

# 2015 NSC - Official Scoresheet

Round	05	Room	
Bracket			
Reader			

Team									Team								
Player Names																	
Q#					Bonus	Steals	Ques. Total	Run. Score					Bonus	Steals	Ques. Total	Run. score	
1																	
2																	
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TB1																	
TB2																	
TB3																	
SD																	
Player 20s																	
Player 10s																	
Point totals																	
Final score																	
	Substitutions before Tossup 11								Substitutions before Tossup 11								
	Out:				In:				Out:				In:				
	Out:				In:				Out:				In:				

Circle winning team above. Clearly mark if game goes to OT/SD. Fill out "Point totals" row completely.  
If there are substitutions, please note tossups by each player in "20s" and "10s" rows. Below is for Tab Room use only:

RH	RS	BH	BS	Left	Right	BH	BS	RH	RS
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### PACE NSC 2015 - Round 05 - Tossups

1. This group is represented by a dove in the Book of the Three Birds, written by a Welsh member of this group named Morgan Llwyd (HLOO-id). A member of this religious group adopted the pseudonym "Martin Marprelate" to pen a series of attacks against authorities. A thousand of them presented the king with the Millenary Petition, enabling them to receive a voice at the Hampton Court Conference. The mortal enemy of this religious group was William (\*) Laud, the Archbishop of Canterbury. Between 1620 and 1640, large numbers of these people left England for Holland, though many were dissatisfied with their lives there. For 10 points, name these English Protestants who settled in New England, whose name is now synonymous with extreme straight-laced piety.

ANSWER: Puritans [or Separatists; prompt on Protestants; prompt on Nonconformists; prompt on Dissenters] <Gupta>

2. This person once poisons a mantle richly decorated with precious stones, but the gift is not delivered since its bearer is burnt to coals. In another story, this person makes a replica of an object that protects its bearer from dying from blood loss, giving the real one to Sir Accalon of Gaul. This person is described peddling healing ointments at the wedding of Erec and Enide by Chretien de Troyes, who calls her a "chief physician." This unhappy wife of Urien gives her name to a (\*) mirage seen off the coast of Sicily. She unsuccessfully competes for the affection of Lancelot with Guinevere. Along with Morgause, this woman is a daughter of Igraine and Gorlois, making her a half sister to Arthur. For 10 points, name this wicked sorceress in Arthurian myth.

ANSWER: Morgan le Fey [or Morgane; or Morgaine; or Fata Morgana] <Gupta>

3. An annual festival devoted to this dance is held in the Finnish town of Seinajoki, which was hit by a worldwide craze over this dance in 1913. The International and American styles of this dance are characterized by an 8-count basic step. Music for this dance often features a bandoneón, a type of accordion imported from Germany. The French-born Carlos Gardel was its leading vocalist during the early 20th century, and its popular tunes include (\*) "El Choclo" and "La Cumparsita," the latter of which is danced by Jack Lemmon in *Some Like it Hot*. Astor Piazzola blended it with jazz and classical music, and it was popularized in the U.S. by Rudolph Valentino in *Four Horseman of the Apocalypse*. For 10 points, name this partner dance from Argentina and Uruguay.

ANSWER: tango <Rosenberg>

4. During the 1960 presidential campaign, a woman with this married name was telephoned by John F. Kennedy after her husband was jailed for driving with an out-of-state license. George Holliday videotaped a notorious action carried out against a man with this last name by Stacey Koon. A man with this surname gave the controversial speech, "Beyond Vietnam: A Time to Break Silence" in 1967. That same man never had a chance to organize a (\*) Poor People's March after stopping over to support a strike by sanitation workers. The acquittal of police officers who beat a man with this surname sparked riots that damaged much of Koreatown in LA in 1992. For 10 points, give this surname shared by the man shot by James Earl Ray and who gave the "I Have a Dream" speech.

ANSWER: King [or Coretta Scott King; or Rodney King; or Martin Luther King, Jr.]<Bentley>

5. The metacentric point is the intersection of two vectors representing this force. This force is represented by the isothermal compressibility times temperature difference between surroundings and surface in the numerator of the Grashof number, which compares it to viscous forces. The magnitude of this force is assumed not to be constant in the Boussinesq approximation. In a gas, the neutral type of this force exactly balances (\*) gravity. This force opposes the direction of the hydrostatic pressure gradient, and its magnitude equals the density times gravity times the volume of an object. The center of this force must be close to the center of gravity for a ship to be stable. For 10 points, name this force whose magnitude is equal to the weight of the fluid displaced and which causes objects to float.

ANSWER: buoyancy [or the buoyant force] <Silverman>

6. A play by this author ends with a student warning the audience about the inescapability of sin after the main character reveals that the hyacinth girl is the daughter of the Colonel. Many of this author's chamber plays were staged in his "Intimate Theater". In another play by this man, the Officer spends years pining for the actress Victoria and visits Foulstrand and Fairhaven after rescuing Agnes, the daughter of (\*) Indra. The reversal of power between the upper and lower classes is represented by Serena the canary's decapitation in a work by this author of *A Dream Play* and *The Ghost Sonata*. In that play by this man, the Count arrives shortly before the title character takes a razor from Jean to commit suicide. For 10 points, name this Swedish author of *Miss Julie*.

ANSWER: August Strindberg [or Johan August Strindberg] <Smart>

7. A piano piece of this type in A minor begins with a four-bar *lento* fragment of the main theme before suddenly switching to *allegro con brio* for the rest of the piece. Claude Debussy's first book of these pieces is organized by intervals, and the first piece in that book was inspired by Carl Czerny. Franz Liszt wrote "Paysage" and "Feux Follets" as two of his (\*) 12 exceedingly difficult "Transcendental" pieces of this type. Pieces of this type make up Frederic Chopin's Opus 10 and 25, which include ones nicknamed "Winter Wind" and "Tristesse," as well as a piece supposedly inspired by Poland's November Uprising, which is often called the "Revolutionary." For 10 points, name these pieces which focus on improving technique.

ANSWER: etudes [or studies] <Rosenberg>

8. In geomelting, radioactive waste is turned into this type of material. Lyophilization of pharmaceuticals occurs at a temperature named for this material. At that temperature, polymers supercooled beyond the "rubber" state transition into a state named for this material. Sensitive pH electrodes are made out of this material. Primary network formers of this substance, like phosphorous oxide, have a decreased melting point because of fluxes, like (\*) potash. Hydrofluoric acid reacts with this material to give silicon fluorides. Boric oxide is mixed into this material to prevent thermal expansion. It consists of amorphous silicon oxide. For 10 points, name this material used to make Pyrex beakers and flasks.

ANSWER: glasses [or spin glasses; or glass transition temperature; or glass electrodes] <Silverman>

9. In 1688, an empire in what became this country executed the Greek-born missionary Constantine Phaulkon. The phrase "mai pen rai," which loosely means "No problem," is used commonly in this country, where dance dramas known as *khon* are based largely on foreign epics. This country allied with Japan and the Axis Powers on the same week as the Pearl Harbor attack. This country, the non-United Kingdom signatory of the (\*) Bowring treaty, is home to biologically-male people who present as women called *kathoey*, or "ladyboys." The resort island of Phuket is off this country's portion of the Isthmus of Kra in the Andaman Sea. For 10 points, name this Southeast Asian country led by King Rama IX, which Westerners once called Siam.

ANSWER: Thailand [or Prathet Thai] <Jackson>

10. A 2011 play about this character was produced in collaboration between Rokia Traore, Peter Sellars, and Toni Morrison. According to some historians, performing this role made Margaret Hughes the first professional actress in England. She mentions a "poor soul" who "sat sighing by the sycamore tree" while reciting a ditty learned from her mother's maid Barbara, her "willow song". This character is compared to a "white ewe" in a scene in which (\*) Roderigo and another character wake her father Brabantio. Her handkerchief is picked up by Emilia, after which it is used to frame Michael Cassio in a scheme that results in this character being suffocated to death. For 10 points, name this Shakespearean character who is murdered after Iago dupes her husband Othello.

ANSWER: Desdemona <Carson>

11. The founder of this movement was inspired to develop its style by the stained glass windows he made for the De Lange (LAHN-guh) House. It's not Cubism, but one member of this group created the abstract painting *The Gray Tree* after his more realistic *The Red Tree*. A house in this style has an upper floor which can be divided in three using sliding panels. That house was designed for the (\*) Schröder Family by Gerrit Rietveld. Another member of this movement limited himself to mostly primary colors in a painting in which a yellow grid represents the streets of Manhattan. For 10 points, name this Dutch art movement which produced *Broadway Boogie Woogie*, and whose members included Theo van Doesburg and Piet Mondrian.

ANSWER: De Stijl [or the Style or Neoplasticism] <Bentley>

12. Calvin Bridges sketched a specific type of these structures that contain diffuse regions called Balbiani rings and puffs. Many plants and fungi contain extra "B" examples of these structures. In a widely-used technique, G-banding stains these structures. The two arms of these structures are denoted with the letters "p" and "q." Salivary glands in *Drosophila* are home to over-sized, (\*) "polytene" examples of these structures. Miller-Dieker syndrome and cri-du-chat are examples of abnormalities in these structures, called "aneuploidies." Three of these structures are present in trisomies like Down syndrome, and can be easily visualized in a karyotype. For 10 points, name these DNA-containing structures that humans have 23 pairs of.

ANSWER: chromosomes [accept specific kinds, like polytene chromosomes and B chromosomes] <Gupta>

13. This leader spent three days in house arrest during an event masterminded by the "Gang of Eight." More than a hundred civilians were killed on Black January after this leader ordered an invasion of Baku. This leader encouraged small-scale private ownership with his Law on Cooperatives and urged economic acceleration with his slogan *uskoreniye*. Cartoonists often poked fun at the port wine-colored (\*) birthmark on this leader's forehead. A coup against this man was defeated by his successor, who spoke from atop the turret of a tank. This leader withdrew his country's troops from Afghanistan and pursued the dual policies of "openness" and "restructuring." For 10 points, name this coiner of the terms *glasnost* and *perestroika*, the final leader of the Soviet Union.

ANSWER: Mikhail Gorbachev [or Mikhail Sergeyevich Gorbachev] <Gupta>

14. Bryan and Cox conducted influential work in modeling these things. A ground-breaking experiment that studied these things was the TOPEX satellite. Walter Munk's influential circulation model for these things built on the work of Sverdrup. Transgression and regression are eustatic changes for these structures. Curtis Ebbesmeyer, who studies these structures, found that a collection of (\*) garbage moves in accordance with their gyres. Fridtjof Nansen discovered that wind stress on these things creates an Ekman spiral. Density gradients in these things are driven by the thermohaline circulation. The bottom of these things is bounded by the abyssal plain. For 10 points, name these bodies of water that include the Atlantic and Pacific.

ANSWER: oceans [or seas; do not accept "lakes"] <Jose>

15. One member of this family uses an analogy where if B picks up A's hat, B should not examine A's face for gratitude to explain why he does not expect his family to miss him, and requests books by authors like Guy de Maupassant in "Hapworth 16, 1924". Eloise Wengler regrets marrying her husband Lew rather than a member of this family named Walt. Lane Coutell dates a member of this family who repeats the (\*) Jesus prayer over and over, and another member goes swimming at a beach with Sybil Carpenter before shooting himself. This family's members include Franny, Zooey, and Seymour, the last of whom appears in "Raise High the Roof Beam, Carpenter" and "A Perfect Day for Bananafish". For 10 points, name this literary family created by J.D. Salinger.

ANSWER: the Glass family <Nutter>

16. Colin Turnbull depicted one culture from this landmass as callous and alienated in *The Mountain People*. Richard B. Lee's work on one culture on this landmass led Marshall Sahlins to use them as an example of "the original affluent society." One culture on this landmass tells the future using termites and a ritual called *benge* (BEN-gay). E. E. Evans-Pritchard studied this landmass's (\*) Nuer and the Azande (uh-ZAN-dee) people. This continent is the origin of the L0 (L zero) haplogroup and Mitochondrial Eve. This continent is home to nearly all click languages. The multiregional origin hypothesis competes with one termed "out-of-" this continent, where Lucy the fossil was discovered. For 10 points, name this continent where humans are thought to have originated that is south of Europe.

ANSWER: Africa <Kothari>

17. Three statues of sacred oxen are located at a site in this empire's Roluos group of monuments. The people of this empire believed that its king spent every night with a nine-headed snake woman in a golden tower, according to Zhou Daguan's account of this empire. Raids on this kingdom by the Champas damaged its irrigation network, which used water tanks called (\*) *barays*. This empire was preceded by the Funan Kingdom and the Chenla Kingdom. This empire was home to a site featuring many giant statues of smiling heads, Bayon. Several kings named Jayavarman and Suryavarman ruled this empire, which also built a massive temple complex designed to look like Mount Meru. For 10 points, name this Cambodian empire which built Angkor Wat.

ANSWER: Khmer Empire [or Angkor Empire until "Angkor" is read; prompt on Kampuchea or Cambodia] <Brownstein>

18. One instance of this activity is performed until the first star is seen in the evening sky, and is called the "Paramony," or "Preparation." Some Pentecostals practice the particularly severe "Black" type. Isaiah 58:6-7 rebukes Israel for not performing the "acceptable" type of this activity by caring for the poor and oppressed. By preaching that this activity should not be mandatory, (\*) Huldrych Zwingli kickstarted the Reformation in Switzerland. The four main seasons for this activity in Christianity include three named for the Dormition, the Nativity, the Apostles, and one starting on Ash Wednesday in which people often give up a luxury in lieu of performing this action. For 10 points, name this activity performed for forty days during Lent by not eating meat.

ANSWER: fasting [or abstaining from food; or abstinence from food; or not eating; accept not eating meat and other answers specific to certain foods] <Gupta>

19. This mountain range is home to the exclave of Llivia, which was unintentionally created by a 17th-century treaty ceding all of Llivia's surroundings. This mountain range was southwest of the historical border region of Septimania. The motto "Virtus unita fortior" appears on the coat of arms of a sovereign entity in this range, whose coat of arms shows the miter hat of its co-leader, the (\*) Bishop of Urgell, in the upper-left. Five citadels known as the "Sons of Carcassonne" were built along this mountain range, where pilgrims to the Rosary Basilica honor the Lady of Lourdes. This range's Roncevaux Pass opens out near Basque country. For 10 points, name this mountain range home to Andorra, on the border between Spain and France.

ANSWER: Pyrenees [or Pirineos] <Wang>

20. A character in this novel leads a revolution aiming to smash all of his country's clocks in defiance of the Empress. A character in this novel is forced to eat his own excrement by the immigration officers Novak and Stein, and after he finally returns home he loses his job on *The Aliens* and finds his wife Pamela Lovelace having an affair. Dreams in this novel include one in which Ayesha leads a pilgrimage into the ocean and one in which (\*) Jahilia is conquered by Mahound. Allie Cone is killed by a character in this novel who develops schizophrenia after surviving a fall from an exploding airplane. Saladin Chamcha and Gibreel Farishta are the main characters of, for 10 points, which novel, for which Ayatollah Khomeini declared a *fatwa* on its author Salman Rushdie?

ANSWER: *The Satanic Verses* <Yu>

21. During this campaign, William Scurry invented a self-firing "drip" rifle whose trigger was attached to a tin can. After the Battle of Scimitar Hill ended this campaign's failed August Offensive, Charles Monro replaced Ian Hamilton as Allied commander. At its beginning, minefields sank three Allied warships, prompting landings at Kum Kale and Cape Helles to clear surrounding artillery. It forced (\*) Winston Churchill to resign as First Lord of the Admiralty and inflicted heavy casualties upon New Zealander and Australian forces, who are remembered on ANZAC Day. The Allied forces in this campaign were repelled by Mustafa Kemal Atatürk. For 10 points, name this failed amphibious campaign against the Ottoman Empire in World War I.

ANSWER: Gallipoli Campaign [accept anything that mentions Gallipoli; accept Dardanelles Campaign; accept Battle of Canakkale] <Wang>

22. Along with chlorophyll and three iron-sulfur proteins, a form of this compound serves as an early electron acceptor in photosystem I, and is known as phyloquinone. In animals, this compound serves as a cofactor for reactions that gamma-carboxylate glutamate receptors into Gla receptors. The epoxide form of this vitamin is reduced by an enzyme targeted by the drug (\*) Warfarin. This vitamin, which is abundant in green leafy vegetables, is needed to activate factors II, VII, IX, and X, and along with vitamins A, D, and E, it is fat-soluble. Hematomas and bruising can result from a deficiency of this vitamin, which is symptomatically similar to hemophilia. For 10 points, name this vitamin important for blood clotting.

ANSWER: Vitamin K [or phyloquinone before mentioned; or menaquinones] <Gupta>

23. In a Johann Wolfgang von Goethe work named for this genre, a ferryman refuses payment in gold and demands to be paid in vegetables instead. Andrew Lang produced books of twelve different colors which contained these works, including "Allerleirauh" (all-err-"lie"-rau). In one work of this type, members of the title group stand on top of each other to observe and foil a group of thieves in a cottage. In German, these works are called (\*) *märchen* ("mare"-chen). In another work in this genre, the title characters are abandoned in the forest by their woodcutter father before they encounter an edible house. For 10 points, name this type of story, examples of which include "The Town Musicians of Bremen" and "Hansel and Gretel", which appear in a collection by the Brothers Grimm.

ANSWER: fairy tales [or folk tales; accept Märchen before mention; do not accept "fables"] <Jose>

24. The mnemonic "CLORPT" summarizes Hans Jenny's state equation for these materials' formation. Ammonium acetate extraction is a way to measure the cation exchange capacity of these materials. The composition of these materials distinguishes edaphic communities. Their USDA classification has 12 orders, of which inceptisols and entisols are the most common. If their effective stress is near zero, these materials may undergo (\*) liquefaction, as when they are saturated. They form from a parent material through the process of pedogenesis. The profiles of these materials are divided into layers called horizons, and they contain decayed organic matter called humus as well as sand and silt. For 10 points, name these mixtures of weathered rock that support plant life.

ANSWER: soils <Kothari>



### PACE NSC 2015 - Round 05 - Bonuses

1. A union of people in this profession led by John Lewis staged a controversial wartime strike in 1943. For 10 points each:

[10] Identify this profession. Many people of this profession were killed during the Battle of Blair Mountain in 1921.

ANSWER: miners [or mine workers]

[10] John Lewis broke away from this organization by founding the Congress of Industrial Organizations or CIO, although that union later reunited with this one under George Meany. This union largely superseded the Knights of Labor.

ANSWER: AFL-CIO [or American Federation of Labor-Congress of Industrial Organizations ]

[10] The AFL was founded by this man, an English immigrant who got his start working in a cigar factory.

ANSWER: Samuel Gompers <Bentley>

2. This man is the mythological progenitor of the Molossian dynasty that ruled Epirus, from which Olympias, the mother of Alexander the Great, traced her descent. For 10 points each:

[10] Identify this cruel warrior, born in Scyros in the court of Lycomedes, who coldly murders Priam and takes Andromache as a personal concubine.

ANSWER: Neoptolemus [or Pyrrhus]

[10] Neoptolemus is a son of this very powerful Greek hero, who kills Hector and is killed by Paris. This leader of the Myrmidons begins fighting in earnest after the death of his beloved companion Patroclus.

ANSWER: Achilles [or Achilleus]

[10] In a play by Sophocles, Neoptolemus accompanies Odysseus on a journey to retrieve Philoctetes, whom the Greeks had abandoned because he had suffered this kind of injury and his wounds smelled bad. Eurydice is killed in this manner on her wedding night.

ANSWER: snakebite [or being bitten by a snake; or being bitten by a viper] <Jose>

3. One character in this film decides not to kill himself after wandering into a showing of *Duck Soup*. For 10 points each:

[10] Name this 1986 Woody Allen film focusing on the life a Mia Farrow-played actress and her family. In one scene, Michael Caine's character declares his love for his sister-in-law through an e.e cummings poem.

ANSWER: Hannah and Her Sisters

[10] *Duck Soup* itself featured this comedic group of brothers, who also appeared in *Animal Crackers* and *A Night at the Opera*. They included Chico, Harpo and Groucho.

ANSWER: the Marx Brothers

[10] Woody Allen also directed *Manhattan*, which opens with a montage of New York City landmarks set to this musical composition. It accompanies an animated depiction of the city in a segment of *Fantasia 2000*.

ANSWER: Rhapsody in Blue <Weiser>



4. Centuries before John Maynard Keynes, this organ was believed to be the origin of "animal spirits," which flowed through the human body to make it move despite being immaterial themselves. For 10 points each:

[10] Name this structure which, like the corpus callosum, sits between the hemispheres of the brain; for that reason, a 17th-century Frenchman believed that this part of the brain was the "seat of the soul" within the body.

ANSWER: **pineal** gland

[10] This Frenchman saw the pineal gland as the center of mind-body interaction. In his *Discourse on Method*, he established a firm rational foundation for trusting one's senses using the axiom "I think, therefore I am."

ANSWER: Rene **Descartes** [or Renatus **Cartesius**]

[10] This number of meditations exist within Descartes's much shorter *Meditations on First Philosophy*, intended to be read at the pace of one per day. This is also the number of sections in *The Phenomenology of Spirit*, apart from the Preface and Introduction.

ANSWER: **six** <Jackson>

5. Early in the poem, this character beats his breast "for he heard the loud bassoon" indicating that a certain ceremony was about to start, but that is ignored by his interlocutor, a man he calls a "gray-beard loon". For 10 points each:

[10] Identify this character who is told a story that leaves him "a sadder and a wiser man" when "he rose the morrow morn".

ANSWER: the **Wedding-Guest** [prompt on **guest**]

[10] The Wedding Guest listens to the story told by this title character of a Samuel Taylor Coleridge poem. This character shoots an albatross with his crossbow and is then forced by his fellow sailors to wear the bird around his neck.

ANSWER: the **Ancient Mariner** [prompt on "mariner"]

[10] This three-word line from "The Rime of the Ancient Mariner" both precedes and follows the line "And all the boards did shrink" in the second part of the poem.

ANSWER: **"Water, water, everywhere"** <Bentley>

6. Steven Pinker argues that this phenomenon has decreased over time in his book *The Better Angels of Our Nature*. For 10 points each:

[10] Name this negative social phenomenon at the focus of the *Brown v. EMA* media lawsuit. Pinker claims this destructive phenomenon is motivated by what he calls the Five Inner Demons.

ANSWER: **violence** [or word forms; prompt on "aggression"]

[10] Pinker was influenced by Norbert Elias' book on the development of this construct of complex society. Freud argued that instinctual freedom is repressed and sublimated by people living within these social constructs in a book titled after them and the dissatisfaction they generate.

ANSWER: **civilization** [or **civilizing**; or **civil society**; prompt on "society"]

[10] Pinker's book likens many social problems to this puzzle from game theory, in which each of two captives must choose to cooperate or to defect to the authorities without knowing the other captive's choice.

ANSWER: **prisoner's dilemma** <Smart>

7. This author expanded his one-act play *People in the Wind* into a play that ends with Bo Decker and Cherie heading to Montana, after which Grace turns out the lights in her restaurant. For 10 points each:

[10] Name this American playwright of *Bus Stop* and *The Dark at the Top of the Stairs*, who won a Pulitzer for his play *Picnic*.

ANSWER: William **Inge** [or William Motter **Inge**]

[10] In *Bus Stop*, Cherie claims to be on her way to this city in order to film a screen test. David Mamet's play *Speed-the-Plow* and F. Scott Fitzgerald's final novel *The Last Tycoon* both depict players in this city's film industry.

ANSWER: **Los Angeles** [or **L.A.**; or **Hollywood**]

[10] Doc passes out drunk before he can hit his wife Lola with a hatchet in a scene from this other William Inge play, whose title refers to a dog owned by the couple which has gone missing.

ANSWER: ***Come Back, Little Sheba*** <Bentley>

8. This statement can be used to prove Fick's Second Law, given Fick's First Law and no reaction. For 10 points each:

[10] Name this principle demonstrated by Lavoisier when he burned a piece of wood and showed that the total weight remained constant. It's the basis of stoichiometry.

ANSWER: law of **conservation of mass** [or a **mass balance**]

[10] In stoichiometry, the limiting reactant is the one where the concentration, divided by this parameter, is the smallest. The stoichiometric ratio is the ratio of two of these values.

ANSWER: stoichiometric **coefficients**

[10] For any species, the stoichiometric coefficient is guaranteed to be the same as this quantity if the reaction is elementary. This quantity is empirically determined using the method of initial rates.

ANSWER: reaction **order** with respect to each species <Silverman>

9. A massive stupa mound was built over the remains of this city, whose artifacts include a seal depicting a horned god and the four-inch-tall Dancing Girl sculpture. For 10 points each:

[10] Identify this city home to a water tank known as the Great Bath, which was located in what is now the Sindh province in the 3rd millennium BC. The name ascribed to it by archaeologists means "mound of the dead."

ANSWER: **Mohenjo-Daro**

[10] Along with the Harappa site in Punjab, Mohenjo-Daro was a part of a mysterious early civilization that flourished in this river's valley. It runs through the Ladakh plateau in what's now Pakistan.

ANSWER: **Indus** River [or **Indus** Valley Civilization]

[10] This other site, the southernmost major uncovered city of the Indus valley civilization, is noteworthy as one of the first uncovered ports of the ancient world, from which it became a center of trade for the bead industry.

ANSWER: **Lothal** <Kandlikar>

10. Psittacosis and hantavirus are characterized as this type of infectious disease, the opposite of anthroponotic diseases. For 10 points each:

[10] Name this class of diseases in which a pathogen infecting an animal reservoir can be transmitted to humans, with or without vectors, but is not dependent on humans to complete its life cycle.

ANSWER: **zoonotic** disease [or **zoonosis**; or **zoonoses**]

[10] People living in close proximity to animals are often exposed to neglected zoonoses described with this term. This adjective denotes diseases that are naturally maintained at a steady state within a population, unlike epidemics.

ANSWER: **endemic**

[10] This zoonotic disease is endemic among rodents in the rural southwest, although human infection with its *Yersinia pestis* pathogen is very rare in the US. Lymph nodes swell in its bubonic form.

ANSWER: **plague** [or bubonic **plague**; or pneumonic **plague**] <Smart>

11. In Eastern Orthodox traditions, a September 8 celebration called the "Nativity of [this term]" marks the first of the Twelve Great Feasts. For 10 points each:

[10] Name this Greek title that literally translates to "God-bearer" and explicitly refers to the Incarnation as opposed to Mary as "Mother of God".

ANSWER: **Theotokos**

[10] The title Christotokos was rejected in a decree by this AD 431 council convened by Theodosius II. This council confirmed the original Nicene Creed and denounced Nestorianism.

ANSWER: Council of **Ephesus** [prompt on **third ecumenical council**]

[10] The Theotokos further complicates this already-complicated idea, that the three expressions of God are the Father, the Son, and the Holy Spirit.

ANSWER: **Trinity** <Smart>

12. This monarch uses a sword called Joyeuse. For 10 points each:

[10] Name this white-bearded monarch. In his primary literary appearance, his armies face off against King Baligant of Babylon after a pitched battle against the armies of the pagan king Marsile.

ANSWER: **Charlemagne** [or **Charles I** of France; or **Charles** the **Great**]

[10] This nephew and paladin of Charlemagne dies heroically at Roncesvalles in an Old French *chanson de geste* named for him. Later Italian tales about him changed his name to Orlando.

ANSWER: **Roland**

[10] Roland dies when he finally agrees to take this cautionary measure; he performs this act with such intensity that his brains burst out of his head.

ANSWER: **blowing** the Oliphaunt **horn** to call for reinforcements [or **blowing** the **Oliphaunt**; accept answers that involve **using a horn**; prompt on answers such as "**calling** for **help**"] <Jackson>

13. The normalization of a Slater determinant equals one over the square root of this function of the number of electrons. For 10 points each:

[10] Name this function. To avert the Gibbs paradox, this function of the number of indistinguishable gas particles must be included in the partition function as a normalization factor.

ANSWER: **factorial**

[10] The factorial term is necessary because the number of these things decreases if the particles are indistinguishable. Boltzmann's formula for entropy takes the natural log of the number of these things.

ANSWER: **microstates**

[10] Defects in these objects also have factorial-dependent entropy. The entropy of these perfectly-ordered, periodic systems is zero at absolute zero.

ANSWER: **crystals** [or **lattices**; or word forms] <Silverman>

14. This composer's third symphony uses the recurring cryptogram 'F-A-F' for "Frei aber Froh," or "Free but happy." For 10 points each:

[10] Name this composer of the *Academic Festival Overture*, whose first symphony is sometimes called "Beethoven's Tenth."

ANSWER: Johannes **Brahms**

[10] Brahms's longest piece is this sacred work which, unlike most others in its genre, uses text from the Lutheran bible rather than Roman Catholic liturgy.

ANSWER: *A* **German Requiem** [or *Ein* **deutsches Requiem**]

[10] Brahms was especially fond of this rhythmic device, in which a two-beat pattern is juxtaposed against a three-beat meter or vice versa.

ANSWER: **hemiola** <Rosenberg>

15. This nation poured a huge amount of national resources into athletics, and as such its athletes took home 20 gold medals at the 1972 Summer Olympics. For 10 points each:

[10] Identify this Communist nation ruled by men such as Walter Ulbricht. A border separating this nation from its capital neighbor contained Checkpoint Charlie.

ANSWER: **East Germany** [or **German Democratic Republic** or **GDR**; do not accept or prompt on "Germany"]

[10] This was the name for East Germany's secret police. Officially called the Ministry for State Security, this organization allowed Libyan agents free passage in East Berlin to carry out the 1986 discotheque bombings.

ANSWER: **Stasi** [or **Ministry for State Security**; or **Staatssicherheit**]

[10] This vehicle produced by VEB Sachsenring could seat four passengers but was notorious for its polluting exhaust and awful performance on the road. As with the similar Wartburg car, production of this vehicle ceased following reunification.

ANSWER: **Trabant** <Bentley>

16. This author wrote about traveling with his companion Kawai Sora in his book *The Narrow Road to the Deep North*. For 10 points each:

[10] Name this Japanese poet whose collections *Record of a Travel-Worn Satchel* and *Monkey's Raincoat* contain numerous *haiku*.

ANSWER: Matsuo **Basho** [or **Matsuo** Basho; or **Matsuo** Chuemon Munefusa]

[10] One of Basho's most famous *haiku* describes the sound that one of these animals makes when it jumps into a pond.

ANSWER: **frog** [or **toads**; or **kawazu**]

[10] Another Japanese poet, Ueda Akinari, wrote the *Ugetsu Monogatari*, a collection of nine works in this genre. *A Warning to the Curious* is among the compendia of stories in this genre by M. R. James, who wrote a number of them from the perspective of an antiquary.

ANSWER: **ghost** stories [or **horror** stories; or **supernatural** stories; or **kaidan**shu; or **kwaidan**shu; accept synonyms for "stories" like "tales"] <Jose>

17. Answer the following about the Renaissance predilection for painting yourself in non self-portraits, for 10 points each.

[10] This artist painted himself as St. Bartholomew holding his flayed skin, watching Jesus mete out the fates of sinners and do-gooders in his massive painting *The Last Judgment*.

ANSWER: **Michelangelo** [or **Michelangelo** di Lodovico Buonarroti Simoni]

[10] This man may have painted himself as a dwarf in the fresco cycles he executed for the Peruzzi and Bardi chapels in Santa Croce (**KROE-chay**). Judas kisses Jesus in a painting from a cycle this artist painted at Padua.

ANSWER: **Giotto** [or Giotto **di Bondone**]

[10] This *quattrocento* artist may have painted himself as a sleeping soldier in his *Resurrection*, in which Christ rises from a sarcophagus holding a flag. He also painted *The Flagellation*.

ANSWER: **Piero** della Francesca [or Piero **della Francesca**] <Gupta>

18. The Clay Mathematics Institute awards one million dollars for the correct solution to any of these problems. For 10 points each:

[10] Name this set of seven problems that includes the Hodge Conjecture. The Poincare conjecture is the only one of these problems to have been solved.

ANSWER: **Millennium** prize problems

[10] One of the Millennium Prize Problems is to prove or disprove that the nontrivial zeroes of this function have a real part of one-half. Over ten trillion zeroes of this function have been verified to have that property, but the problem remains unsolved.

ANSWER: Riemann **zeta** function [prompt on **Riemann** hypothesis]

[10] Evaluating the Riemann zeta function at this value yields Apéry's constant. Almost all numbers can be written as a sum of at most this many squares.

ANSWER: **three** <Karas>

19. Answer the following about the profession of the scribe, for 10 points each.

[10] Assyrian or Babylonian scribes probably also produced works in the namesake language of this empire which was commonly spoken throughout Mesopotamia. The founder of this empire, Sargon the Great, won the Battle of Uruk.

ANSWER: **Akkadian** Empire

[10] Roman scribes, who could employ rustic or uncial script, often belonged to this class of people made up of former slaves. In the US, a bureau for this sort of person was set up during Reconstruction.

ANSWER: **freedmen** [or **liberti**]

[10] Jean Mielot was a translator and scribe in the court of this Duke of Burgundy and father of Charles the Bold, who held the Feast of the Pheasant in an attempt to raise support for a Crusade.

ANSWER: **Philip** the **Good** [or **Philip III**; or **Philippe le Bon**; prompt on **Philip**] <Bentley>

20. In 2014, the US Supreme Court refused to hear a case appealing a New York court's ruling against this country on debt owed to NML Capital and other creditors. For 10 points each:

[10] Name this Latin American country that was almost brought to default in 2014 by hedge fund manager Paul Singer. It has defaulted eight times, most recently under its current president, Cristina Fernandez de Kirchner.

ANSWER: Argentina [or Argentine Republic; or Republica Argentina]

[10] NML Capital is technically based in this British Caribbean archipelago, which has been used as tax haven by Bain Capital and many other businesses.

ANSWER: Cayman Islands

[10] In 2012, NML Capital had an Argentine warship detained off the coast of this country, which is led by John Mahama. Long power outages called *dumsor* have afflicted it in 2015 due to low water levels behind the Akosombo Dam.

ANSWER: Republic of Ghana <Bentley>

21. During this campaign, a heckler asked, "Why don't you hang Jefferson Davis?" to which the president scandalously replied, "Why don't you hang Thad Stevens and Wendell Phillips?" For 10 points each:

[10] Identify this 1866 campaign to drum up support for moderate candidates in the midterm elections. It didn't work out for the president.

ANSWER: the Swing around the Circle campaign

[10] The Swing around the Circle campaign was undertaken by this unpopular president, who was impeached but not convicted by Congress for violating the Tenure of Office Act.

ANSWER: Andrew Johnson [prompt on Johnson]

[10] Johnson tried to fire this Secretary of War who engineered the elaborate funeral procession of Lincoln's body from Washington, D.C. to his resting place in Illinois.

ANSWER: Edwin McMasters Stanton <Bentley>

22. The pompous main character of this story is shaken when she is told "Go back to hell where you came from, you old wart hog", which later causes her to shout "Who do you think you are?" at God while cleaning out her own hog sty. For 10 points each:

[10] Name this short story in which a college student named Mary Grace hurls her *Human Development* textbook at Ruby Turpin's face.

ANSWER: "Revelation"

[10] This Southern Gothic writer of "Revelation" also wrote "Everything That Rises Must Converge" and "A Good Man is Hard to Find". Her protagonists generally experience a moment of divine grace.

ANSWER: Flannery O'Connor [or Mary Flannery O'Connor]

[10] In this O'Connor story, Tom T. Shiftlet scams Mrs. Crater out of her car by agreeing to marry her daughter Lucynell, then abandoning the latter at a diner. Its title appears on a series billboards urging the viewer to "drive carefully".

ANSWER: "The Life You Save May Be Your Own" <Gerr>

23. Identify the following about some properties of algorithms, for 10 points each.

[10] Problems in this computational complexity class can be solved by an efficient algorithm. A difficult unsolved problem in computational complexity theory is whether this class is equal, or not equal, to NP.

ANSWER: P [or PTIME; or polynomial time]

[10] An in-place algorithm does not perform more than a constant amount of this type of operation, which can be performed in C using malloc (**M AHL-ock**). A specific type of this operation can be performed in Java using the "new" keyword.

ANSWER: memory allocation [or allocating new memory; prompt on creating an object; prompt on obvious equivalents]

[10] This adjective describes algorithms that do not change the relative order of the input set. For instance, a card sorting algorithm with this property would preserve the order of suits between cards of the same face value.

ANSWER: stable [or stability] <Bentley>