



NASAT 2015 - Round 20 - Tossups

1. This philosopher wrote of a vision in which a garment had a "pi" embroidered at its bottom edge and "theta" at the top, with a staircase connecting the two. A Christian legend, which held that this man married the hymnist Helpes, was disputed by Edward Gibbon, who also challenged the authenticity of this man's autobiography, *De Disciplina Sclorum*. This man outlines a proof of God based on the standard of perfect happiness in a book that begins with the muses being interrupted by the title allegorical lady. He died in the midst of a project to translate all of Plato and Aristotle into Latin, shortly before his patron Symmachus was also executed. For 10 points, name this philosopher who was killed at the order of Theodoric after writing *The Consolation of Philosophy*.

ANSWER: **Boethius** [or Anicius Manlius Severinus **Boethius**] <Bollinger>

2. A room in this story is described as smelling like licorice, a pun on the description of a woman's eye as "lik-erous." The opening of this story describes a "rich gnof" who dwells at Oxenford. In this story, a man beseeches St. Frideswide after becoming convinced that his lodger has gone mad studying astrology. The desperate cry of "Water!" prompts John to cut several ropes and tumble down in a bathtub at the end of this story. In this story, the duping of the church clerk is revenged after he procures a hot blade from the smith. This story is followed by a story told by Oswald the Reeve. In this story, Nicholas's bottom is branded after he farts in the face of Absolon. For 10 points, name this bawdy second Canterbury Tale.

ANSWER: "The **Miller's Tale**" <Sy>

3. A painting in this style, which controversially depicted Charles V entering Antwerp surrounded by nudes, was made by Austrian artist Hans Makart. A painter in this style depicted rows of red-robed men watching a woman being stripped in his *Phryne Before the Areopagus*, and popularized the "thumbs down" gesture with his painting *Pollice Verso*. This was the preferred style of the jury whose rejections at the 1863 Salon prompted the Salon des Refuses. A pair of artists of this style depicted *putti* riding dolphins and a nude woman riding a wave crest in their renditions of *The Birth of Venus*. For 10 points, name this style cultivated by Jean-Leon Gerome, Alexandre Cabanel, and William-Adolphe Bouguereau, who were influenced by formal schools of art.

ANSWER: **academic** art [or **academicism**] <Gupta>

4. This deity hides from the rest of the gods by taking shelter in a house with four doors, one in each cardinal direction. He spends three months imprisoned in a chest in the court of the king Geirrodd. This god fills an otter skin with red gold as ransom for his accidental murder of the dwarf Otter. He has his lips sewn shut after he transforms into a fly and repeatedly bites the sons of Ivaldi. As punishment for crashing Aegir's feast and insulting all of the guests, this god is bound to a rock with poison dripping onto him. This god disguises himself as the giantess Thokk and refuses to cry for the late Balder, whose death this god engineers by coercing Hoder into throwing a mistletoe spear. For 10 points, name this Norse trickster god.

ANSWER: **Loki** [or **Loki** Laufeyarson; or **Lopttr**] <Kim>

5. In a study this psychologist conducted at the Westgate apartment complex, he found that "propinquity" was a significant predictor of whether people would form romantic attachments. This psychologist theorized that people assess their own abilities with reference to people they perceive as their peers in those abilities in his "social comparison theory." In an experiment this psychologist conducted with Carlsmith, participants who turned pegs around for an hour were more likely to say it was fun if they were paid \$1 than if they were paid \$20. That experiment tested a theory he developed while studying an apocalyptic cult, as related in the book *When Prophecy Fails*. For 10 points, name this psychologist who proposed that people seek to reduce the strain of holding conflicting opinions with his theory of cognitive dissonance.

ANSWER: Leon **Festinger** <Bollinger>

6. Direct Analysis in Real Time performs this process on an analyte molecule. An external DC electric field may distort the Coulomb potential barrier enough to allow the "tunnel" form of this phenomenon to occur. This process occurs in a cascade fashion in the Townsend avalanche, whose rate can be calculated with a Faraday cup. In one technique, the sample undergoes this process following desorption by an ultraviolet laser and embedding in a crystallized matrix. "Soft" types of this process include aerosolizing the sample, called "electrospray," as well as MALDI, and both techniques fragment the sample in preparation for mass spectrometry. For 10 points, name this process in which a molecule or atom is charged to yield a cation or anion.

ANSWER: **ionization** [or tunnel **ionization**; or electrospray **ionization**; or matrix-assisted laser desorption **ionization**; or **creating ions**; or obvious equivalents; prompt on **MALDI**; prompt on creating either positive or negatively **charged molecules**] <Smart>

7. According to a contemporary commentator, this geopolitical power benefited from the high-handedness and foreign customs of a major rival leader, Pausanias. Its gains after victories at Tanagra and Oenophyta were reversed after its defeat at the Battle of Coronea. After a dispute over gold mines, this association's leadership forced Thasos to demolish its walls and pay tribute. Ten hellenotamiai controlled this organization's treasury, which was stored in a temple. After the Spartan victory at Aegospotami, this alliance was disbanded. For 10 points, name this association of ancient Greek states that came to be dominated by Athens, and which was named for an island sacred to Apollo.

ANSWER: **Delian League** [prompt on **Athens**; prompt on **Athenian** Empire] <Clarke>

8. This politician declared that, of the three men who understood the Schleswig-Holstein question, he was the one who had "forgotten all about it". This politician's first government was dissolved after Felice Orsini attempted to assassinate Napoleon III. This man argued that an English citizen overseas should "feel confident that the watchful eye and strong arm of England will protect him against injustice and wrong" after an anti-Semitic mob attacked a British citizen from Gibraltar. This Prime Minister delivered the "Civis Romanus Sum" speech during the Don Pacifico Affair, and he helped to ease tensions from the *Trent* affair. For 10 points, name this man who served as Prime Minister of Great Britain during the American Civil War.

ANSWER: Lord **Palmerston** [or Henry John **Temple**, 3rd Viscount Palmerston] <O'Rourke>

9. This poem's speaker recalls his eye being "fixed with mock study on [his] swimming book." The speaker of this poem tells its addressee that he "shalt wander like a breeze by lakes and sandy shore, beneath the crags of ancient mountains, and beneath the clouds." This poem invokes a "great universal Teacher" who "shall mould thy spirit, and by giving make it ask." At the beginning of this poem, the speaker is startled by an owl's repeated cry as he watches his infant son Hartley sleep. This poem's title phenomenon "performs its secret ministry, unhelped by any wind," and hangs up the eave-drops "in silent icicles." For 10 points, name this conversation poem by Samuel Taylor Coleridge.

ANSWER: "**Frost at Midnight**" <Lee>

10. *Mva1* will induce this process even in Dam and Dcm-positive cells. This procedure is prevented from occurring at specific sites during footprinting assays. TALENs perform this process, and Cas9 catalyzes it during CRISPR. Nonspecificity in this procedure is called star activity. This procedure is done within a polylinker in the first step of molecular cloning. Proteins responsible for it may be isocaudomers or isoschizomers. The results of this procedure are assessed with RFLP analysis. Immediately after it is done, an alkaline phosphatase can be added to prevent recircularization. *HinD3* and *EcoR1* carry out this process. It makes blunt ends or sticky ends for further ligation. For 10 points, name this process which is carried out by restriction endonucleases.

ANSWER: DNA restriction **digest** [or word forms; or DNA **cleavage**; or **double-strand breaks**; or **DSBs**; prompt on **editing** until it is read] <Silverman>

11. A regular feature of this publication was "The Easy Chair," a column penned by George William Curtis. From 1901 to 1913, it was run by George Harvey, who eventually started another publication to attack former ally Woodrow Wilson. This publication produced the article "A Typical Negro," which included a shocking image of Gordon, a slave with a viciously scarred back. That article ran in 1863, a period when this publication was the most widely read journal in the country. It frequently printed the works of a man who depicted Tammany Hall as a tiger and Boss Tweed as a corpulent vulture. For 10 points, name this New York based magazine that employed cartoonist Thomas Nast.

ANSWER: **Harper's** Weekly [prompt on A **Journal of Civilization**; do not accept "Harper's Magazine"; do not accept "Harper's Monthly"; do not accept "Harper's Bazaar"] <Cheyne>

12. Chapter 28 of this book says that although gold and silver have been uncovered in deep mines, men do not know where to find wisdom or how to value it. At its end, three men are told to sacrifice seven bulls and seven rams and ask another person to pray for them. Handel's "I Know that My Redeemer Liveth" takes some of its verses from a speech in this book delivered in response to Bildad. A man in this book says "I recant, and repent in dust and ashes" after God gives two speeches illustrating his immense power. Bildad and two others offer unhelpful explanations of their friend's misfortune, which starts when God wagers with the Adversary that this book's title man will remain faithful even after losing everything. For 10 points, name this book of the Old Testament.

ANSWER: Book of **Job** <Bailey>

13. Immediately after this event, a man involved in it observes a single star in the night sky and tries to figure out if the star is Sirius. Right before this event, the church clock strikes five and an object pivotal to this event is placed on the Varnum gate. During this event, a man chants, "We can fetch it; I know we can fetch it." Ned Hale owns the primary object used in this scene, which is preceded by a short discussion about who gets to sit in front. A man mistakes his injured lover for a field mouse in the snow right after this event, during which the protagonist sees Starkfield looking "like a speck in space." For 10 points, name this event at the end of an Edith Wharton novel, in which two lovers sled down a hill with the intention of crashing.

ANSWER: the **suicide** attempt by **Ethan** Frome and Mattie Silver [or obvious equivalents; or **Ethan** Frome running a **sled** into a tree until "sled" is read] <Sy>

14. A character in this place is thought to have been fed sweets instead of fish after he throws up a piece of felt. After eating warm rice pudding for six hours, a character in this place begins spitting it into a pit instead. A tea-house in this place houses the grave of "the old Commandant," whose gravestone claims that he will rise again and reconquer this place. A resident of this place violates the law of "honor thy superiors" by falling asleep on a job where he is supposed to salute his captain's door each hour. In this place, a voyager is shown a machine consisting of the designer, the bed, and the harrow, which the officer tries to use to write the words "BE JUST" on his own body. For 10 points, name this prison, the setting of a story by Kafka.

ANSWER: the **Penal Colony** [or the **Penal Settlement**; or der **Strafkolonie**; prompt on synonyms like the **prison**] <Brownstein>

15. This man operated a shopfront also known as the Ray Gun Manufacturing Company, and exhibited his sculptures and found objects in the *Mouse Museum*. This man made a weathering steel sculpture for the entrance to SEPTA's City Hall Station which embedded the number "76" into a silvery spring. For the Walker Art Center in Minneapolis, he designed a piece with his partner Coosje van Bruggen which spans a linden seed-shaped pond. Another piece of his, which was created with cardboard ice-cream cartons, is topped with a foam slice of pickle. For 10 points, name this creator of Philadelphia's *Clothespin* and *Spoonbridge and Cherry* whose giant versions of everyday objects such as *Floor Burger* come in hard and soft varieties.

ANSWER: Claes **Oldenburg** <White>

16. A member of this family described James Fisk and Jay Gould's outwitting of Cornelius Vanderbilt in "A Chapter of Erie." That man served as president of the Union Pacific and was one of the first railroad commissioners in the US. A member of this family argued that another country was responsible for damages caused by the *CSS Alabama*, and he served as Lincoln's foreign minister in Great Britain. Charles Francis Sr. and Jr. were the father and brother of a historian who compared the effect electric motors had on him to the effect the Virgin Mary had on medieval Christians in his autobiography. That autobiography skips most of the 1870s and 1880s and neglects to mention its author's wife's suicide. For 10 points, name this family whose member Henry wrote memoirs about his *Education*.

ANSWER: **Adams** family <Bailey>

17. A value representing this process is in the denominators of both the Sherwood and Schmidt numbers. The kinematic viscosity and a thermal quantity symbolized alpha are analogous to the coefficient of this process in the Chilton-Colburn analogy. When analyzing semiconductors, one commonly derives the drift current and the current named for this phenomenon. This phenomenon couples with convection and advection for bulk mass transport. A law of this phenomenon, which has the error function as its solution, sets the time derivative of concentration equal to a constant times the Laplacian of concentration. For 10 points, name this motion of particles down the concentration gradient that obeys Fick's law.

ANSWER: **diffusion** [or **diffusive** flux; or **diffusivity**; or **diffusion** coefficient] <Silverman>

18. Doroshkevich, Longair, and Zel'dovich proposed that sources of this radiation were born at redshifts greater than two, but decayed over time, explaining the so-called "evolutionary effect". Martin Ryle developed aperture synthesis to improve measurements of this radiation. Hanbury Brown and Twiss's first application of intensity interferometry was to this radiation, which allowed them to measure the angular size of Cygnus A and Cassiopeia A. The progenitor of the field that studies this radiation was Karl Jansky. Because telescopes that detect this form of radiation would be too large to construct, long-ranging systems such as the Very Long Baseline Array are used. For 10 points, name this form of electromagnetic radiation with the longest wavelength.

ANSWER: **radio** waves <Lee>

19. This country fervently guarded its supply of *Cynomorium*, known as its namesake "fungus," by executing trespassers at its "Fungus Rock" well into the 19th century. The Cippi of Melqart, which allowed Phoenician to be deciphered, were found in the town of Marsaxlokk in this country. An uninhabited island in this country is where Paul of Tarsus was supposedly shipwrecked. This country's namesake tongue is the only official EU language from the Semitic family. After this country withstood a World War II siege, George VI awarded it a George Cross. This country contains the city of Birkirkara and had its capital built up by the Hospitallers. For 10 points, name this country whose capital is Valletta, comprising an archipelago south of Sicily.

ANSWER: **Malta** <Ray>

20. In the middle movement of a concerto by this composer, two B-flat clarinets and a B-flat bass clarinet back a solo trumpet. This composer's *Short Story* was originally meant to be part of a set of pieces later arranged for violin and piano in 1942 by Jascha Heifetz, his *Three Preludes*. His last concert work was a set of variations for piano and orchestra based on a melody from *Girl Crazy*. A four note tympani motif opens this man's only piano concerto. Another piece of his was orchestrated by Ferde Grofe from a score originally written for Paul Whiteman's jazz ensemble. For 10 points, name this composer of the *Concerto in F* who wrote "I Got Rhythm" with his lyricist brother Ira, as well as *Rhapsody in Blue*.

ANSWER: George **Gershwin** <White>

21. A poem by this author tells its addressee, "We are on each other's hands who care. Both of our worlds un-handled us," and concludes with the request, "Hover, utter, still, a sourcing whom my lost candle like the firefly loves." This poet wrote, "My daughter's heavier. Light leaves are flying," in a poem that follows one about wanting to dig up the grave of his father, who committed suicide when his son was eleven. Another of his poems begins by declaring, "Life, friends, is boring." This author's collection *His Toy, His Dream, His Rest* expanded to 385 poems his set of 18-line poems about an alter ego named Henry. For 10 points, name this suicidal American poet of *Homage to Mistress Bradstreet* and *The Dream Songs*.

ANSWER: John **Berryman** <Casalaspì>



NASAT 2015 - Round 20 - Bonuses

1. Werner Drewes created a lithograph of one of these objects, many of which were manufactured by John W. Eshelman and Sons. For 10 points each:

[10] Name these agricultural objects from rural America. One of them in Lancaster, Pennsylvania was portrayed with the monumental scale that might be expected of a pyramid in the Precisionist painting *My Egypt*.

ANSWER: grain elevators [prompt on elevators]

[10] This artist of *My Egypt* illustrated a William Carlos Williams poem in his painting *I Saw the Figure 5 in Gold*.

ANSWER: Charles Demuth

[10] Apart from his Precisionist paintings, Demuth was renowned for his paintings of flowers, fruits, and vegetables executed in this medium, which uses paints made of soluble pigments.

ANSWER: watercolors [or aquarelle] <Saric>

2. Answer the following about same-sex marriage in non-American countries, for 10 points each.

[10] On May 23, 2015, this European country became the first to legalize same-sex marriage by popular vote, despite its traditional Catholic background.

ANSWER: Republic of Ireland [or Eire; do not accept "Northern Ireland"]

[10] Same-sex marriage legislation still has to pass this legislature of Ireland, which consists of two houses, the Dail and Seanad Eireanns.

ANSWER: Oireachtas [sounds roughly like "erectus"]

[10] This Australian Prime Minister was the first to publicly support same-sex marriage while serving as PM. This person was succeeded by Tony Abbott.

ANSWER: Kevin Michael Rudd <Cheyne>

3. Answer the following about strategies in circuit analysis, for 10 points each.

[10] Mesh analysis uses a circuit law formulated by this physicist, which states that the sum of voltages around a closed loop is zero.

ANSWER: Gustav Kirchhoff [or Gustav Robert Kirchhoff]

[10] An alternative method to mesh analysis is named for these points where circuit elements meet. That method applies Kirchhoff's current law in terms of the voltages between these points.

ANSWER: nodes [or nodal analysis]

[10] This method can be used to transform bridged circuits, such as the Wheatstone bridge, into series-parallel circuits, simplifying the task of finding the circuit's equivalent resistance. It's also extremely important in the analysis of three-phase circuits.

ANSWER: Y-delta transform <Golimlim>

4. According to Theophanes' *Chronicle*, Constans II lost the Battle of the Masts to Arab forces after dreaming about this city. For 10 points each:

[10] Name this city that also names an edict that made Christianity the official religion of the Roman Empire.

ANSWER: **Thessalonica** [or **Thessaloniki**; or **Salonica**]

[10] The Edict of Thessalonica was signed under the reign of this Roman Emperor, the last to rule over both halves of the Empire. He also disbanded the Vestal Virgins and banned the Olympic Games.

ANSWER: **Theodosius I** [or **Theodosius the Great**; prompt on **Theodosius**]

[10] After Theodosius's Germanic forces massacred rebels at Thessalonica, the bishop of this city, Saint Ambrose, refused to celebrate a mass in his presence. Constantine the Great signed an edict named for this city that increased toleration toward Christians.

ANSWER: **Milan** [or **Milano**] <Golimlim>

5. At the end of this poem, the speaker asks, "If Winter comes, can Spring be far behind?" For 10 points each:

[10] "Name this Percy Shelley poem addressed to a natural phenomenon called the "breath of Autumn's being."

ANSWER: **"Ode to the West Wind"**

[10] The first line of Shelley's "To a Skylark" addresses the skylark with this two-word phrase.

ANSWER: **blithe spirit**

[10] This poetic drama told from the perspective of the Ottoman Sultan was Shelley's last published work before his death. The oft-anthologized final chorus of this drama opens, "The world's great age begins anew."

ANSWER: **Hellas** <Sy>

6. The context-free variety of these systems can be modeled with a set of terminal and nonterminal symbols, a start symbol, and a set of production rules. For 10 points each:

[10] Name these finite specifications of a language, whose rules can be used to generate a wide variety of strings out of a start symbol.

ANSWER: **grammars**

[10] A probabilistic context-free grammar can be used to perform this process on a tree that attempts to map out the most likely syntactic structure of that string. This process's namesake tree, also called a derivation tree, branches out until the terminal words.

ANSWER: **parsing** [or **parse** the tree]

[10] Parsing is considerably more simple if the grammar is a normal form named for this man, in which all rules are either terminal or binary rules. This MIT linguist also names a hierarchy of formal grammars.

ANSWER: Noam **Chomsky** [or Avram Noam **Chomsky**] <Sy>

7. Regarding this event, its subject stated, "Here everything is reversed," noting that his work was held back by "the language of metaphysics." For 10 points each:

[10] Name this shift in the thought of a German philosopher, occurring in the 1930. After this shift, its subject analyzed the works of Pre-Socratics like Heraclitus and Parmenides.

ANSWER: Heidegger's **turn** [or die **Kehre**]

[10] Heidegger underwent his "turn" when he was unable to finish an important section of this book, his magnum opus, which examines the condition of *dasein*.

ANSWER: ***Being and Time***

[10] Heidegger's phenomenological approach was influenced by this founder of phenomenology, the author of *Logical Investigations*.

ANSWER: Edmund **Husserl** <Bollinger>

8. According to Abd al-Sadi's *Tarikh al-Sudan*, this emperor drowned while crossing the Niger River. For 10 points each:

[10] Name this emperor, who claimed to be able to turn himself into a vulture and make his armies invisible. He founded an empire whose capital city was Gao.

ANSWER: **Sonni Ali** [**Sunni Ali** Ber; or **Ali Kolon**]

[10] Sunni Ali founded this West African Empire, which collapsed after losing to Moroccan forces at Tondibi. This empire reached its greatest extent under Askia Mohammed.

ANSWER: **Songhai** Empire

[10] Sunni Ali's troops conquered the Mali Empire, where this group of oral poets originated. Sundiata's advisor Balla Fasseke was a member of this class of storytellers.

ANSWER: **Griots** [or **Jeli**; or **Jali**; or **Gewel**; or **Griotte**] <O'Rourke>

9. The singer of this aria claims that she will not respond when her name is called out, both to tease her husband and to keep herself from being overwhelmed by her excitement. For 10 points each:

[10] Name this aria that begins by describing how, at the title time, two characters will see smoke and watch as a ship arrives in port carrying a woman's American husband.

ANSWER: "**Un bel di**, vedremo" [or "**One fine day**, we will see"; or "**One beautiful day**"]

[10] "Un bel di" is sung by the soprano title character in this opera by Giacomo Puccini. This opera ends with her suicide when B.F. Pinkerton returns with his American wife, Kate.

ANSWER: **Madame Butterfly** [or **Madama Butterfly**]

[10] Butterfly sings "Un bel di" to this servant, who tries to tell Butterfly not to expect Pinkerton to return. When he does, Butterfly and this character sing a duet while spreading flowers around.

ANSWER: **Suzuki** <Gehring>

10. This character has golden hair and refuses to directly answer questions. For 10 points each:

[10] Name this character who comes to Earth after leaving asteroid B-612. After landing in the Sahara Desert, he talks to a fox and meets a pilot who has crash-landed in the desert.

ANSWER: The Little **Prince**

[10] Eventually, the Little Prince is killed by one of these animals.

ANSWER: **snake** [or **python**]

[10] On the Prince's home asteroid, there are three volcanoes, several plants, and this thing, which the Prince falls in love with. The Prince thinks this thing is unique to his asteroid until he comes to Earth and sees how common it is.

ANSWER: a **rose** [prompt on **flower**] <Cheyne>

11. The first clash between these two warriors is interrupted by the omen of an eagle that swoops down to catch a swan, only to be attacked by a flock of angry birds. For 10 points each:

[10] Name these two warriors. During their second clash, a screeching bird harasses one of them to the point that he suddenly loses his strength and is struck by the other one's spear.

ANSWER: **Aeneas** and **Turnus** [accept in either order]

[10] Upon seeing that Aeneas's victory over Turnus is imminent, this head of the Roman pantheon forbids his wife Juno from continuing to interfere in Trojan affairs.

ANSWER: **Jupiter** [or **Jove**; or **Zeus**]

[10] Aeneas coldly kills Turnus when he sees him wearing one of these objects belonging to the youth Pallas. Heracles retrieves one belonging to Hippolyta during his ninth labor.

ANSWER: a **belt** [or a **girdle**] <Kim>

12. In the final chapter of this work, "Distresses of a Frontier Man," the crazed narrator proposes running to the woods to live among the Indians. For 10 points each:

[10] Name this incipient work of American literature by Hector St. John de Crevecoeur. It is written from the perspective of a man whose wife argues his literary ambitions are incongruent with his career.

ANSWER: **Letters from an American Farmer**

[10] In *Letters from an American Farmer*, the narrator spots one of these people being eaten by birds in a cage. In a speech, Frederick Douglass asked what the Fourth of July means to one of these people, and he wrote about his time as one in his autobiography.

ANSWER: a **slave**

[10] This other man's 1789 slave narrative begins with a spurious account of his upbringing in Eboe. This man was renamed for a Swedish king by the lieutenant Michael Pascal.

ANSWER: Olaudah **Equiano** [or Gustavus **Vassa**] <Sy>

13. An 1898 essay criticizes this field for having a fixed and hedonistic view of human nature, arguing it should be an "evolutionary science." For 10 points each:

[10] Name this field of study, which Lionel Robbins claimed "studies human behavior as a relationship between ends and scarce means which have alternative uses."

ANSWER: **economics**

[10] This man defined economics as "the ordinary business of everyday life" in his textbook *Principles of Economics*. This teacher of Keynes names a function that gives the utility maximizing consumption bundle for a given set of prices.

ANSWER: Alfred **Marshall**

[10] Marshall employed this type of analysis for studying supply and demand in his textbook. This analysis looks at only one market, treating all others as fixed.

ANSWER: **partial equilibrium** [do not accept "general equilibrium"] <Bailey>

14. Subdural hematomas, cerebral edema, and diffuse axonal injury are part of the devastating constellation of findings indicating this syndrome. For 10 points each:

[10] Name this often-fatal condition, usually resulting from child abuse, in which an infant's head is subjected to violent rotational acceleration due to the namesake traumatic action.

ANSWER: **shaken baby** syndrome [or **shaken infant syndrome**; or **non-accidental head injury**; or **SBS**]

[10] Violent shaking is implicated in most lateral and posterior fractures of these bones due to compression of the chest, which can break them off from their attachment to the spine. These bones form a namesake cage in the thorax.

ANSWER: **ribs** [or **ribcage**]

[10] These kinds of fractures in babies can point to abuse since they require a twisting force along the axis of a bone, unlike oblique and transverse fractures.

ANSWER: **spiral** fractures [or **torsional** fracture] <Smart>

15. This conductor orchestrated dozens of Bach organ works, including the *Passacaglia and Fugue in C Minor*. For 10 points each:

[10] Name this man who may be better known for combining his version of Modest Mussorgsky's *Night on Bald Mountain* with Schubert's *Ave Maria* for the 1940 Disney film *Fantasia*.

ANSWER: Leopold **Stokowski**

[10] Leopold Stokowski was a long-time conductor of this American orchestra, where he created a trademark lush string "sound" and was succeeded by Eugene Ormandy.

ANSWER: **Philadelphia** Orchestra

[10] Stokowski was well known for conducting free-hand, without the use of this object.

ANSWER: a **baton** <White>

16. One work by this man exhorts the rich to help the poor and quotes the Sermon on the Mount in emphasizing the creation of "a city upon a hill." For 10 points each:

[10] Name this Puritan lawyer who, while on the ship *Arbella*, delivered the sermon "A Model of Christian Charity."

ANSWER: John **Winthrop**

[10] Winthrop delivered "A Model of Christian Charity" while travelling to this colony, where he served twelve annual terms as governor. This colony was centered on cities like Salem and Boston.

ANSWER: **Massachusetts Bay** Colony [prompt on **Massachusetts** Colony]

[10] As governor, Winthrop presided over much of the controversy surrounding this theological position based on the free grace theology of John Cotton and advocated by people like Anne Hutchinson and John Wheelwright.

ANSWER: **antinomianism** <Kothari>

17. The Cayley-Hamilton theorem guarantees that every square matrix will satisfy its own one of this thing. For 10 points each:

[10] Identify this equation defined as the determinant of a matrix minus a constant multiple of the identity. Its roots give the eigenvalues for a matrix.

ANSWER: **characteristic polynomial**

[10] Two matrices with the same eigenvalues can be described by this term. In geometry, this term describes two figures that have the same shape but whose dimensions are proportionally scaled.

ANSWER: **similar**

[10] Similar matrices share this matrix named for a French mathematician. This matrix has blocks for each eigenvalue and includes off-diagonal ones for every missing eigenvector.

ANSWER: **Jordan** matrix [or **Jordan** canonical form; or **Jordan** normal form] <Bandyopadhyay>

18. This character is "as dexterous on horseback as a Tartar" and leads a group of "Don Cossacks." For 10 points each:

[10] Name this resident of Sleepy Hollow who marries Katrina after Ichabod Crane is driven out of town by the Headless Horseman, who was probably this man in disguise.

ANSWER: **Brom** Bones [or Brom **Bones**; or Abraham **Van Brunt**]

[10] This author included his stories "The Legend of Sleepy Hollow" and "Rip Van Winkle" in *The Sketch Book of Geoffrey Crayon*.

ANSWER: Washington **Irving**

[10] This "Missing Man," who may have been inspired by Rip Van Winkle, was created by William Austin in an 1824 story. This character roams around 19th-century America with his young son in search of Boston, convinced that he is still in 1770.

ANSWER: **Peter** Rugg [or Peter **Rugg**] <Sy>

19. A glamorous hotel made of this material is located in Jukkasjarvi, Sweden. For 10 points each:

[10] Name this material that a company founded by Frederic Tudor cut from Massachusetts lakes in winter-time and shipped to tropical areas.

ANSWER: **ice** [prompt on **water** or equivalents]

[10] Massive sculptures made of snow and ice are displayed every winter at this city's annual ice festival, the largest in the world. The Japanese Unit 731 was based in Pingfang, a district of this capital of Heilongjiang Province.

ANSWER: **Harbin**

[10] The Amarnath Temple, which contains an ice stalagmite that is worshiped as a Shiva linga, is found in this Indian region. A state located in India's north pairs this region's name with Jammu.

ANSWER: **Kashmir** [or Jammu and **Kashmir**] <Golimlim>

20. This poet is told, "Apostasy's so fashionable, too, to keep one's creed a task grown quite Herculean," and mocked as an "Epic Renegade" who proved to be a Tory. For 10 points each:

[10] Name this prolific and untalented Poet Laureate who was savaged in a contemporary poet's *The Vision of Judgment* and satirical epic *Don Juan*.

ANSWER: Robert **Southey** [or Bob **Southey**]

[10] Those satirical poems were written by this Romantic who wrote lyrics such as "She Walks in Beauty" and died fighting in the Greek War of Independence.

ANSWER: Lord **Byron** [or George **Gordon**]

[10] Byron preferred this eight-line stanza for his satirical poems. It has an a-b-a-b-a-b-c-c rhyme scheme.

ANSWER: **ottava rima** <Casalaspì>

21. These people usually fought alongside the Volsci, the tribe to whom the Roman general Marcius Coriolanus defected. For 10 points each:

[10] Name these people who warred with the Hernici and the Romans. These people were defeated at the Battle of Mons Algidus by a man who then left the dictatorship to return to his farm.

ANSWER: **Aequi** [or **Aequians**; or **Aequiculi**]

[10] The story of this virtuous statesman returning to his farm after defeating the Aequi appears in Livy's *Ab urbe condita*.

ANSWER: Lucius Quinctius **Cincinnatus**

[10] Livy's account of the war with the Aequi also pitted these people against the Romans. An earlier, legendary conflict with them saw early Roman men abduct their women to take as wives.

ANSWER: **Sabines** [or **Sabini**] <Yu>