] <Cheyne>

4. This quantity equals one plus the quantity c over π , times the Cauchy principal value of an integral whose numerator contains the absorption coefficient. This quantity measured at the D, F, and C Fraunhofer lines is used to calculate the Abbe number. In anomalous dispersion, this quantity decreases as frequency increases. Neglecting any imaginary component, the real part of this quantity is the square root of the dielectric constant. This quantity multiplies sines and cosines of incident angles in the Fresnel equations, and a ratio of it is used to define the critical angle. It equals the velocity of light in a medium over the speed of light. For 10 points, name this quantity equal to 1.67 for glass and symbolized n .

ANSWER: index of refraction [or refractive index; or n until it is read] <Silverman>

5. A resident of this city dreams of visiting a dark theater where red words appear on the walls, demanding that he surrender his foreign money. At an event in this city inspired by a party thrown by US Ambassador William Bullitt, "Spectacles Commission" employee Baron Meigel is killed so that guests can drink his blood. On a turnstile in this city, a bottle of sunflower oil breaks, and a man slips on the oil and gets decapitated by a tram. A novel set in this city abruptly shifts to first-century Jerusalem on the eve of Jesus's trial. This city is home to the literary society MASSOLIT, whose members are attacked by the fanged hitman Azazello and the black cat Behemoth. For 10 points, name this capital city visited by the devil Woland in Bulgakov's *The Master and Margarita*.

ANSWER: Moscow [or Moskva] <Gupta>

6. A scene from of this opera takes place against a black background and consists of a long horizontal bar of white light being slowly raised to vertical, and then lifted up out of the stage. This opera's instrumentation consists of three woodwind players, two electric organists, and one violinist. Near its very end, a bus driver declares "The day with its cares and perplexities is ended and the night is now upon us." This opera uses a chorus that exclusively counts beats and sings solfege, and contains scenes such as "Bed," "Train," and "Trial." This opera forms a trilogy with the operas *Satyagraha* and *Akhmat*, and features five intermezzos called "knee plays." For 10 points, name this minimalist opera by Philip Glass named for a physicist.

ANSWER: Einstein on the Beach <Kim>

7. A broken promise during this event is avenged by an invasion against an army led by Eurytus and Cteatus, the conjoined twin sons of Molione. Though it has nothing to do with the Centauromachy, the performer of this feat rescues Dexamenus's daughter from the centaur Eurytion in its aftermath. During a trial about this event, a man who testifies against his father is exiled to Dulichium before the judges can vote. Phyleus serves as back-up for the hero who carries out this feat, which is later discounted on the basis that it involved payment. This task is completed in a single day by rerouting the rivers Alpheus and Peneus. For 10 points, identify this task in which Heracles removes filth from some cattle-housing buildings.

ANSWER: cleaning the Augean stables [or Heracles's fifth labor; or obvious equivalents; prompt on partial answer] <Kim>

8. The desire to gain the approval of this man leads to a meditation on whether the pain of "un espuela de hueso" is as painful as the pain cocks feel in cockfighting. This man is said to do all things perfectly even with "the bone spur in his heel." An admirer of this man wonders whether this person was as poor as him and states that he would like to take this man fishing, since this man's father was a fisherman, in contrast to the father of the great Sisler. A boy is told to think of this "great" man after that boy, Manolin, says that he fears "the Indians of Cleveland." For 10 points, name this man adored by Santiago in Ernest Hemingway's *The Old Man and the Sea*, an outfielder for the New York Yankees.

ANSWER: Joe **DiMaggio** [or Joseph Paul **DiMaggio**; or Giuseppe Paolo **DiMaggio**] <Sy>

9. A man who held this post left his wife for a chorus girl named Betty Compton and resigned from office after the Hofstadter Committee's investigations. That man who held this post was known as "Beau James" or by his real name of Jimmy Walker. Several reform minded people to hold this post, such as Seth Low in 1903, were mocked by George Washington Plunkitt in the latter's political memoir. It was held in the 1930's by a man, who while a Congressman, had previously sponsored a labor bill with George Norris. For 10 points, name this position held for 12 years by Fiorello La Guardia, a vigorous opponent of the Tammany Hall political machine.

ANSWER: **Mayor of New York** City <Cheyne>

10. Olivier Blanchard and Mark Watson showed how these phenomena can occur among rational actors if the transversality condition does not hold. A 1720 law in England tried to prevent these phenomena by outlawing all unchartered joint-stock companies. Vernon Smith's experiments studying these things found they continued to exist even when subjects were completely informed. An example of these phenomena occurred when John Law sold stock for his Mississippi Company. Robert Walpole became prime minister during a financial crisis caused by the aftermath of one of these. A high P/E ratio may be evidence for them. One of these phenomena existed in the US housing market before 2007, and the "dot-com" one ended in the early 2000s. For 10 points, name these phenomena in which an asset's price greatly exceeds its fundamental value until a "burst."

ANSWER: **bubbles** <Bailey>

11. The first ruler of this dynasty was so terrified by a bolt of lightning that he abdicated his throne and spent the rest of his life in Stoudios Monastery. Until his defeat by Richard the Lionheart, a member of this dynasty ruled the island of Crete. A branch of this dynasty, after being forced from power, founded and ruled the much smaller Empire of Trebizond. A woman named Anna compiled a history of the most prominent member of this dynasty, who lost the Battle of Dyrrhachium to Robert Guiscard but was more successful in controlling the leaders of the First Crusade. For 10 points, name this dynasty of Byzantine Emperors, which conducted its namesake "restoration" under Alexios I.

ANSWER: **Komnenos** [or the **Komnenid** dynasty] <Clarke>

12. A recent event in this city was headed by Manuel Pulgar-Vidal. This city's slums, known as "young towns," are concentrated in this city's Hill of Amancías. A wealthy district in this city, home to the adobe Pucllana Temple and the seaside park of El Malecón, is given the designation "heroic city" for being the site of a defeat in the War of the Pacific. This city was the site of the 2014 United Nations Climate Conference and is home to the Miraflores District. This city, along with its seaport of Callao, obtains its drinking water from the Rímac River. Beans cultivated by the Moche culture eventually became known by this city's name. For 10 points, name this city founded by Francisco Pizarro, the capital of Peru.

ANSWER: Lima <White>

13. These places were the subject of techniques such as "the Silent Death" and "Peaceful Penetration." Residents of these places were referred to as PBIs in a satirical newspaper published in one of them, *The Wipers Times*. Tony Ashworth described how a "Live and let live" system characterized life in these places, where a ritual called the "morning hate" was practiced. Inhabitants of these places engaged in an impromptu soccer game during the Christmas Truce. Many of these places were created during the "race to the sea." Duckboards and boots designed by John Pershing were used in these places to combat a gangrenous foot condition common in them. The area separating these locations was called No Man's Land. For 10 points, name these barbed-wire-topped fortifications used during World War I.

ANSWER: trenches [or No Man's Lands until "Residents" is read] <Brownstein>

14. Early in this character's life, he refuses his father's offer to get him a spot at West Point, electing instead to join his old regiment, which battles Native Americans in the West. This character hates his brother's determination to wake them both up at 4:30 AM to work on their farm. After being shot by his wife, this character lies to the sheriff Horace Quinn. This man befriends Samuel Hamilton and hires the cook Lee, who teaches his son about the word *timshel*, or "thou mayest." This son of Cyrus moves from Connecticut to the Salinas Valley with his wife, the former prostitute Cathy Ames. For 10 points, name this brother of Charles and father of Aron and Caleb, the protagonist of John Steinbeck's *East of Eden*.

ANSWER: Adam Trask [or Adam Trask; prompt on Trask] <Sy>

15. In the early stages of this painting's creation, a vole was included but constantly misidentified by viewers, leaving a red robin to be the only animal in the finished work. To accurately portray the scenery in this painting, the artist spent months next to the Hogsmill River. Some people claim to see a skull within the foliage on the right side of this painting. The artist of this painting paid a doctor's fee after the model became sick. Lamps below a tub were the only source of warmth for Elizabeth Siddall in modelling this painting's title character. In this painting, a woman stares upward while drowning in a river in Denmark. For 10 points, name this painting by John Everett Millais, which depicts a female character from *Hamlet*.

ANSWER: Ophelia <Lee>

16. The unmeasured prelude is a genre that was popularized in this country, which lends its name to a B minor keyboard suite that ends with an eighth-movement "Echo." A harpsichord suite from this country ends with six variations on an A minor gavotte. A composer from this country wrote the piece "The Mysterious Barricades" and authored *The Art of Playing the Harpsichord*. A symphony from this country begins its third movement with a melody played by an English horn and an offstage oboe to depict a "Scene in the Fields," and ends with a "Dream of a Witches' Sabbath" that reprises the "idée fixe" melody. For 10 points, name this country home to the composer of *Symphonie Fantastique*, as well as Jean-Philippe Rameau and Francois Couperin.

ANSWER: **France** [or **French Republic**; or **French**; or **Republique Francaise**] <Kim>

17. An aberrant subclavian artery distinguishes dysphagia lusoria from the dysphagia aortica caused by this condition. Treatment for it includes endovascular coiling. Tuberculous cavities in the lung can involve a form of this condition named after Rasmussen. Tertiary-stage syphilis can obliterate the vasa vasorum, causing this condition due to elastin and smooth muscle deterioration in the tunica adventitia. The bifurcation of the circle of Willis is the site of its "berry" form, the most common cerebral type of this condition, which can result in strokes and subarachnoid hemorrhages. Marfan syndrome predisposes one to a dissection of its ascending aortic type. For 10 points, name this condition in which a blood vessel wall balloons out and which can cause death upon rupture.

ANSWER: **aneurysm** [or cerebral **aneurysm**; or thoracic aortic **aneurysm**; or ascending aortic **aneurysm**; or abdominal **aneurysm**; or berry **aneurysm**; or saccular **aneurysm**] <Smart>

18. A high-class character created by this author writes the unpublished "Thirty Years of Misrule," the manuscript of which is used for gun wadding. Another character created by this author gets engaged to Antonia Avellanos, but kills himself in isolation on an island where a lighthouse is built after his death. This author created the island Grand Isabel and the city of Sulaco, which is threatened by General Pedro Montero. The absurdity of a ship firing into a continent is described by a character this author introduced in the short story "Youth." Aboard the *Nellie*, that character narrates a novella in which he travels up the Congo River to find the dying ivory trader Kurtz. For 10 points, name this Polish-British author of *Nostromo* and *Heart of Darkness*.

ANSWER: Joseph **Conrad** [or Jozef Teodor Konrad **Korzeniowski**] <Sy>

19. A resident of this city who shot himself in the home of a famous composer argued Jews were inferior because they were the most feminized of men in *Sex and Character*. An editor of a newspaper here called it a "proving ground for world destruction" and promoted some of the theories of Otto Weininger. A member of a group here used "Caesar is a prime number" as an example of how natural languages can allow sentences truly logical ones would not. Karl Kraus edited *Die Fackel* here, where a group dismissed metaphysical discourse as unverifiable and thus meaningless. Moritz Schlick organized discussion of a book that describes reality as the logical space of elementary proportions, the *Tractatus Logico-Philosophicus*. For 10 points, name this home of Ludwig Wittgenstein that names a "Circle" of Logical Positivists.

ANSWER: **Vienna** [or **Wien**] <Bailey>

20. Pólya's extension of Carlson's theorem guarantees that some of these functions have the unit circle as their boundaries, or are rational. Padé approximants are the ratio of two of these functions. A critical parameter of these functions is the limit superior as n goes to infinity of the value at n , raised to one over n , in the Cauchy-Hadamard theorem. By definition, a function is analytic if it can be written as one of these functions locally. The root test and ratio tests are applied to these functions to determine their radii of convergence. The simplest of these functions is equivalent to one over one minus x . For 10 points, name these infinite series containing all the exponents of a variable.

ANSWER: **power series** [prompt on **series**; anti-prompt on **Taylor series** or **Maclaurin series**] <Silverman>

21. In a novel by this writer, a woman describes folk songs as being "the leitmotiv of her existence." In that novel written by this author, the protagonist realizes that the woman shaving his face is an old acquaintance named Lucie Sebetka. This author described the slow death of a dog from cancer in the final section of a novel in which a man compares the Communist Party to Oedipus. The statement "Optimism is the opium of the people" is written on a postcard to Marketa in a novel by this author primarily narrated by Ludvik. In this author's best-known novel, Tomas and Tereza move away from Prague. For 10 points, name this Czech-French author of *The Joke* and *The Unbearable Lightness of Being*.

ANSWER: Milan **Kundera** <Sy>



NASAT 2015 - Round 13 - Bonuses

1. Yab Yum was closed when this city's court successfully argued its owner Hennie Vittali conducted illegal business there as a frontman for Hells Angels. For 10 points each:

[10] The Yab Yum brothel operated in the Singelgebied, which along with De Wallen and Ruysdaelkade comprises the Rosse Buurt of this Dutch city on the Amstel river.

ANSWER: **Amsterdam**

[10] The Oscar-winning documentary *Born into Brothels* focused on sex workers in this West Bengal megacity home to Sonagachi, Asia's largest red-light district.

ANSWER: **Kolkata**

[10] In Japan, brothels with this designation get around anti-prostitution laws by offering non-penetrative sex during bathing. This word won a national contest to replace the term "Turkish bath".

ANSWER: **soaplands** <Smart>

2. The speaker of this poem says, "Don't you fall now, for I'se still goin', honey, I'se still climbing." For 10 points each:

[10] Name this brief poem in which the first title character tells the latter, "Life for me ain't been no crystal stair."

ANSWER: **"Mother to Son"**

[10] "Mother to Son" was written by this Harlem Renaissance poet who characterized the Mississippi as having a "muddy bosom" in "The Negro Speaks of Rivers."

ANSWER: Langston **Hughes** [or James Mercer Langston **Hughes**]

[10] In Hughes's "Theme for English B," the speaker crosses St. Nicholas, Eighth Avenue, and Seventh Avenue to get to the Harlem Branch of this institution, where he writes his assignment.

ANSWER: the **YMCA** [or the **Young Men's Christian Association**] <Sy>

3. This husband of Mary of Modena allegedly threw the Great Seal of the realm into the Thames upon fleeing. For 10 points each:

[10] Name this Catholic Stuart monarch whose overreach resulted in the Glorious Revolution deposing him.

ANSWER: **James II** [prompt on **James**]

[10] James II tried to regain his throne at this July 1690 battle in eastern Ireland. He failed.

ANSWER: Battle of the **Boyne**

[10] This event of June 10, 1688 was the last straw for the aggrieved nobles who instigated the Glorious Revolution.

ANSWER: **birth** of James II's Catholic **son** [accept any answer indicating the **birth** of the **prince** who later became James Francis Edward Stuart, the Old Pretender] <Jackson>

4. Answer the following about James Alcorn for 10 points each.

[10] Alcorn, a Mississippi politician, was an example of this group of people, white Southerners who became Republicans during Reconstruction. These men were considered traitors by other Southerners.

ANSWER: scalawags

[10] Alcorn had a vicious rivalry with Adelbert Ames, who came to Mississippi from Maine and is thus an example of this other group of Republican politicians in Reconstruction. This group consisted of Northerners who moved to the South after the war.

ANSWER: carpetbaggers

[10] Alcorn helped this man become the first president of what would become Alcorn State University. This man was the first African American to serve in the United States Senate and was succeeded in that post by Alcorn.

ANSWER: Hiram Rhodes Revels <Cheyne>

5. The two forms of precession are differentiated based on whether or not they are induced by one of these things. For 10 points each:

[10] Name these moments of force, which are measured in units of Newton-meters.

ANSWER: torques

[10] The torque that leads to a precession of a spinning top is caused by this force acting at an angle relative to the rotation axis.

ANSWER: weight of the top [or force of gravity; or gravitational force; or mg]

[10] According to relativity, a heavy spinning object leads to precession of nearby masses in this effect, which is the analog of the de Sitter effect for rotating masses.

ANSWER: frame-dragging [or the Lense-Thirring effect] <Silverman>

6. This equation is applied to systems that are locally at thermodynamic equilibrium and is derived from the principle of detailed balance. For 10 points each:

[10] Name this equation that gives the fraction of an element in the ionization state $i + 1$, compared to the ionization state i .

ANSWER: Saha ionization equation [or Saha's ionization formula]

[10] In the 1920s, Cecilia Payne-Gaposchkin applied the Saha equation to determine that the dominant elements in stars and in the universe are these two elements. Name both.

ANSWER: hydrogen and helium [or H and He; accept in any order]

[10] The condition of local thermodynamic equilibrium required for application of the Saha equation is equivalent to the behavior of a system being governed by this set of statistics. It governs the energy distribution of identical but distinguishable particles.

ANSWER: Maxwell-Boltzmann statistics <Voight>

7. Sir Arthur Conan Doyle and Arthur Keith are among the suspects as the perpetrator of this hoax. For 10 points each:

[10] Name this anthropological hoax, where Charles Dawson attempted to present a 600-year-old human skull attached to an orangutan jaw as the "missing link" between humans and apes.

ANSWER: **Pitldown** forgery [or **Pitldown** hoax; or **Pitldown** Man forgery; or **Pitldown** Man hoax]

[10] The controversy over Pitldown Man started after Raymond Dart attempted to present a skull as a human ancestor. The skull was found in this South African town, whose name translates as "place of the lion."

ANSWER: **Taung** [or **Taung child**]

[10] Dart coined this genus' name for the "Taung child" skull. The species of this genus, such as *afarensis* and *africanus*, lived from 1.1 to 4.3 million years ago.

ANSWER: **Australopithecus** <O'Rourke>

8. Myra Henshawe runs away from Parthia, Illinois to be with Oswald in this author's *My Mortal Enemy*. For 10 points each:

[10] Name this author who wrote about Paul Wheeler's decision to enlist in World War I in *One of Ours*.

ANSWER: Willa **Cather** [or Willa Sibert **Cather**]

[10] In this Willa Cather novel, Jim Burden pursues a relationship with Lena Lingard while studying at the University of Nebraska. Earlier, he befriends the title Bohemian girl.

ANSWER: **My Antonia**

[10] In childhood, Jim Burden initially impresses Antonia by killing one of these animals.

ANSWER: **rattlesnake** [prompt on **snake**] <Sy>

9. The Choju-giga, a set of four of these objects depicting "frolicking animals," are unusual for their complete absence of any written text. For 10 points each:

[10] Give the English term for these objects, upon which horizontally-oriented *emaki* artworks were often created. A famous one of these objects preserves the earliest text of the *Tale of Genji*.

ANSWER: **scrolls** [or hand**scrolls**; or hanging **scrolls**; prompt on **paintings** or similar answers]

[10] Hanging scrolls, or *kakemono*, are often placed in alcoves behind arrangements of these objects known as *ikebana*.

ANSWER: **flowers**

[10] Landscapes and portraiture became more common in scroll art, and the predominant school of *ikebana* arose, during this period of Japanese history from 1337 to 1573.

ANSWER: **Muromachi** period [or **Ashikaga** period] <Gupta>

10. This concept is explained with the examples of a noncommittal girl out on a first date and an obsequious waiter aware of his own insincerity. For 10 points each:

[10] Name this form of self-deception, in which an agent sets aside its freedom to be "for-itself" in favor of being "in-itself."

ANSWER: **bad faith**

[10] This French existentialist theorized about "bad faith" in the book *Being and Nothingness*.

ANSWER: Jean-Paul **Sartre**

[10] This Sartrean term denotes the necessity that a writer deal with issues of current political import, rather than participate in "bad faith" by avoiding them. In *What is Literature?*, he argues that writers must have this quality, since it is impossible to be politically neutral.

ANSWER: **engagement** [or **engagee**; or word forms] <Bollinger>

11. Throughout this novel, Rose Stanley is mentioned as either famous for sex or not yet famous for sex. For 10 points each,

[10] Name this novel about the coming of age of a group of ten-year-old girls under the title teacher at the Marcia Blaine School for Girls.

ANSWER: *The* **Prime of Miss Jean Brodie**

[10] *The Prime of Miss Jean Brodie* is set in this homeland of its author Muriel Spark. Another author from here, Robert Burns, wrote "Auld Lang Syne."

ANSWER: **Scotland** [prompt on the **United Kingdom, UK**, or **Great Britain**]

[10] This Scottish author created Micah Clarke in a historical novel set during the Monmouth Rebellion, as well as a character who discovers dinosaurs in South America, Professor George Challenger.

ANSWER: Arthur Conan **Doyle** <Prieto>

12. This piece begins with horns playing a unison descending F, D-flat, C, B-flat, and includes a second-movement *Andantino semplice* in the mediant key of D-flat major. For 10 points each:

[10] Name this B-flat minor piece whose first movement features a theme based on the songs of blind Ukrainian beggars. Its initial version was harshly criticized by the composer's friend Nikolai Rubinstein.

ANSWER: **Tchaikovsky's Piano Concerto No. 1** [or obvious equivalents; prompt on partial answer]

[10] Tchaikovsky also wrote this B minor symphony, his last, which ends with a despairing *Adagio lamentoso*. Its second movement is a waltz written in the unusual time signature of 5/4.

ANSWER: **Pathétique** Symphony [or Symphony No. **6**]

[10] Leopold Auer declined to premiere Tchaikovsky's D major foray into this genre, similar to how Pablo de Sarasate declined to premiere the one by Johannes Brahms for its second-movement oboe solo.

ANSWER: **violin concertos** [or **violin concerti**; prompt on **concerto**; prompt on **concerti**] <Kim>

13. These demonstrations often included people shouting out, "Wir sind das Volk!" meaning "we are the people." For 10 points each:

[10] Name these weekly demonstrations that started in Leipzig in 1989 and were part of the Peaceful Revolution near the end of East Germany's existence.

ANSWER: **Monday** demonstrations [or **Montagsdemonstrationen**]

[10] On this calendar date in 1989, Guenter Schabowski accidentally said in a press conference that travel across East German borders was open "immediately," leading to the fall of the Berlin Wall. This date was also when Kristallnacht in 1938, the Beer Hall Putsch in 1923, and the end of the German Empire in 1918 occurred.

ANSWER: **November 9** [or **9 November**]

[10] The Peaceful Revolution also led to Egon Krenz replacing this longtime East German leader, who had been in power since 1971 after taking over from Walter Ulbricht.

ANSWER: Erich **Honecker** <Gehring>

14. This artist's *Night Rain on Karasaki* and *Evening Glow at Seta* are part of his series on Lake Biwa titled *Eight Views of Omi*. For 10 points each:

[10] Name this Japanese artist, who traveled along a road from Edo to Kyoto to create his series *Fifty-Three Stations of the Tokaido*.

ANSWER: Utagawa **Hiroshige** [or Ando **Hiroshige**]

[10] Hiroshige was a master of *ukiyo-e*, as was this other artist whose *Thirty-Six Views of Mount Fuji* include *The Great Wave off Kanagawa*.

ANSWER: Katsushika **Hokusai**

[10] Another popular form of Japanese art is found in *byobu*, which are this type of object. One made in Hikone, an early example of *ukiyo-e*, is considered a National Treasure of Japan.

ANSWER: folding **screens** <Lee>

15. This quantity is expressed as a function of dihedral torsion angles by the Karplus equation. For 10 points each:

[10] Name this quantity which quantifies the interaction between nuclear spins arising from hyperfine interactions. This value is equal to the distance between split peaks, or multiplets, in a certain type of spectroscopy.

ANSWER: **J coupling** constants [or **scalar coupling** constants; or **indirect dipole dipole coupling** constants; prompt on **J**; prompt on **coupling constants**]

[10] J couplings produce the signals in this type of spectroscopy, which can determine an unknown compound's structure by analyzing chemical shifts. This technique is most commonly applied to hydrogen-1 nuclei and carbon-13, and is the basis for MRIs.

ANSWER: **NMR** spectroscopy [or **nuclear magnetic resonance** spectroscopy]

[10] Another type of coupling, residual dipolar coupling, is frequently observed when NMR is performed on these compounds, whose turns and coils can be observed in UV circular dichroism spectroscopy.

ANSWER: **proteins** [or poly**peptides**; or **amino acids**; prompt on **polymers**; prompt on **oligomers**] <Gupta>

16. This event took place at Sokolniki Park in Moscow. For 10 points each:

[10] Name this confrontation between Vice President Richard Nixon and Nikita Khrushchev that took place at the American National Exhibition in 1959. Its name refers to the fact the world leaders were arguing in a "model house" location.

ANSWER: **Kitchen Debate**

[10] The Kitchen Debate helped boost Nixon's popularity, making him the favorite for the Republican nomination in 1960. In that election, Nixon lost to this Massachusetts Senator.

ANSWER: **John Fitzgerald Kennedy**

[10] Many analysts believe Nixon's 1960 campaign was hampered by his somewhat foolish promise to do this feat during the campaign, which caused him to waste precious time. Nixon refused to break his promise to do this even after injuring his knee.

ANSWER: **visiting all fifty states** [or **visiting every state**; accept obvious equivalents] <Cheyne>

17. This book makes a pun on the name of a man who is described as formerly being "useless to you," but now "useful both to you and to me." For 10 points each:

[10] Name this book of the Bible co-authored with Timothy. It instructs the title church leader to accept the escaped slave Onesimus back as a "dear brother."

ANSWER: **Philemon** [or **Epistle of Paul to Philemon**]

[10] The Epistle to Philemon was written by this apostle, who was blinded on the road to Damascus after encountering a resurrected Jesus Christ.

ANSWER: **Paul** [or **Saul of Tarsus**; or **Paulos**; or **Paulus**; prompt on "Saul"]

[10] A church on the Ionian coast is the recipient of this Pauline epistle, which emphasizes maintaining the unity of the body of Christ and urges believers to don the full armor of God.

ANSWER: **Ephesians** [or **Epistle to the Ephesians**] <Kim>

18. The inferior frontal one of these structures is comprised of the pars opercularis, pars triangularis, and pars orbitalis and is bordered by two sulci (**sull-sigh**) and the lateral fissure. For 10 points each:

[10] Name these convolutions on the brain typically bounded by at least one sulcus.

ANSWER: **gyrus (jigh-rus)** [or **gyri (jigh-ree)**]

[10] Gyri and sulci are ridges and grooves on this outer layer of the brain composed of grey matter. Brodmann areas name regions of it responsible for sensory processing.

ANSWER: cerebral **cortex**

[10] This rare disorder is characterized by underdeveloped gyri and sulci and literally means "smooth brain". One type of it is caused by a mutation in reelin.

ANSWER: **lissencephaly** <Smart>

19. The title character of this play becomes crippled as a baby when he falls off of a table while his parents make love. For 10 points each:

[10] Name this play in which the Allmers refuse the Rat-Wife, who leads the title character into the sea, where he drowns.

ANSWER: **Little Eyolf** [or **Lille Eyolf**]

[10] This playwright of *Little Eyolf* also wrote about Nora Helmer *A Doll House*.

ANSWER: Henrik **Ibsen** [or Henrik Johan **Ibsen**]

[10] This title character of Ibsen's *An Enemy of the People* warns the town of the contamination of their local hot springs, earning the ire of his peers and his father-in-law, Morten Kiil.

ANSWER: Doctor **Thomas** Stockmann [prompt on **Stockmann**; accept **Dr. Stockmann** or **Thomas Stockmann**]
<Sy>

20. This event is necessitated when Durvasa curses the gods after his gift of a garland of flowers is rudely thrown to the ground. For 10 points each:

[10] Identify this event in which the Devas and the Asuras use Vasuki and the mountain Mandara to obtain amrita, but release the poisonous *halahala*.

ANSWER: the **churning of the ocean** [or **samudra manthan**]

[10] During the churning of the ocean, this divine turtle emerges in order to stop the heavy mountain from falling into the waters.

ANSWER: **Kurma**

[10] Kurma is the second avatar of this Hindu preserver god who alternately manifests as Rama and rescues his wife Sita from the *rakshasa* Ravana.

ANSWER: **Vishnu** <Kim>

21. According to legend, a queen from this city was able to halt Alexander the Great's conquests south of Egypt. For 10 points each:

[10] Name this city, whose queens took the title *kandake*, from which the name Candace is derived. It was the longtime capital of the Kingdom of Kush.

ANSWER: **Meroe** [or **Meruwah**; or **Medewi**]

[10] Meroe contains a complex of nearly two hundred of these structures. A large one in Giza was built as a tomb for Khufu.

ANSWER: **pyramids**

[10] A stele found at Meroe was erected by a ruler from this kingdom, signifying their conquest of the Kingdom of Kush. This kingdom based in present-day Ethiopia crossed the Red Sea to invade the Himyarite Kingdom.

ANSWER: Kingdom of **Aksum** [or **Axumites**] <Golimlim>