

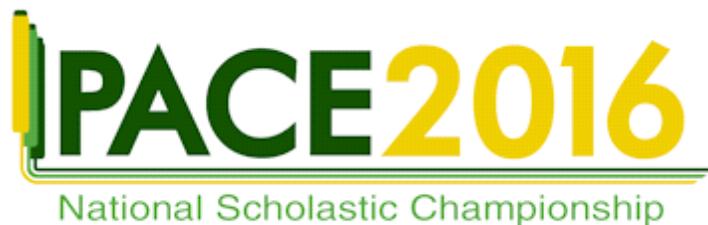
2016 NSC - Official Scoresheet

Round	25	Room	
Bracket			
Reader			

Team									Team								
Player Names																	
Q#					Bonus	Steals	Ques. Total	Run. Score						Bonus	Steals	Ques. Total	Run. score
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OT																	
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 2016 - Round 25 - Tossups

1. The Count of Regla, a "king" of this commodity, sparked the first American labor strike by cutting wages for workers in Real de Monte. Important colonial sources of this commodity included the so-called "mountain that eats men" and the Mexican region of Zacatecas. During the colonial era, galleons regularly carried this commodity across the Pacific from Acapulco to Manila, to trade with China. The patio process involved workers using mercury to (*) extract this commodity. The Spanish appropriated the mita system to force Native Americans to mine this metal at the mountain of Cerro Rico, near Potosi in Bolivia. This metal was used by the Spanish to make pieces of eight. For 10 points, name this precious metal that is less valuable than gold.

ANSWER: silver <Wang>

2. After this figure's death, the blood from his body gave rise to a tree which bore stoneless fruit that resembled cherries. This man is the subject of a fragmentary "song" by Stesichorus, who describes him as having six hands, six feet and wings. After his death, Hera sent a gadfly to prevent a hero from retrieving this man's possessions. To reach this son of Callirhoe and Chrysaor, a hero rode in a giant (*) goblet made of gold, which he obtained after shooting an arrow at Helios. This giant lived on the red island of Erytheia, where his most notable possessions were managed by his herdsman Eurytion and the two-headed dog Orthrus. Immediately before finding the girdle of the Amazons, Heracles spent a year retrieving the cattle of, for 10 points, what giant monster?

ANSWER: Geryon [or Geryone] <Jose>

3. The big letter in a term symbol is strictly determined by this quantity. The Laporte selection rule states that the change in this quantity for an allowed transition is plus or minus one. This quantity, times this quantity plus one, times h-bar squared, is the corresponding eigenvalue for spherical harmonic eigenfunctions. When this quantity is zero, the resulting spectral lines appear sharp. The number of angular nodes exactly equals this value. This quantity equals one for an electron whose probability distribution is shaped like a (*) dumbbell. The magnitude of the magnetic quantum number must be less than or equal to this quantity. For 10 points, name this quantum number that dictates the shape of an atomic orbital, which is often symbolized with a lowercase L.

ANSWER: orbital angular momentum quantum number [or azimuthal quantum number; or l until it is read; or total angular momentum quantum number or j; do not accept "spin" or "spin quantum number"] <Silverman>

4. To support their thesis that there once was a proto-Sapiens language, Bengtson and Ruhlen posited 27 "global" types of this concept. This concept gave its name to Mark Forsyth's "circular stroll" through the English language. This concept, which titles Isidore of Seville's medieval dictionary, also names a fallacy often summarized as "meanings do not change over time." "Hackamore" and "blunderbuss" exemplify a type of this concept which results from (*) erroneous popular misconceptions, its "folk" type. The study of this concept often makes use of the comparative method to trace derivations from source words. For 10 points, a Greek word meaning "a word's true sense" gives its name to, what study of the origin of words, such as "candid" coming from the Latin for "white"?

ANSWER: **etymology** [accept word forms; accept folk **etymology**] <Jose>

5. This adjective appears in the title of a novel which follows three generations of wine distillers as they experience the Sino-Japanese War and Cultural Revolution. At a natural site described by this adjective, straw boats are used to "borrow" ten thousand arrows as part of the strategy of Zhuge Liang (JOO-guh LYONG) to defeat the lord of Wei, Cao Cao (tsao tsao). This adjective appears in the common English title of a novel whose protagonist is born with (*) jade in his mouth, providing it with its alternate title *The Story of the Stone*. *Romance of the Three Kingdoms* features a battle near cliffs of this color, which appears in the title of a novel that chronicles the downfall of the Jia family. For 10 points, a classic Chinese novel is titled for a "dream" in a chamber of what color?

ANSWER: **red** [or *Dream of the Red Chamber*; or *Red Sorghum*; or Battle of **Red** Cliffs] <Alston>

6. One of this man's daughters refused to change her shirt until his siege of Ostend was complete, a campaign which took three years. By the Peace of Vervins (vair-VAN), this monarch withdrew his support from the Catholic League. This king's anti-morisco policies sparked a revolt put down by Don Juan of Austria. He married Elizabeth of Valois, the daughter of Henri II of France, as a condition of the Treaty of Cateau-Cambrésis. (*) Fireships were used against a military force launched by this monarch under the Duke of Medina-Sidonia prior to the Battle of Gravelines. This man sent the Duke of Alba to suppress revolt in the Netherlands. This monarch was unpopularly married to Mary I of England. For 10 points, name this monarch who launched the Spanish Armada.

ANSWER: **Philip II** [or **Filippo II** or **Philip I of Naples** or **Felipe I** of Portugal; prompt on **Philip**] <Bentley>

7. A setting of a folk song from this country, "The moon had set, the dogs are asleep," is part of an A major *Fantasy* on this country's *Airs*. A fast, syncopated 2/4 meter dance from this country appears in the finale of a composer's first piano concerto in E minor. A coda with the rhythm of a dance from this country is part of the last of a set of variations on "La ci darem la mano" by a composer from this country. The meter of a 3/4 (three four) dance from this country is used in A major and A-flat major pieces nicknamed (*) "Military" and "Heroic." A C minor etude inspired by an attack on this country is nicknamed the "Revolutionary." For 10 points, name this country of origin for dances like the *krakowiak* (krah-KOH-vee-ack) and *mazurka*, many of which were composed by native son Frédéric Chopin.

ANSWER: Poland [or Polska] <Gupta>

8. This man and Gell-Mann explained the CP-violation of the weak force using a vector minus axial Lagrangian. Two applications of Ito's lemma are used to derive a formula this man names with Kac, relating parabolic PDEs and stochastic processes. This man assumed infinite momentum in his model of hadron collisions as partons, which later turned out to be quarks. This man created a namesake absorber theory that incorporated time-reversal symmetry by collaborating with his mentor Archibald (*) Wheeler. This man extended Lagrangian mechanics to quantum theory, minimizing action when summing over all histories in his path-integral approach. Along with Schwinger and Tomonga, this man won the Nobel in physics for his work on quantum electrodynamics. For 10 points, name this eccentric Caltech physicist known for modeling particle interactions with his namesake diagrams.

ANSWER: Richard Feynman <Wang>

9. In 2015, Snarkitecture filled a museum in this country with one million translucent balls to create the installation The BEACH. Hundreds of thousands of tons of dirt were removed from a canyon in this country to make the artwork *Double Negative*. 400 poles made of stainless steel are spread across a square kilometer of this country in a Walter de Maria land art installation called *The Lightning Field*. A shooting in this country inspired the now completely buried *Partially Buried Woodshed*, which was created by an artist who made a coil of basalt rocks that (*) juts into a lake in this country. *Spiral Jetty* can be found in this country, which is also home to a memorial consisting of two walls of gabbro. For 10 points, name this country home to Maya Lin's Vietnam Veterans Memorial.

ANSWER: United States of America [accept either underlined portion; or USA] <Jose>

10. A character in this novel believes that watches are "silly gadgets" and keeps time by transferring peas between two jars constantly. At the conclusion of this novel, a dragged-looking spaniel "somersaults like a pancake" after it is shot by a character whose shooting rampage kills nothing but the dog. An actor dies on stage while performing *Orpheus and Eurydice* in this novel, in which the magistrate Othon creates (*) isolation camps. The journalist Raymond Rambert tries to flee from the setting of this novel, where Cottard is a smuggler of black market goods. Thousands of rats die in the streets of Oran at the opening of this novel. For 10 points, Doctor Bernard Rieux is the protagonist of what novel by Albert Camus, named for a disease?

ANSWER: *The* Plague [or *La* Peste] <Jose>

11. In an artwork inspired by this conflict, a man in the pose of the *Belvedere Torso* rests on a tree with his right arm missing. A woman lights a cannon's fuse while stepping over dead bodies in *What Courage!*, which was inspired by this conflict. In a painting set during this war, a man in a turban and orange pants falls backwards off of his charging white horse as another man prepares to plunge his knife into him. *This is*

Worse is set during this war, and is part of a (*) series of 82 prints inspired by this conflict. The plates in *The Disasters of War* depict the destruction caused by this conflict. In a painting set during this war, a man in a white shirt raises his arms in a Christ-like pose to prepare for his death by firing squad. For 10 points, name this war which inspired Francisco Goya's *Third of May, 1808*. ANSWER: Peninsular War [or Spanish War of Independence; prompt on Napoleonic Wars] <Bentley>

12. In a novel by this author, a child kills her brother's rabbits by forgetting to feed them and later becomes obsessed with Thomas Kempis's *The Imitation of Christ*. Characters in a novel by this author draw lots to determine the guilt of a man whose pocketknife was found in the money drawer of a deceased deacon. In one of this author's novels, a man dies before finishing his comparative study *The Key to All Mythologies*. Dunstan's skeleton is found in a stone-pit clutching the (*) gold of one of this author's title characters. This creator of the siblings Tom and Maggie Tulliver wrote a novel in which Casaubon leaves a will intended to stop Will Ladislaw from marrying Dorothea Brooke. For 10 point, name this author of *The Mill on the Floss*, *Silas Marner*, and *Middlemarch*. ANSWER: George Eliot [or Mary Ann Evans] <Brownstein>

13. In the Cyclone dialect of the programming language C, a "fat" type of this entity automatically performs bounds checking. In some languages, the "void" type of this structure can be used on any datatype, but must later be explicitly cast. In C, an element of an array might be accessed using the plus-plus operator as part of this thing's namesake "arithmetic." Nodes in a doubly-linked list are (*) connected to a previous and subsequent node using two variables of this type. When a reference variable is accessed and its underlying data is invalid, Java will throw a "null" exception named for this object. In C, this kind of variable is declared using an asterisk, which is also used to dereference them. For 10 points, name this variable type that stores an address. ANSWER: pointers <Jose>

14. A child's belief that he had seen his deceased mother prompted a 1788 riot against people of this profession in New York City. An innovation in this profession was introduced by the Sudanese slave Onesimus to the Puritan minister Increase Mather. A person of this profession was aided by the black preachers Richard Allen and Absalom Jones during a 1793 crisis in Philadelphia. Elizabeth (*) Blackwell was the first woman to have this profession in the United States. This profession was shared by Benjamin Rush and Joseph Warren, who died at Bunker Hill. People of this profession practiced a technique known as variolation, or inoculation. For 10 points, name this profession whose members in colonial America often used knives to bleed their patients. ANSWER: doctors [or physicians; or medicine] <Brownstein>

15. In the Book of Daniel, Nebuchadnezzar hangs out with wild beasts and is covered in this substance during his seven-year madness. In the new English translation of the Mass, Eucharistic Prayer II includes a petition for the Holy Spirit to make the gifts holy by analogy to the fall of this substance. In the first of a pair of opposite miracles, Deborah's successor collects a bowl full of this substance after it appears on a fleece but not on the surrounding threshing floor. (*) Gideon asks God for proof of his favor by sending this substance. In the Book of Numbers, manna is described as being layered on top of this substance as it fell during the night. For 10 points, identify this moisture found on the ground in the morning. ANSWER: dew <Mehigan>

16. Rasmussen's aneurysm occurs in this structure. High pressure in this non-penile structure can be treated by PDE5 inhibitors like Viagra or inhibitors of endothelin-1 receptors. The wedge pressure is measured in this structure, which can be probed with a balloon-tipped catheter named for Swan-Ganz. Stenosis of the valve leading into this structure is a characteristic sign in the Tetralogy of Fallot. Unusually, this structure normally has a pressure of only 14 millimeters of mercury. It originates from the (*) semilunar valve. This blood vessel receives flow from the vena cavae after it is pumped by the right side of the heart. Unlike the aorta, this artery is usually labelled blue. For 10 points, name this artery which carries deoxygenated blood and flows from the heart to the lungs.

ANSWER: **pulmonary** artery <Silverman>

17. The Berkeley Open Infrastructure for Network Computing software was originally developed for this kind of initiative, which is the subject of the second-largest distributed computing initiative after folding@home. The "principle of plenitude" provides the philosophical basis for this kind of effort. In 1960, the first initiative of this kind was launched as Project (*) Ozma. In 2015, Yuri Milner announced he would fund \$100 million in the Breakthrough Initiatives as part of this goal. Star formation is one of seven variables in an equation developed by Frank Drake to provide an argument for this sort of initiative. For 10 points, name this kind of astronomical initiative that is encompassed by the acronym SETI.

ANSWER: searching for **extraterrestrial** life [accept **SETI**; accept any answers indicating that **aliens** or life is being sought] <Jose>

18. In a portentous e-mail, this man wrote "the future is too good to waste on lies," to which his father, writing from Iowa, responded, "OBEY YOUR CONSCIENCE!" A May 2009 photo of this man in plainclothes published by *The Guardian* enraged his superior, Clinton Baker. This man talked about his desire to intentionally trigger a DUSTWUN to journalist Mark Boal. His lawyers unsuccessfully motioned to release documents from his case following repeated calls that he was a (*) "traitor" from Donald Trump. This man spent extensive time with the Haqqani network and is the subject of the second season of *Serial*. Mohammed Fazl was one of five men released in 2014 in exchange for this American. For 10 points, name this soldier who spent five years held captive by the Taliban.

ANSWER: Bowe **Bergdahl** [or Robert Bowdrie **Bergdahl**] <Bentley>

19. The protagonist of this book trips and rolls down a hill after meeting his love interest outside a county fairground. At the end of this book, its protagonist departs on a train, with his mind "carried away by his growing passion for dreams." Kate Swift, a teacher whose naked body is observed by the Reverend Curtis Hartman, feels the "passionate desire to be loved by a man" after seeing the protagonist of this book. In the (*) story "Sophistication," Helen White kisses this book's protagonist, who works for the Eagle. Wing Biddlebaum's propensity to touch young people is the subject of this book's story "Hands." For 10 points, name this book about journalist George Willard's observations of life in a small Midwestern town, by Sherwood Anderson.

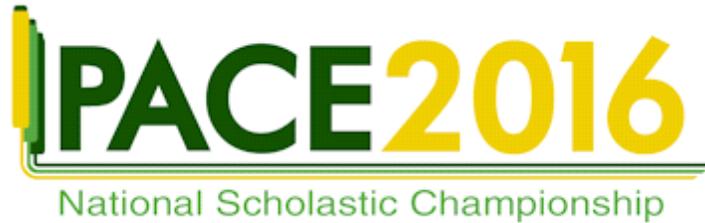
ANSWER: ***Winesburg, Ohio*** <Sy>

20. To find the victim of this action, the minstrel Blondel supposedly traveled around singing verses of a secret song. During this event, its victim told Henry VI "I am born in a rank which recognizes no superior but God" after being accused of murdering Conrad of Montferrat. Its victim's loud complaints about bad chicken may have allowed Duke (*) Leopold V of Austria to carry out this action. This action was carried out against a man disguised as a Templar on his way back from a campaign where he had massacred the defenders of Acre. The victim of this action was ransomed for 150,000 marks, a sum similar to the Saladin Tithe which he had earlier collected. For 10 points, name this event where a king of England was imprisoned on his way back from the Third Crusade.

ANSWER: **Richard I's imprisonment** [or **Richard I** being taken **hostage**; accept anything involving **Richard I** or **Richard** the **Lionheart** being held **captive**; prompt on Richard I's return from the Third Crusade] <Bentley>

21. Poor members of this profession received Queen Anne's Bounty. Nicholas Owen specialized in building tiny rooms known as "holes" for people with this job. Members of this profession couldn't live near a town after being expelled from it by the Five Mile Act. Thousands left this profession during the Great Ejection in protest of the Clarendon Code. One might escape the death penalty in medieval England by claiming the (*) "benefit" of being in this profession. The Act of Uniformity targeted nonconformist members of this profession and mandated the use of an officially sanctioned book. In England, this profession was reformed by the Thirty-Nine Articles of 1563, and was once supported by tithes. For 10 points, name this profession which holds services in churches.

ANSWER: **priest** [or **bishop** or **clergy** or Catholic **priests** or **ministers** or Jesuit **priests**; prompt on clerks, which is an old term for people who receive the benefit of clergy] <Bentley>



PACE NSC 2016 - Round 25 - Bonuses

1. In this film, which was inspired by the novel *The Invention of Morel*, Giorgio Albertazzi's character continuously loses the game of nim, which is played by removing cards, matches or photographs. For 10 points each:

[10] Name this film directed by Alain Resnais in which a man repeatedly tries to convince a woman that they had met at the title Czech spa town one year previously.

ANSWER: **Last Year at Marienbad** [or **Last Year in Marienbad** or **L'Annee derniere a Marienbad**]

[10] *Last Year at Marienbad* is set in a hotel in this country. This country's "New Wave" movement includes the films *Breathless* and *Jules and Jim*.

ANSWER: **France** [or the **French** Republic]

[10] This French New Wave director was responsible for *The 400 Blows*. His adaptation of *Fahrenheit 451* starred Oskar Werner, but much to the dismay of Ray Bradbury and the audience, it did not feature the mechanical hound.

ANSWER: François Roland **Truffaut** <Jose>

2. The "one-over-f" or "flicker" form of this phenomenon is sometimes called its "pink" version, because its power spectral density is greater at the pink end of the visible spectrum than at the blue end of the visible spectrum. For 10 points each;

[10] Name this phenomenon that can be caused by thermal fluctuations or quantization of charge. This phenomenon is a random fluctuation in an electronic signal.

ANSWER: **noise**

[10] Noise is said to be "white" when its power spectrum is independent of this quantity. The speed of a light wave equals this quantity times wavelength.

ANSWER: **frequency**

[10] When averaging several electronic measurements, the signal-to-noise ratio increases with this function of the number of measurements.

ANSWER: **square root** or **one-half power** <Busse>

3. This heresy is named for the man who objected to Bishop Felix of Aptunga's consecration of Caecilian. For 10 points each:

[10] Name this heresy originating in North Africa, which held that priests who had previously made sacrifices to Roman emperors and pagan gods could not administer sacraments.

ANSWER: **Donatism** [or **Donatists** and other word forms]

[10] The Donatists were upset with those priests administering this sacrament in particular, the process of initiating a person into Christianity. It is usually administered with water.

ANSWER: **baptism** [or word forms]

[10] To rule on the Donatist matter, this ruler appointed Miltiades, who concluded that the sacraments were actually valid *contra* the Donatists. A document in the *False Decretals* claims that this man gave the Western Roman Empire to the Pope.

ANSWER: **Constantine** the Great [or **Constantine I**] <Jose>

4. One of these proteins labeled "G" is named for the fact that it is activated by cyclic GMP. For 10 points each:

[10] Name these enzymes which activate most downstream signaling cascades by phosphorylating a wide array of target proteins.

ANSWER: protein **kinases**

[10] In the MAP kinase signal transduction pathway, KSR acts as one of these protein complexes, which greatly speed up the response to a signal by attaching themselves to many of the downstream effectors.

ANSWER: **scaffold** proteins [or **scaffolds**]

[10] Although protein hormones require complex signal transduction pathways, these lipid hormones don't, since they can bypass the cell membrane. These compounds contain four fused rings, and examples of them include testosterone and estrogen.

ANSWER: **steroids** [or **steroid** hormones] <Jose>

5. During the Kulturkampf, Bismarck told the Reichstag that "we will not go" to this place. For 10 points each:

[10] Name this Italian castle outside of which Henry IV knelt for three days in the snow. That penitential "walk" to this castle resulted in Gregory VII briefly reversing Henry's excommunication.

ANSWER: **Canossa**

[10] The castle of Canossa was owned by a countess of this name who backed Pope Gregory against Henry IV during the investiture controversy. Another woman with this name ensured her son's succession to the English throne with the Treaty of Wallingford.

ANSWER: **Matilda** [or **Maude**; or **Matilde**]

[10] The investiture controversy was eventually ended by a Concordat signed in this German city. Martin Luther was questioned at a 1521 diet in this city.

ANSWER: **Worms** <Brownstein>

6. This king annoyed the Puritans by allowing activities such as Whitsun-ales and dancing on Sundays. For 10 points each:

[10] Name this monarch who was presented with the requests of 1,000 Puritan ministers in the Millenary Petition. This monarch's intolerance for Catholicism made him the target of Robert Catesby.

ANSWER: **James I** [or **James VI** of Scotland; prompt on **James**]

[10] The demands of the Millenary Petition were discussed at a conference in this palace that led to the commission of the King James Version of the Bible. Henry VIII seized this palace from Cardinal Wolsey after Wolsey's fall from favor.

ANSWER: **Hampton Court** Palace

[10] During the reign of James I, a group of English Puritans set off from England to Plymouth, Massachusetts on this ship. The pilgrims on this ship signed a namesake compact.

ANSWER: *The* **Mayflower** <Bentley>

7. Joseph Wright of Derby drew from his Grand Tour to Italy to paint an imagined one of these events over 30 times. For 10 points each:

[10] Identify this type of natural event, also depicted in an 1862 painting of Cotopaxi commissioned by James Lenox. Karl Bryullov (**brul-LOV**) depicted terrified people looking up at one of these events in *The Last Day of Pompeii*.

ANSWER: volcanic **eruption** [or **eruption** of Cotopaxi; or **eruption** of Mount Vesuvius]

[10] A blood-red sun reflects on a lake below in that depiction of Cotopaxi erupting by this artist. This artist's 1855 painting of Cotopaxi depicts the mountain peacefully smoldering.

ANSWER: Frederic Edwin **Church**

[10] The Met owns Church's 1871 painting of the ruins of this building. The Elgin Marbles were controversially removed from this building in the early 19th century.

ANSWER: the **Parthenon** <Bentley>

8. This author stated that "Politics is Power" in his account of the 1968 Democratic Nomination Convention, entitled *Miami and the Siege of Chicago*. For 10 points each:

[10] Name this author, who also adopted the persona "Aquarius" to cover the moon landings in *Of a Fire on the Moon*. He won a Pulitzer Prize for a book about the march on the Pentagon.

ANSWER: Norman **Mailer**

[10] Mailer's nonfiction novels include this one about Gary Gilmore, who is sentenced to death for killing two men during an armed robbery he committed while out on parole.

ANSWER: *The **Executioner's Song***

[10] Mailer's *Of Women and Their Elegance* is an "imaginary memoir" of this actress, a wife of playwright Arthur Miller, for whose last completed film, *The Misfits*, Miller wrote the screenplay.

ANSWER: Marilyn **Monroe** <Jose>

9. This play was based on an affair its author had with a newscaster named Joan Bakewell. For 10 points each:

[10] Identify this play, which employs reverse chronology. In its final scene, the literary agent Jerry professes his love for Emma at a party that she holds with her husband Robert.

ANSWER: **Betrayal**

[10] In this play by the author of *Betrayal*, the boarders Goldberg and McCann take Stanley away to receive "special treatment" from Monty. Earlier, Stanley receives a drum from Meg during the title event.

ANSWER: *The **Birthday Party***

[10] *Betrayal* and *The Birthday Party* were written by this British playwright, who also wrote the screenplay to *The French Lieutenant's Woman*. Ben and Gus receive orders from the title device in this man's play *The Dumb Waiter*.

ANSWER: Harold **Pinter** <Bentley>

10. Herbert Butterfield criticized academics for always evaluating events through the modern lens of progress in his book disparaging this subject's "Whig Interpretation." For 10 points each:

[10] Name this academic discipline that studies the past.

ANSWER: **history**

[10] This German founder of absolute idealism distinguished the original, reflective, and philosophical modes of history in his *Lectures on the Philosophy of History*, wherein he argued that history reflected the spirit's growing awareness of its own freedom.

ANSWER: Georg Wilhelm Friedrich **Hegel**

[10] In the 1840s Thomas Carlyle popularized this theory, which claimed that all history can be explained by the actions of influential individuals such as Napoleon.

ANSWER: **Great Man** theory <Wang>

11. In this author's final novel, one of the title beings named Arcade seeks to overthrow Ialdabaoth, or God, with his fellow fallen angels. For 10 points each:

[10] Name this author, whose novels include *The Revolt of the Angels* and *Penguin Island*. He won the 1921 Nobel Prize in literature for his "Gallic temperament."

ANSWER: Anatole **France** [or Francois-Anatole **Thibault**]

[10] France's seat on the Academie Francaise was filled by this poet, who published his masterpiece *La Jeune Parque* after his "Great Silence" following the death of Stephane Mallarme. He also wrote "The Graveyard by the Sea."

ANSWER: Paul **Valéry** [or Ambroise-Paul-Toussaint-Jules **Valéry**]

[10] Anatole France's *The Gods are Athirst* is set during this conflict. Charles Dickens' *A Tale of Two Cities* ends with Sydney Carton giving up his life in this 18th century conflict so that Charles Darnay can survive.

ANSWER: **French Revolution** <Jose>

12. The plaintiff in this case was a member of the Citizens' Committee to Test the Constitutionality of the Separate Car Law. For 10 points each:

[10] Name this 1896 Supreme Court case which infamously upheld the standard of "separate but equal."

ANSWER: **Plessy v. Ferguson** [or Homer Adolph **Plessy v. John H. Ferguson**; or Homer Adolph **Plessy v. The State of Louisiana**]

[10] This Supreme Court justice may have been influenced by his black half-brother Robert in casting the lone dissenting vote in *Plessy*. Like his grandson of the same name, this justice was known as the "great dissenter."

ANSWER: John Marshall **Harlan**, Sr.

[10] This man served as Plessy's lawyer. His time as a carpetbagger inspired his novel *A Fool's Errand* and he took a hard stand against the KKK as editor of *The Continent*.

ANSWER: Albion Wingar **Tourgée** <Bentley>

13. For 10 points each, answer the following questions about generating a photorealistic scene in computer graphics:

[10] After building a model, an image may be produced using this technique, in which the namesake objects are cast from the image plane to determine what physical phenomena affect the scene.

ANSWER: **ray tracing** [accept word forms such as **ray trace**; prompt on tracing or word forms thereof; prompt on ray casting]

[10] Ray tracing is one method of performing this task of converting scene data into an image. In another context, this is the process of converting code in a markup language, such as HTML, into a visual format.

ANSWER: **rendering**

[10] Lens flare is often artificially created as an example of these kind of "effects" whose production is valued in the digital film industry. Rhythm Hues and Studios produced them for *Life of Pi* and *The Golden Compass*.

ANSWER: **special** effects [accept **visual** effects] <Jose>

14. This researcher would often determine the contents of organs by implanting fistulas into various animals. For 10 points each:

[10] Name this Russian psychologist, who ran a series of experiments in which he taught dogs to salivate at the sound of a bell.

ANSWER: Ivan **Pavlov** [or Ivan Petrovich **Pavlov**]

[10] Pavlov's work with dogs demonstrated this phenomenon, in which an innate behavior becomes associated with a neutral stimulus, since the neutral stimulus is paired with a potent stimulus. John Watson's Little Albert experiment demonstrated this effect in humans.

ANSWER: **classical conditioning** [or **respondent conditioning**; prompt on conditioning or Pavlovian conditioning]

[10] This Russian psychologist argued that Pavlov's work did not apply to humans, since humans learn actively from experience. His own theory of learning posits the "zone of proximal development."

ANSWER: Lev **Vygotsky** [or Lev Semyonovich **Vygotsky**] <Jose>

15. David Levy investigated why this piece's subject has two tied eighth notes instead of one quarter note. For 10 points each:

[10] Name this contrapuntal Beethoven piece, originally the finale of his 13th string quartet. Stravinsky said it would be "contemporary forever."

ANSWER: the **Grosse Fuge (GROH-suh FOO-guh)** [accept **Great Fugue** or **Grand Fugue**]

[10] Violin parts unusually cross in the longing theme in the finale of this composer's sixth symphony, which contains a 5/4 limping waltz and a bassoon solo marked with six *p*'s. This composer died nine days after that *Pathétique* symphony was premiered.

ANSWER: Pyotr Ilyich **Tchaikovsky** [or Peter Ilich **Tchaikovsky**]

[10] In the concert étude *Un sospiro*, Franz Liszt wanted both hands to share the arpeggios *and* the pentatonic melody, so he alternated stem directions on this unusual notation. Organ music uses this notation for music played on the pedals.

ANSWER: a **third staff** [or an **extra staff**; accept **three staves** or obvious synonyms] <Lifshitz>

16. For 10 points each, name these sources of iron ore in the United States:

[10] The Red Mountain found near Birmingham, the largest city of this state, was a major source of iron ore. This state's capital is Montgomery.

ANSWER: **Alabama**

[10] The principal source of iron ore in the U.S. is from this mountain range in Minnesota, whose name comes from the Ojibwe (**oh-JEEB-way**) for "Giant Mountain." The decline in iron mining in this range is the subject of the Bob Dylan song "North Country Blues."

ANSWER: **Mesabi** Iron Range

[10] Other sources of iron ore include the Gogebic (**go-GEE-bick**) Range and the Marquette Range, which are two mountain chains found on this peninsula. The Mackinac (**MACK-ih-naw**) Bridge links this peninsula with the rest of its state.

ANSWER: **Upper** Peninsula of Michigan <Jose>

17. This collection opens with a "Frame-Tale" that can be cut out and folded into a Möbius strip. For 10 points each:

[10] Name this short story collection by John Barth. Its title story is a nonlinear narrative about a self-conscious boy named Ambrose who gets stranded inside a boardwalk attraction.

ANSWER: ***Lost in the Funhouse***

[10] Barth discussed this post-1950s literary movement in his essay "The Literature of Exhaustion." Authors working in this genre often employ metafiction, and other examples of it include *Catch-22*.

ANSWER: **postmodernism** [accept word forms]

[10] Barth's *Night-Sea Journey* uses a sperm cell who says "I have seen the best swimmers of my generation go under" to parody this poem, the subject of a 1957 obscenity trial, which debuted at the Six Gallery reading.

ANSWER: "**Howl**" <Cheng>

18. The four "branches" of this collection of stories were compiled by Lady Charlotte Guest, who also translated them from Welsh into English. For 10 points each:

[10] Name this collection of Welsh mythological stories, whose heroes include Pwyll, Lord of Dyfed, and Bran the Blessed.

ANSWER: the ***Mabinogion*** [or ***Mabinogi***]

[10] The only character to appear in all four branches of the *Mabinogion* is this son of Pwyll and Rhiannon, who is raised for a time by Teyrnon after he mysteriously disappears from Dyfed.

ANSWER: **Pryderi** [or **Pryderi** fab Pwyll]

[10] The third branch of the *Mabinogion* is named for this son of Llyr, who is able to negotiate the release of Pryderi and Rhiannon after capturing a fat mouse and ransoming it in exchange for them. He probably had the same origin as a similarly-named Irish sea god.

ANSWER: **Manawydan** fab Llyr [do not accept or prompt on "Manannan"] <Jose>

19. This man perished during the Battle of Cerro Cora in a war which left his country's population in a state such that women outnumbered men nine to one. For 10 points each:

[10] Name this dictator who led his country into the War of the Triple Alliance against Argentina, Brazil and Uruguay.

ANSWER: Francisco Solano **Lopez**

[10] Francisco Solano Lopez led this country, whose history of repression under Alfredo Stroessner is documented in "Archives of Terror" found in its capital Asuncion.

ANSWER: Republic of **Paraguay**

[10] Francisco Solano Lopez's father, Carlos, was forced into hiding by this earlier Paraguayan dictator, who established a government based on Rousseau's *The Social Contract*.

ANSWER: José Gaspar Rodríguez de **Francia** y Velasco <Jose>

20. This dimensionless quantity is higher for fuels with more straight chains, and thus longer ignition delay times. For 10 points each:

[10] Name this property, which is a measure of a fuel's resistance to an uncontrolled release of energy or combustion.

ANSWER: **octane** number

[10] Toluene, alcohol and ferrocene are typically used as agents that are added to gasoline to prevent this phenomenon, the tendency to pre-ignite or combust before a spark.

ANSWER: **knocking**

[10] This plant is often used to make ethanol that is added to create gasohol. You can also distill this crop to make bourbon whiskey.

ANSWER: **corn** [or **maize**] <Jose>

21. Name these 20th-century novelists who wrote in French, for 10 points each.

[10] This Irish author would write his novels, such as *Murphy* and *Molloy*, in English, then translate them into French. He often did the same for his absurdist plays, such as *Krapp's Last Tape* and *Endgame*.

ANSWER: Samuel **Beckett** [or Samuel Barclay **Beckett**]

[10] This author fictionalized herself and her lover Nelson Algren in *The Mandarins*. She also wrote the treatise *The Second Sex*.

ANSWER: Simone de **Beauvoir** [or Simone Lucie Ernestine Marie Bertrand de **Beauvoir**]

[10] Bizarre narrative techniques, such as describing a picture of three soldiers in a setting and then shifting the narrative to focus on those three soldiers, comprise this man's disorienting novel *In the Labyrinth*. This author's *Jealousy* and *The Erasers* exemplify his idea of the *nouveau roman*.

ANSWER: Alain **Robbe-Grillet** <Jose>