



### NASAT 2015 - Round 15 - Tossups

1. In late 2013, this city introduced two robots built by Therese Izay (**teh-REEZ ee-ZAY**) in an attempt to control its traffic problem. A 2014 report by the University of Oxford concluded that this city was the origin of the HIV/AIDS pandemic. This city, which is connected by rail to the port of Matadi (**mah-TAH-dee**), replaced Boma as a colonial capital. After Paris, this is the second most populous French-speaking city in the world. This city, the site of the "Rumble in the Jungle" boxing match, had its name changed from Leopoldville by Mobutu Sese Seko. It lies across the Malebo Pool from Brazzaville. For 10 points, name this capital of the Democratic Republic of the Congo.

ANSWER: **Kinshasa** <Golimlim>

2. An incumbent's inclination not to debate in this election led to the zinger that he was "cowering behind" his office "sofa." In the lead-up to this election, a party leader presented his views in the book *The Purple Revolution*, which was serialized in the press. After this election, Nigel Farage remarked that "the first-past-the-post system is bankrupt," and both Ed Miliband and Nick Clegg resigned as party leaders in the wake of massive defeats. This election led to the Scottish National Party becoming the third largest party in the Commons. For 10 points, name this recent election which resulted in the re-election of David Cameron.

ANSWER: **2015** general election in the **United Kingdom** [prompt on **2015** general election in **England**; prompt on **2015** general election in **Scotland**; prompt on **2015** general election in **Wales**; prompt on **2015** general election in **Northern Ireland**] <Cheyne>

3. William Charles made a political cartoon satirizing this event in which Timothy Pickering is depicted kneeling on a beach while above him several men stand on the edge of a cliff. Participants in this event, including the "blue lights," opposed allowing naturalized citizens the opportunity of holding public office in the United States. Further regulations endorsed by this meeting would have prohibited consecutive presidents from being from the same state and limited the office of president to one term. Presided over by George Cabot, this meeting was rendered completely irrelevant once news arrived of Andrew Jackson's victory at New Orleans. For 10 points, name this meeting convened by radical Federalists during the War of 1812 with the purpose of amending the Constitution.

ANSWER: **Hartford Convention** <Clarke>

4. This author created a character who stares at a picture of his father's first wife Deborah before ascending a hill in Central Park and imagining that Broadway symbolizes his life to come. In a story by this man, a postcard from Greece informs the narrator that his jazz-playing brother is still alive, though his brother's heroin usage has estranged them. A boy reflects on having "sinned his hand," or masturbated, in a novel by this man in which that boy has a spiritual awakening at the Temple of the Fire Baptized. In that novel by this man, Gabriel is revealed not to be the true father of the protagonist, John Grimes. For 10 points, name this African-American author who wrote "Sonny's Blues" and *Go Tell It on the Mountain*.

ANSWER: James **Baldwin** [James Arthur **Baldwin**] <Sy>

5. Comparing the rest-frame magnitude of objects with different values of this quantity is possible using K-correction. One can identify objects with a high value for this quantity by recognizing that photons with wavelength less than 1216 angstroms are absorbed by the IGM, which gives rise to the Lyman-break method. Astronomical surveys that measured this quantity include 2dF and DEEP2. The linear version of Hubble's law, where radial velocity equals the Hubble constant times distance, only applies to objects whose value for this quantity is much less than 1. This numerical quantity indicates how distant and old an object is. For 10 points, name this numerical representation of how much an object's spectrum has been shifted to longer wavelengths.

ANSWER: **redshift** [or **z**] <Voight>

6. A man with this surname won acclaim for his literature classes at Cornell while writing *Shakespeare's Politics* but left the U.S. for several years after Cornell gave in to student demands to teach "relevant" books. That man with this surname argued that the West is not "just another culture" in a book with a forty-page chapter on the place of contemporary rock music in history, that identifies "the search for the good life" as "the real motive of education" and denounces relativism. That man with this surname wrote *The Closing of the American Mind*, which shares some themes with a book by another man of this surname, *The Western Canon*. For 10 points, give this common surname of two literary critics, Chicago-based Allan and longtime Yale Shakespeare theorist Harold.

ANSWER: **Bloom** [or Allan David **Bloom**; or Harold **Bloom**] <Bollinger>

7. In a novel by this author, a man opens his window at Penge and yells, "Come!" to the night. In the "Terminal Note" to that novel by this man, he claimed that "what the public really loathes" about a certain activity is "not the thing itself but having to think about it." The title character of one of his novels is instructed in sexual matters by Mr. Ducie, but later falls in love with Clive Durham and Alec Scudder. At the end of another of his novels, the sky says "not yet" to the question of interracial friendship, after a trial caused by Ronald Heaslop's fiancée. This author of *Maurice* wrote a novel in which Adela Quested accuses Dr. Aziz of trying to rape her. For 10 points, name this British author of *A Passage to India*.

ANSWER: E. M. **Forster** [or Edward Morgan **Forster**] <Sy>

8. This composer's last three string quartets all feature a prominent cello part intended to be played by the king to which they were dedicated. This composer used a melancholy slow introduction to open the final movement of his G minor *String Quintet No. 4*. A quintet by this composer ends with an "Allegretto con variazioni" in A major. He called for eight woodwinds, four horns, and a double bass in his seven-movement *Gran Partita*. This composer's six string quartets dedicated to Joseph Haydn include the *Dissonance*, and he wrote both a clarinet quintet and a clarinet concerto for his friend Anton Stadler. This composer's *Piano Sonata No. 11* ends with a "Rondo alla turca." For 10 points, name this composer of *Eine Kleine Nachtmusik*.

ANSWER: Wolfgang Amadeus **Mozart** <Kim>

9. An simple-to-use small signal model for these elements is the piecewise linear model. Although it is normally treated as equal to one, the exponential term in an equation for these elements has an emission coefficient or ideality factor multiplying the thermal voltage. Smoothing capacitors are most commonly used by inserting them in parallel with one of these elements in a half-wave rectifier. These nonlinear elements have a "knee" point in their I-V curves at around 0.7 volts, beyond which the current rapidly increases to infinity. These elements are represented as a sideways triangle with a vertical line at its tip. For 10 points, name these circuit elements that permit current flow in only one direction.

ANSWER: silicon p-n **diodes** [prompt on **p-n** junctions] <Silverman>

10. An epic poem called the "song" of this war was written in part by William of Tudela. One of the issues that led to this war was the *consolamentum*, a practice by which people could become "Perfects." After joining this war, Peter II of Aragon was killed at the Battle of Muret. During a siege in this war, a stone thrown from a mangonel killed the elder Simon de Montfort. During this war, Arnaud Amalric gave the command "Kill them all, for the Lord knows those that are His own" during the sack of Beziers. This war was sparked by the murder of papal legate Pierre de Castelnau, who was sent by Innocent III to investigate Raymond, the Count of Toulouse's allowance of a group in the Languedoc region. For 10 points, name this crusade which targeted the heretical Cathars in Southern France.

ANSWER: **Albigensian** Crusade [or **Cathar** Crusade until "Cathars" is read] <Brownstein>

11. A woman dies in this manner when she regains her senses after becoming infatuated with a man named Xanthus and joining him on a voyage. A newly-widowed woman that dies in this fashion is transformed into the kingfisher bird. A woman apotheosizes after attempting this type of death in order to escape the killer of Learchus. This action results in Ino's transformation into the goddess Leucothea. After Morpheus brings news of Ceyx's death, Alcyone dies in this manner, shared by the Sirens when Odysseus escapes their song unscathed. The sight of black sails on a returning ship prompts Aegeus to commit suicide in this fashion. For 10 points, identify this manner of death which begins atop a high place and ends in places such as the Aegean.

ANSWER: **leaping into the sea** [or obvious equivalents; prompt on **jumping**; prompt on **drowning**; prompt on **suicide**] <Kim>

12. During the reign of this pope, Marcantonio Pacelli began publishing *The Roman Observer*, which reports on the daily activities of the Holy See. This man adopted a six-year-old Jewish boy named Edgardo Mortara on the grounds that a Jewish family should not be allowed to care for a baptized child. This pope issued the encyclical *Quanta Cura* at the same time as he released a document condemning eighty propositions, the *Syllabus of Errors*. This pope issued the dogma of the Immaculate Conception at the First Vatican Council, which he convened. For 10 points, name this longest-reigning pope in history who decreed the dogma of papal infallibility.

ANSWER: **Pius IX** [or Giovanni Maria **Mastai-Ferretti**; prompt on **Pius**] <O'Rourke>

13. A giant peacock appears at the center of a collaboration between Fra Angelico and Filippo Lippi depicting this scene. A painting of this scene in the International Gothic style, is the most famous artwork by Gentile da Fabriano. A predominantly yellow and blue painting of this name includes a palm tree in the center and was left unfinished by Leonardo da Vinci. In a painting featuring this scene, Botticelli places himself at the very right wearing an orange robe, while members of the Medici are substituted in for the title characters. These paintings typically depict foreign visitors arriving on horses and camels. For 10 points, name this Biblical scene in which kings offer gold, frankincense, and myrrh to the infant Jesus.

ANSWER: **Adoration of the Magi** [prompt on **Adoration**; prompt on **Nativity**] <Lee>

14. This character has a recurring dream in which she walks through a forest being followed by someone whom she cannot see. This character loses three pennies after performing a somersault underwater, then also loses her dress to Tia. Incestuous overtones are presented when she lovingly remembers her last kiss with Cousin Sandi. This character requests the creation of an obeh love potion from Christophene. She has a brother named Richard whom she attacks with a knife when he visits and does not recognize her. That incident occurs while this character is kept in an attic under the watch of Grace Poole. For 10 points, name the protagonist of Jean Rhys's *Wide Sargasso Sea*, the first wife of Mr. Rochester who burns down Thornfield Hall in *Jane Eyre*.

ANSWER: **Bertha** Mason [or Bertha **Mason**; or **Antoinette** Cosway; or Antoinette **Cosway**] <Lee>

15. A character in this novel buys plaster statues of Venus and Apollo which she tells her landlady are statues of St. Peter and Mary Magdalene. In this novel, the protagonist and his wife separate shortly after he botches a pig-killing, and soon after separating, his wife leaves for Australia. When a boy's stepmother tells him she is going to have another child in this novel, the boy rebukes her and hangs himself and two siblings the next day. This novel's protagonist takes up masonry in order to live near the university in Christminster. In this novel, the schoolmaster Richard Phillotson loses his position after allowing his wife, Sue Bridehead, to leave him and live with the title character. For 10 points, name this final novel by Thomas Hardy.

ANSWER: **Jude the Obscure** <Bailey>

16. In this state, Detective Martin McFadden's "stop and frisk" of two suspects was ruled legal by the Supreme Court in 1968. Police officers in this state targeted an employee of racketeer Shon Birns who was running a "California Gold" numbers operation. This state prosecuted the manager of a movie theater for showing the French film *The Lovers*. In 1969, the Supreme Court struck down a law used here to convict the Ku Klux Klan leader Clarence Brandenburg, while a 1961 case ruled that this state could not use evidence obtained in violation of the Fourth Amendment in prosecutions. For 10 points, name this state, the site of the Mapp Supreme Court case.

ANSWER: Ohio <Cheyne>

17. Jules Dupuit used an early version of this concept in deciding the tolls for bridges. John Hicks created alternatives to it after showing it does not take into account income effects. One of those alternatives considers the sum necessary to compensate someone after a price change. When utility is quasilinear, the compensating variation and equivalent variation are equal to this. Firms may use price discrimination to capture all of this quantity without creating deadweight loss. The gross type for a discrete good is the sum of the reservation prices for each good consumed, and the net type is generally the area between the price and the demand curve. For 10 points, name this difference between what people are willing to pay and the actual price.

ANSWER: consumers' surplus [or consumers' welfare] <Bailey>

18. Some species of *Cuscuta* use a type of this process that assesses the low red/far red ratios transmitted by their prey, while other species exhibit a form responsive to VOCs. A type of this phenomenon is mediated by statoliths. Cholodny and Went modeled this process in coleoptiles, similar to an experiment by the Darwins. This phenomenon is contrasted with nastic movements. The touch-sensitive, or "thigmo-", type of this phenomenon occurs in tendrils. Some forms of this process involve asymmetric distribution of auxin, which inhibits cell expansion on the lower side of a root in a type sensitive to gravity. For 10 points, name this process in which plants directionally grow or turn in response to a stimulus such as light.

ANSWER: tropism [or photottropism; or gravittropism; or chemottropism; or thigmottropism; prompt on directional growth until it is read] <Smart>

19. Satterthwaite's estimator approximates a linear combination of random variables with this distribution. This distribution is equivalent to a gamma distribution with scale parameter two and shape parameter a multiple of one-half. This distribution appears in both the numerator and denominator of the F-distribution, and in the denominator of the t-distribution. If Z is a standard normal random variable, then Z squared has this distribution with one degree of freedom. If O is observed and E expected values, then the sum of O minus E quantity squared over E has this distribution. For 10 points, name this distribution that is typically used in hypothesis tests for independence and goodness-of-fit.

ANSWER: chi-squared distribution <Wynne>

20. This ballet's title character and protagonist dance a *pas de deux* in a section titled for the "Supplications" of the title character. In this ballet, the ringing of a magic carillon signals the arrival of the antagonist in a section that follows a solo oboe-introduced rendition of "In the Garden," a folk song taken from a Nikolai Rimsky-Korsakov collection and known as the "Khorovod." The antagonist of this ballet is lulled into an enchanted sleep in a solo bassoon-introduced lullaby. The "Infernal Dance" of this ballet depicts the enchantment of Kashchei by the title creature, who is summoned by a magic feather given to Ivan Tsarevitch. For 10 points, name this Igor Stravinsky ballet about a flying, flaming creature.

ANSWER: *The **Firebird*** [or *L'**oiseau de feu***; or ***Zhar-ptitsa***] <Kim>

21. Brothers of people in this office often held military commands as the "chief of the wine stewards" or "chief of the bodyguard". These people led festival processions to Arinna and Nerik, the respective cult centers of the sun goddess and the storm god. These people convened assemblies called *panku*, and resided in the fortress of Buyukkale. A spate of murders of people in this office led one of them to codify rules of succession in the Edict of Telepinu. A holder of this office signed the world's oldest extant peace treaty with a southern neighbor after his army forded the Orontes River to defeat Ramesses II at Kadesh. For 10 points, give this royal position of men like Suppiluliuma I and Muwatalli II, who ruled an ancient Anatolian kingdom from Hattusa.

ANSWER: **kings** of the **Hittites** [or **kings** of **Hatti**; or **Labarna**; or **Tabarna**] <Yu>



**NASAT 2015 - Round 15 - Bonuses**

1. This empire's navy suffered a crushing defeat at the Battle of Sinope against the Russians. For 10 points each:

[10] Name this empire that previously signed the Treaty of Unkiar Skelessi with the Russians, which included a secret article allowing it to close the Dardanelles at Russia's discretion.

ANSWER: **Ottoman** Empire

[10] Mahmud II, who signed the Treaty of Unkiar Skelessi, presided over the beginning of this modernization period of the Ottoman Empire.

ANSWER: **Tanzimat** period

[10] This system, which allowed religious minorities to live independently of Islamic law, was abolished by the Tanzimat reforms in an attempt to reduce nationalist tendencies.

ANSWER: **millet** system <Golimlim>

2. This artist staged an exhibition/publicity stunt by inviting thousands of people to an empty room furnished only with a large empty cabinet at the Iris Clert Gallery in Paris. For 10 points each:

[10] Name this leader of the Nouveau realisme movement, a performance artist best-known for his hundreds of monochrome paintings in a trademark hue.

ANSWER: Yves **Klein**

[10] This signature color used by Yves Klein names an Expressionist art movement led by Wassily Kandinsky, titled for a landscape with a "rider" of this color.

ANSWER: **blue** [or **blaue**]

[10] Klein also applied International Klein Blue to plaster casts of this ancient Greek sculpture discovered in a namesake Aegean island, which appears twenty-eight times in Salvador Dali's *The Hallucinogenic Toreador*.

ANSWER: **Venus de Milo** [or **Aphrodite of Milos**] <Saric>

3. A restaurant in this country named their international contest-winning reindeer pizza after Silvio Berlusconi, who insulted this country's cuisine. For 10 points each:

[10] Name this country that owns the Aland Islands, despite the islands being physically and culturally closer to its western neighbor, Sweden.

ANSWER: **Finland** [Republic of **Finland**] [or **Suomi**; or **Suomen** Tasavalta]

[10] These people, who inhabit the upper parts of Scandinavia, traditionally live off reindeer herding and often use cloudberry in their cuisine.

ANSWER: **Sami** [or **Lapps**; or **Lapplanders**]

[10] This region's cuisine includes pasties made of rye and a hot pot made using pork, beef, and peppercorns. The majority of this region became a republic in Russia following the Winter War.

ANSWER: **Karelia** <Golimlim>

4. A scripture of this religion, "A Cavern of Treasures," is a bilingual work written partly in Zhang-Zhung. For 10 points each:

[10] Name this religion said to be founded by Tonpa Shenrab, whose life is described in terms discovered by Loden Nyimpo. Like Nyingma Buddhism, it places great importance on the Dzogchen tradition.

ANSWER: **Bön**

[10] Bon is followed by a minority of people from this region, where the Gelug school of Buddhism is headed by the Dalai Lama.

ANSWER: **Tibet**

[10] Zen Buddhism's spread into East Asia is often credited to this 5th or 6th century monk, the "First Patriarch of Chan," who stared at a wall for nine years.

ANSWER: **Bodhidharma** <Kothari>

5. This character appears as a king in a play in which Marie prevents him from finding out about his inevitable death. For 10 points each:

[10] Name this character who also appears in a play in which a large animal unexpectedly kills a cat while he talks to Jean in a cafe.

ANSWER: **Berenger**

[10] Berenger was created by this Absurdist playwright of *The Bald Soprano* and *Rhinoceros*.

ANSWER: Eugene **Ionesco** [or Eugen **Ionescu**]

[10] Ionesco was inspired to write *The Bald Soprano* by his experience learning English from materials provided by this French language learning company, whose textbook *L'Anglais sans peine* notoriously opens with the weird sentence "My tailor is rich."

ANSWER: **Assimil** <Sy>

6. This construct is sometimes named for Swiss geologist Albert Streckeisen and is used for plutonic rocks with less than 90% mafic content. For 10 points each:

[10] Name this diamond or double-triangle shaped diagram that is used for field classification of igneous rocks based on their relative content of four namesake minerals.

ANSWER: **QAPF** diagram

[10] The A and P in the QAPF diagram stand for the alkali and plagioclase forms of this mineral, the Earth's most abundant.

ANSWER: **feldspars**

[10] Since volcanic rocks do not have easily distinguishable minerals, they are classified using the chemistry-based TAS diagram, which plots the total alkali content versus silica content. What two alkali elements are used in the TAS diagram? Name both.

ANSWER: **sodium** and **potassium** <Yu>

7. The natural angular frequency of simple harmonic oscillation, omega, equals the square root of this quantity over mass. For 10 points each:

[10] Name this quantity, the proportionality constant between restoring force and displacement x in Hooke's Law.

ANSWER: **spring** constant [or **k**]

[10] If a mass on a spring is drawn past equilibrium, then released, the solution to the differential form of Hooke's Law sets the position proportional to this function of angular frequency times time.

ANSWER: **cosine**

[10] In this situation, the acceleration is exactly equal to negative omega squared x, minus two times omega times velocity. In this situation, the zeta factor exactly equals one, so steady state is readily achieved.

ANSWER: **critical damping** [or **critically damped**; prompt on **damping** or word forms] <Silverman>

8. Answer the following about 20th century philosopher Carl Hempel, for 10 points each.

[10] Carl Hempel developed a "deductive-nomological" model of this branch of academic inquiry. Thomas Kuhn described "revolutions" in this type of inquiry as "paradigm shifts" in which a new set of ideas is incommensurable with the old.

ANSWER: **science** [or **scientific** method; or **scientific** revolutions]

[10] Carl Hempel challenged the validity of this form of reasoning by developing the "ravens paradox," according to which observing any non-black non-raven lets you conclude that all ravens are black. This type of reasoning looks towards regular past examples to make assumptions about the future.

ANSWER: **induction** [or **inductive** reasoning]

[10] Hempel began his studies at a university in this city of Lower Saxony, where Bernhard Riemann and then David Hilbert taught many budding philosophers of science and math. Its names a group of "Seven" dissident academics which included the Brothers Grimm.

ANSWER: **Gottingen** [or University of **Gottingen**; or **Gottingen** Seven] <Jackson>

9. Residents of this place hate geometry so much that they refuse to use right angles in their buildings. For 10 points each:

[10] Name this island floating in the sky whose overly intellectual inhabitants often become so engrossed in their thoughts that they lose consciousness of the world around them.

ANSWER: **Laputa**

[10] Laputa is visited by the title character of *Gulliver's Travels*, a novel by this Irish author.

ANSWER: Jonathan **Swift**

[10] To prevent themselves from becoming completely lost in their thoughts, the citizens of Laputa have their servants hit them on the ear with these devices, consisting of sticks with pouches attached to them.

ANSWER: **flappers** <Sy>

10. Shortly before it was dissolved, several leaders of this government were evacuated to Sigmaringen, a city-state led by its Secretary of State. For 10 points each:

[10] Name this government, which used the slogan of "work, family, fatherland" developed by its Prime Minister, Pierre Laval.

ANSWER: **Vichy** France [or **Vichy** regime; or any answers that mention **Vichy**; or **French State**; or **L'etat francais**]

[10] The Vichy regime was led by this President, a former World War I general who defended Verdun.

ANSWER: Philippe **Pétain** [Henri-Philippe Benoni Omer Joseph **Pétain**]

[10] The Vichy regime also perpetrated this raid on its Jewish citizens. During it, citizens were placed in a bicycle arena and held there to be transported to internment camps such as Drancy.

ANSWER: **Vel d'Hiv** roundup [or **Vel d'Hiv** raid; or **Rafle du Velodrome d'Hiver**; or Operation **Vent printanier**; or Operation **Spring Breeze**; or **Velodrome d'Hiver** raid; or **Velodrome d'Hiver** roundup] <O'Rourke>

11. Stacking two of these intervals on top of each other creates an augmented triad. For 10 points each:

[10] Name this interval found between the notes G and B. When inverted, it forms a minor sixth.

ANSWER: **major third** [prompt on **third**; do not accept "minor third"; do not accept "diminished fourth"]

[10] Found a major third below G is this note, whose major key was used to write the *Eroica Symphony* and the *Emperor Concerto*.

ANSWER: **E-flat** [or **E-flat major**; or **E-flat minor**; do not accept "E"]

[10] This composer's Op. 9, No. 2 is a Nocturne in E-flat major. His other piano pieces include many mazurkas and polonaises evocative of his native Poland.

ANSWER: Frederic **Chopin** [or Frederic Francois **Chopin**; or Fryderyk Franciszek **Chopin**] <Kim>

12. This piece opens with a rising bass figure played by bassist Jaco Pastorius. For 10 points each:

[10] Name this jazz piece written by Joe Zawinul, the opening track of Weather Report's 1977 album *Heavy Weather*.

ANSWER: "**Birdland**"

[10] "Birdland" was written in tribute of a New York jazz club which was, in turn, named for this bebop saxophonist whose works include "Ornithology" and "Yardbird Suite."

ANSWER: Charlie **Parker**

[10] Weather Report was a leading light in this style of jazz, which incorporated the bass lines and danceable rhythms of rock music. Miles Davis experimented with this style in his albums *In a Silent Way* and *Bitches' Brew*.

ANSWER: jazz **fusion** [prompt on **jazz-rock**] <White>

13. The first step towards obtaining these items involves tying a snake to a stick under the pretense of having to measure its length. For 10 points each:

[10] Identify these abstract items which are later given away by the sky god Nyame.

ANSWER: all the **stories** of the world [or obvious equivalents]

[10] This spider god of West African folklore obtains all the stories of the world and shares them with humanity.

ANSWER: **Anansi**

[10] In Hopi myths, Spider Grandmother is responsible for weaving her web to perform this activity, which in the Bible is completed in six days out of nothing.

ANSWER: **creation** of the world [or obvious equivalents; do not accept "creation of man"] <Kim>

14. This poem, which ends with the admonition "Praise him," lists off "things counter, original, spare, strange" as objects of admiration. For 10 points each:

[10] Name this poem that begins, "Glory be to God for dappled things."

ANSWER: "**Pied Beauty**"

[10] This English poet and Jesuit wrote "Pied Beauty," "God's Grandeur," and *The Wreck of the Deutschland*.

ANSWER: Gerard Manley **Hopkins**

[10] "Pied Beauty" is an example of this form that Hopkins developed, 3/4 the size of an ordinary sonnet.

ANSWER: **curtal** sonnet <Sy>

15. According to a popular song, a "band of brothers" who are "native to the soil" raise a flag of this color after their "rights are threatened." For 10 points each:

[10] Name this color of one of the early flags of the Confederate States of America. The flag of this name bears a white star upon a background of this color.

ANSWER: **blue**

[10] While "Bonnie Blue Flag" was popular among the Confederacy, the tune of this pro-Union song whose title object is "mouldering in the grave" was reused for "The Battle Hymn of the Republic."

ANSWER: "**John Brown's Body**"

[10] "Bonnie Blue Flag" and "John Brown's Body" were both written after the commencement of hostilities—unlike this song, which started out as a minstrel tune before being adopted by the Confederacy. It mentions in its first stanza the "land of cotton" where "old times" are "not forgotten."

ANSWER: "**Dixie**" <Clarke>

16. RAR and RXR dimers bind to a type of these DNA regions called RAREs. For 10 points each:

[10] Name these specific regulatory sequences found in promoters that bind to namesake molecules such as retinoic acid receptors, hormones, and other transcription factors like CREB, which binds to its "cAMP" form.

ANSWER: **response elements** [or cAMP **response element**; or hormone **response element**; or retinoic acid **response element**]

[10] A pharmaceutical retinoic acid with all-*[this]* isomerism is often used to treat acne under the name tretinoin. In compounds with this isomerism, substituents face opposite directions, in contrast to *cis* diastereomers.

ANSWER: **trans**

[10] All-*trans*-retinoic acid is also used to treat the acute promyelocytic, or M3, form of this disease, which may be indicated by inclusions called Auer rods in blasts.

ANSWER: **leukemia** [prompt on **cancer**; do not accept "lymphoma"] <Smart>

17. In an ideal dilute solution, the reaction quotient equals this quantity for each species, raised to its stoichiometric coefficient. For 10 points each:

[10] Name this quantity, which is represented with square brackets. This unit of concentration has units of moles per liter.

ANSWER: **molarity** [or **molar concentration**; do not accept or prompt on "molality"]

[10] If it's not an ideal, dilute solution, concentration is multiplied by this factor to calculate Q. This quantity symbolized gamma measures deviations from an ideal solution.

ANSWER: **activity coefficient** [prompt on partial answer]

[10] The Debye-Huckel limiting law predicts that the log of activity coefficient is proportional to this function of ionic strength. In a dissolution equilibrium, the concentration of each ion equals this function of K-sp if the ion charges are equal.

ANSWER: **square root** [or raised to the **one-half power**, or obvious equivalents] <Silverman>

18. This event occurred after its central participants were arrested after fleeing to Snagov by helicopter. For 10 points each:

[10] Identify this Christmas Day 1989 event in which a ruling couple was found guilty of several charges, including genocide, even without sufficient evidence. Ion Iliescu took power after this event's subjects were executed by firing squad.

ANSWER: the **trial** of Nicolae and Elena **Ceausescu** [or obvious equivalents for "trial"]

[10] Those accusations of genocide stem from Ceausescu's repressive crackdown on protests in this western city, his country's third most populous. Workers attending Ceausescu's final speech repeatedly chanted this city's name.

ANSWER: **Timisoara**

[10] A wave of anti-Communist protests in this country caused the downfall of its longtime leader, Nicolae Ceausescu.

ANSWER: **Romania** <Golimlim>

19. This character left his job at a grammar school after his seven-year-old son died of typhoid. For 10 points each:

[10] Name this tour guide, who saves Bobby Das from a pack of monkeys in the story he appears in.

ANSWER: Mr. **Kapasi**

[10] Mr. Kapasi interprets Gujarati and gives a tour of the Sun Temple at Konarak to the Das family in *Interpreter of Maladies*, a short story collection by this Indian-American author of *The Namesake*.

ANSWER: Jhumpa **Lahiri** [or Nilanjana Sudheshna **Lahiri**]

[10] In this other story from *Interpreter of Maladies*, Shoba and Shukumar reveal the ways that they have hurt each other whenever their power goes out.

ANSWER: "A **Temporary Matter**" <O'Rourke>

20. This practice requires "unconditional positive regard" and "empathetic understanding," and was outlined in the book *On Becoming a Person*. For 10 points each:

[10] Identify this specific type of therapy treatment developed by Carl Rogers that stresses complete openness towards a patient.

ANSWER: **client-centered** therapy [or **person-centered** therapy]

[10] This therapeutic method openly exposes patients to their fears. For example, if a patient fears spiders, they will be locked in a room full of spiders until they relax.

ANSWER: **flooding**

[10] This slower form of therapy approaches fear in a hierarchal pattern. For example, the patient may be asked to talk about spiders, then watch a video on spiders, and finally hold a spider.

ANSWER: **systematic desensitization** [or **graduated exposure** therapy; or **immersion** therapy] <Saric>

21. The petroleum industry in this region is largely centered around the city of Comodoro Rivadavia, while coal is mined here at Río Turbino. For 10 points each:

[10] Name this South American region home to a namesake species of gray fox and a hog-nosed skunk, which live in this region's grasslands and arid steppes.

ANSWER: **Patagonia**

[10] Because this European explorer thought that the native Tehuelche people resembled the dog-headed monster Patagon, he named the region that he discovered Patagonia. He also lends his name to the strait that separates Patagonia from Tierra del Fuego.

ANSWER: Ferdinand **Magellan**

[10] The company Hielo y Aventura manages tourism of one of these structures in Patagonia called Perito Moreno, which is accessible by car from the town of El Calafate.

ANSWER: a **glacier** <Clarke>