

2015 NSC - Official Scoresheet

Round	03	Room	
Bracket			
Reader			

Team									Team								
Player Names																	
Q#					Bonus	Steals	Ques. Total	Run. Score					Bonus	Steals	Ques. Total	Run. score	
1																	
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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 03 - Tossups

1. This author invented the proscription in English against preposition stranding while objecting to a sentence written by Ben Jonson. In a play by this author, Rodophil and his wife Doralice are having affairs with, respectively, Melantha and her fiancé Palamede; meanwhile, Leonidas overthrows the usurper Polydamas and marries the princess Palmyra. Nahum Tate likely completed the second part of a poem by this author in which the two (*) Biblical title characters represent the Duke of Monmouth and the Earl of Shaftesbury. This author of *Marriage a la Mode* was heavily influenced by Shakespeare's *Antony and Cleopatra* in the production of his heroic drama *All for Love*. For 10 points, name this Restoration-era Poet Laureate who wrote *Mac Flecknoe* and *Absalom and Achitophel*.

ANSWER: John Dryden <Carson>

2. The Wallace Collection holds a Francois Boucher (boo-SHAY) painting of this character held captive, and Boucher also included two swans in a painting of this character being disarmed. Caravaggio showed this character trampling a suit of armor, a compass, and other symbols of civilization in a Virgil-inspired painting of him "victorious." A statue of this character raises a finger to his lips in a sign of silence, while a man (*) looking up a lady's dress reclines against that statue, in Fragonard's *The Swing*. This character shares an incestuous kiss with his mother in a painting where the fourth title figure pulls back a curtain to expose them. For 10 points, name this god who appears with Folly, Time, and Venus in a Bronzino painting, the god of love.

ANSWER: Cupid [or Eros; or Amor] <Rosenberg>

3. The London Charter established the laws and procedures for an event that happened in this city. While serving as *Gauleiter* of Franconia, Julius Streicher published the *Der Sturmer* newspaper in this city. At an event in this city, 130 evenly-spaced anti-aircraft searchlights formed a "cathedral of light." A large prison complex adjoins Courtroom 600 in this city's Palace of Justice, where a proceeding was prosecuted by Robert (*) Jackson. The film *Triumph of the Will* by Leni Riefenstahl commemorates this city's large-scale rallies, where in 1935 a law forbidding marriage between Germans and Jews was introduced. Hermann Goering killed himself to avoid the death sentence he received here. For 10 points, name this German city where the Nazi war crime trials took place.

ANSWER: Nuremberg [or Nurnberg] <Bentley>

4. A man in this novel cries when he sees an advertisement for toffee being spelled out by an airplane. In this novel, a woman prays in Westminster Abbey after her student leaves to wait for an omnibus and meets an old friend who had "five enormous boys" with Lord Rosseter. Its protagonist's daughter is tutored by a woman who wears a bulky mackintosh and is a fanatical born-again Christian. Sally (*) Seton and Peter Walsh are among the guests of a dinner party in this novel that is interrupted by a man who avoids Dr. Holmes by jumping from a window. This novel's title character, the wife of Richard, shares a psychiatrist with World War I veteran Septimus Smith. For 10 points, name this stream-of-consciousness novel about Clarissa, written by Virginia Woolf.

ANSWER: Mrs. Dalloway <Yu>

5. One of this man's books claims that long-run expectations could not be quantified and were driven more by "animal spirits" than rational weighing of risks. One mathematical model based on this man's most influential book explains shifts in aggregate demand and was developed by Hicks and Hansen. That book by this man inspired the IS-LM model and rejected the idea that that supply creates its own demand and argued that an economy with full (*) employment was really a special case. This man attacked the Treaty of Versailles in *The Economic Consequences of the Peace* and argued for government spending to boost demand during depressions. For 10 points, name this British father of modern macroeconomics who wrote *The General Theory of Employment, Interest, and Money*.

ANSWER: John Maynard Keynes <Bailey>

6. This statement is applied separately to each component in multicomponent analysis. NanoDrop devices use this law to calculate the 260/280 ratio of DNA and proteins. This law can be written as I equals I-nought times the exponential of negative alpha times density times distance. A correction factor is added to this equation if turbidity is present. A parameter in this law has units of inverse molar times inverse centimeters. A calibration curve and a (*) blank are usually used to standardize before this law is applied, often to find the optimal wavelength. The cuvette path length in this law multiplies the extinction coefficient and concentration to give absorbance. For 10 points, name this law which governs spectrophotometers.

ANSWER: Beer's law [or the Beer-Lambert law] <Silverman>

7. When the Soviet Union's national soccer team refused to travel to this nation, its dictator ordered its team to take the field anyways, leading them to score 11 times into an open goal. A leader of this nation was revealed to have accepted a shipment of weapons in the Cuban packages scandal. A dissident from this country, Orlando Letelier, was killed by a car bomb in Washington D.C. A leader of this country was supported by the Schneider Doctrine and was the subject of the CIA's Project Fubelt. It implemented free (*) market policies under the guidance of a group of economists called the Chicago Boys. The "Caravan of Death" was created in this nation after a 1973 coup. For 10 points, name this South American country where Salvador Allende was overthrown by Augusto Pinochet.

ANSWER: Republic of Chile <Weiser>

8. Leonard Bernstein called this composer's ninth symphony the "anti-Ninth" due to its humor compared to most other ninth symphonies. The six movements of this composer's last string quartet are all played adagio. Much controversy exists over the authenticity of his "memoirs" as related by Solomon Volkov in the book *Testimony*. This composer represented himself in his eighth (*) string quartet using the notes D – E-flat – C – B, and one of his symphonies is a setting of a poem by Yevgeny Yevtushenko. He composed fifteen string quartets as well as fifteen symphonies, the seventh of which uses an ostinato which may represent Hitler's invasion. For 10 points, name this Soviet composer of the "Leningrad" and "Babi Yar" Symphonies.

ANSWER: Dmitri Shostakovich <Rosenberg>

9. In one of these people's myths, a thief opens nested bronze, iron, sycamore, ivory, silver, and a gold boxes to access an all-powerful book. These people believed that a frog-headed goddess breathes life into a newborn after her husband spins them on his potter's wheel. The chief god of this people mixes red dye with beer to prevent a lion-headed goddess from destroying (*) humanity, and is cowed by the lewd dancing of his daughter into revealing his own name. In their most extensive myth, a goddess reassembles her husband from the fourteen pieces of his body. Because it is Bast's animal form, these people considered cats sacred. For 10 points, name this people, whose falcon-headed god Horus ensured the divinity of the pharaoh.

ANSWER: ancient Egyptians <Gupta>

10. Drugs like cetirizine and loratidine are primarily used to treat this condition. Despite its name, this condition does not actually occur in a non-phototoxic, non-irritant form of contact dermatitis. This non-parasitic condition is mediated by the binding of IgE to Fc epsilon receptors, and is also known as a type I hypersensitivity response. This condition occurs in atopic forms of syndromes like (*) asthma. Anaphylaxis is a serious, life-threatening form of this condition, which can be determined by skin prick or patch testing with substances like metals and food additives. A form of rhinitis in which this condition occurs is known as hay fever, and is caused by pollen. For 10 points, name these immune responses to normally harmless substances.

ANSWER: allergy [or allergic response; or allergies; accept hypersensitivity or word forms before it is mentioned; accept anaphylaxis or word forms before mentioned] <Gupta>

11. It's not Orthodox Christianity, but the Supreme Patriarch is the head of this major religious branch in one country, where illicitly-ordained women known as *mae ji* face discrimination. The "Forest Tradition" within this branch forsakes scriptural study for wilderness asceticism. The insight meditation, or *vipasanna*, movement in this tradition advocates focusing on the three marks of existence. This branch holds up the (*) arahant as an ideal, and stresses that it is nearly impossible for laypeople to become them. In this tradition, the Vinaya, Sutta, and Abhidhamma Pitakas, or "baskets," make up the Pali Canon, or Tripitaka. For 10 points, name this "Way of the Elders," a branch of Buddhism predominant in Southeast Asia, but with fewer practitioners than Mahayana.

ANSWER: Theravada Buddhism [or Hinayana Buddhism; prompt on Thai Buddhism; prompt on Buddhism] <Gupta>

12. In this novel, a man's purchase of Ralf von Maiboom's crops is ruined when the crops are destroyed by hail. Late in this novel, a boy makes friends with Kai Molin and is criticized by the fiery Pastor Pringsheim. A woman in this novel marries Permaneder after getting divorced from Herr Grunlich, the father of her daughter Erica. In this book, Christian goes to (*) South America and disdains working with his brother, who marries the music-loving Gerda and is named Thomas. Other characters in this novel include the central family's lone daughter, Tony, and a sickly boy who dies from typhoid, named Hanno. For 10 points, name this novel about a merchant family in Lubeck inspired by the family of its author, Thomas Mann.

ANSWER: Buddenbrooks: *The Decline of a Family* [or Buddenbrooks: *Verfall einer Familie*] <Sy>

13. Experts on this non-U.S. country's legal system include NYU Law professor Jerome Cohen. Many articles about this present-day country's politics note a steady shift toward so-called "collective leadership" from its First Generation through its current Fifth Generation. Every November 11th, this country celebrates "Singles' Day", which has become a major sales day for online retailers. In May 2013 the S.E.C. began investigating J.P. Morgan's "Sons and Daughters" program, which hired this country's (*) "Princelings". Its popular WeChat messaging app was developed by Tencent, the owner of the web portal QQ. This country is also the origin of the online retailer Alibaba and microblogs known as *weibo*. For 10 points, name this country with a "One Child" policy.

ANSWER: People's Republic of China [or Zhongguo; or Zhonghua Renmin Gongheguo] <Wang>

14. The line "A cold coming we had of it" opens a poem by this man in which the speaker asks "were we led this way for/ Birth or Death?" That poem's line "no longer at ease here, in the old dispensation" inspired the title of a Chinua Achebe novel. "Three white leopards sat under a juniper-tree" in a poem by this man that begins with the statement "Because I do not hope to (*) turn again." This poet of "Journey of the Magi" wrote "this is the dead land/ this is the cactus land" in a poem that ends by claiming "this is the way the world ends/ not with a bang but with a whimper." For 10 points, name this American-born poet who defended his conversion to Anglicanism in "Ash Wednesday" and wrote "The Hollow Men".

ANSWER: T.S. Eliot [or Thomas Stearns Eliot; accept "Journey of the Magi" until "this man" is read] <Weiser>

15. This philosopher referred to the consistent conjunction of virtue and happiness using Cicero's term *summum bonum*, or highest good. Before G.E. Moore or Wittgenstein, he pointed out the leftness of a free-floating left hand to rebut "dogmatism" about absolute space, arguing instead that space and time are "forms of pure intuition" within the mind along with twelve (*) "categories of the understanding." In his attempt at a "Copernican revolution in metaphysics," this transcendental idealist argued that statements such as " $7 + 5 = 12$ " can be deduced from simpler propositions without any empirical experience, showing that synthetic *a priori* truths are possible. For 10 points, name this Prussian Enlightenment-era philosopher who wrote *Critique of Pure Reason*.

ANSWER: Immanuel Kant <Jackson>

16. This quantity must be the same for each component of an apochromatic triplet. In one approximation, the reciprocal of this quantity equals the index of refraction, minus one, times the difference in the reciprocals of two radii. The inverse of this quantity is measured in diopters and is referred to as power. This quantity is divided by the diameter of the pupil in order to calculate a namesake stop. This quantity, over this quantity minus the distance to the (*) object, gives the magnification. This quantity equals half the radius of curvature for a concave mirror. An object placed outside this distance for a convex lens produces an inverted, real image. For 10 points, name this quantity, the distance from the lens to the point where the light rays converge.

ANSWER: focal length [or f; prompt on partial answer] <Silverman>

17. Queen Teuta expressly endorsed this activity by law before she lost in the Illyrian Wars. While ruling Samos as tyrant, Polycrates was accused of sending out hundreds of penteconters to engage in this activity. According to Suetonius, a teenage Julius Caesar made good on an offhand joke by returning to crucify dozens of people who did this at Pharmacusa. The *Lex Gabinia* tried to counter this activity during the 1st century BCE. (*) Cilicia was a base for people who partook in this activity in what's now Turkey. After helping subdue the slave revolt of Spartacus, Pompey the Great got expanded proconsular powers to rid the Mediterranean of this activity. For 10 points, name this illegal activity which threatened ancient shipments.

ANSWER: piracy [or being a pirate; or kidnapping; or abduction; prompt on answers such as robbery, theft, naval raid, kidnapping, sailing, etc.] <Jackson>

18. A museum dedicated to this site but not located on it was designed by Bernard Tschumi and features a rotated top floor in order to align with it instead of the street grid. A colonnaded trapezoid at this site was the urban auxiliary to a structure in Brauron. The Sacred Way from Eleusis ended at a gate guarding the buildings here, which was called the Propylaea. One structure on this site included sculptures of women serving as columns on its (*) Porch of the Caryatids, and another building at this site of the Erechtheion includes a frieze depicting a civic procession. This main building on this site was designed by Iktinos and Kallikrates and was formerly home to the Elgin marbles. For 10 points, name this high outcropping in Athens that is the site of the Parthenon.

ANSWER: the Acropolis of Athens <Mehigan>

19. An infinite version of this shape is the only non-trivial line bundle of the circle. Gluing a disk to this figure gives the real projective plane. Repeatedly dividing up this shape will give rise to parabolic rings. Like the torus, this surface, which is commonly pictured embedded in three-dimensional space, has Euler characteristic zero. It is the simplest (*) non-orientable surface. Two of these shapes are formed by cutting a Klein bottle in half. This shape is often used in conveyor belts, because it allows them to have uniform wear without ever having to be flipped inside out. For 10 points, identify this strange surface with only one side, which can be formed by taping together the ends of a paper rectangle after giving it a twist.

ANSWER: Mobius strip <Schindler>

20. One division of this organization was mockingly referred to as “Wisner’s Group of Weirdos”. John F. Kennedy reportedly said that he would splinter this organization “into a thousand pieces and scatter it into the wind.” The Family Jewels report documented some of this organization’s actions. Kermit Roosevelt was employed by this organization to arrange Operation (*) Ajax, in which this organization helped to overthrow Mohammed Mossadegh. Allen Dulles was the longest serving director of this agency that was the successor of the William Donovan-led Office of Strategic Services. For ten points, name this US government agency that is responsible for conducting foreign intelligence.

ANSWER: Central Intelligence Agency [or CIA] <Puma>

21. This series uses Bernice Reagon's a cappella rendition of "We Are Climbing Jacob's Ladder" as a recurring musical theme. In its first installment, Paul Roebling reads a letter ending "think I am gone and wait for me, for we shall meet again" as a Jay Ungar piece plays. Horton Foote and Sam Waterston provide voice-overs for this series, which popularized Sullivan Ballou's final letter to his wife and the composition "Ashokan Farewell." This series features interviews with (*) Shelby Foote and narration by David McCullough. It brought fame to the director's namesake "effect," which in this series zoomed and panned across many historical photographs by Matthew Brady. For 10 points, name this documentary series directed by Ken Burns about a 19th century American conflict.

ANSWER: *The Civil War* <Weiser>

22. In engineering, the Newton number is defined as this quantity over density times rotational speed cubed times stirred diameter to the fifth. The integral of the Poynting vector over an exposed surface has units of this quantity, which can be used to show that it equals two-third times charge squared times acceleration squared over the speed of light cubed. The "reactive" form of this quantity in an AC circuit, caused by a nonzero phase angle, is measured in (*) volt-amps. The pump head times the volumetric flow rate equals this quantity. This quantity is given by the dot product of net torque and the resulting angular velocity, analogous to its definition of force dot velocity. For 10 points, name this quantity, the energy input per unit time to a system.

ANSWER: power <Silverman>

23. A character in this play claims to have been offered a job at a nightclub in Berlin before rhapsodizing about a concert he supposedly once gave. Several characters in this play worry about the appearance of a large vehicle containing a wheelbarrow. Its central character is barraged with questions like "Why do you force that old man out to play chess?" and "Why did you betray the organization?" During a game of (*) blind man's bluff, the central character of this play attempts to strangle a woman who'd previously given him a drum and also attacks Lulu. This play is set in a boarding house near London owned by Petey and Meg Boles. For 10 points, name this play in which Goldberg and McCann take Stanley away after the title celebration, the second by Harold Pinter.

ANSWER: *The Birthday Party* <Cheng>

24. This city was home to an artificial harbor with a rectangular outer section for merchants and a circular inner section for its navy, its Great Cothon. It's not Jerusalem, but this city contained the Tophet of Salamambo, a children's cemetery that was probably a site for human sacrifices. According to legend, this city was originally built around the Byrsa citadel, which a (*) queen encircled with cut-out strips of an oxhide to claim as her territory. This city's forces won the battles of Lake Trasimene and Cannae. This city was home to the Magonid dynasty and to generals named Hamilcar and Hasdrubal. For 10 points, name this North African city that was led by Hannibal Barca during the Second Punic War.

ANSWER: Carthage <Wang>



PACE NSC 2015 - Round 03 - Bonuses

1. Conspiracy theorists sometimes connect this pope's death with that of Robert Calvi, the chairman of Banco Ambrosiano, who was found hanging from Blackfriars Bridge in London in an apparent suicide. For 10 points each: [10] Name this pope who died 33 days into his papacy and was succeeded by a pope with the same name.

ANSWER: **John Paul I** [or **Ioannes Paulus I**; or Albino **Luciani**; prompt on **John Paul**]

[10] Roberto Calvi was a member of Propaganda Due, a covert branch of this organization. This organization has chapters called lodges and uses a square and compass as its symbol.

ANSWER: Free**masonry** [or the **Masons**]

[10] A year before the Banco Ambrosiano scandal broke, John Paul II was shot and wounded by Mehmet Ali Agca, a member of this Turkish group of fascist terrorists.

ANSWER: **Grey Wolves** [or **Bozkurtlar**; or **Ulku Ocaklari**] <Weiser>

2. Zeus decrees that this man should spend a third of the year each with Persephone and Aphrodite, then the remaining third with whomever he chooses. For 10 points each:

[10] Name this Phoenician man renowned for his beauty.

ANSWER: **Adonis**

[10] Adonis is conceived after this mother of his sleeps with Cinyras, her father. After discovering the incest, Cinyras chases this woman, who turns into a tree, out of which Adonis is born.

ANSWER: **Myrrha** [or **Smyrna**]

[10] Adonis is killed by one of these animals after being warned not to go hunting. That animal may have been the "Erymanthian" one sent by Apollo to punish Aphrodite for blinding his son Erymanthus.

ANSWER: **boar** [or **pig**] <Lee>

3. A common rule of thumb for evaluating contributions from resonance structures is that this quantity should be minimized for each atom. For 10 points each:

[10] Name this quantity which is similar to an oxidation state, but does not take electronegativity into account. For the carbon atom in carbon monoxide, this quantity is positive one.

ANSWER: **formal charge** [or **FC**; prompt on **charge**]

[10] In a carbene, an electron-deficient carbon atom which forms exactly two bonds and has a lone pair will have this formal charge. The nitrogen atom in nitric oxide has this formal charge.

ANSWER: **zero** [or **neutral** charge]

[10] To assign either formal charge or oxidation state, it's critical to draw one of these diagrams, which represent lone pairs using two dots and bonds using lines. They're named for an American chemist.

ANSWER: **Lewis** dot structure [or a **Lewis** diagram] <Silverman>

4. This character dies staring at a sign above a cash register reading "This registers the amount of your purchase" after he is stabbed by a gambler. For 10 points each:

[10] Name this literary character who becomes increasingly angry at the "board-whacking" antics of a cowboy and later beats up Johnnie after accusing him of cheating at high-five.

ANSWER: the **Swede**

[10] The Swede's unusual behavior puzzles a lot of people in this 1898 short story, which is set in Fort Romper, Nebraska, largely at an establishment owned by the Irishman Pat Scully.

ANSWER: "The **Blue Hotel**"

[10] "The Blue Hotel" is a work of this American naturalist author of "The Open Boat". His longer works include the novella *Maggie: A Girl of the Streets* and the Civil War novel *The Red Badge of Courage*.

ANSWER: Stephen **Crane** <Carson>

5. The French built Fort Rosalie in this modern-day city, whose namesake Native Americans of this city built the Grand Village along the St. Catherine Creek. For 10 points each:

[10] Name this city on the Mississippi River, which is home to antebellum mansions such as Stanton Hall and John Quitman's Monmouth. It is the namesake and southwestern terminus of a renowned trail that opened in 1801.

ANSWER: **Natchez**, Mississippi

[10] The Natchez Trace ran northeast from Natchez to this Southern state capital, a city where the Country Music Hall of Fame and Grand Ole Opry performance hall are located.

ANSWER: **Nashville**, Tennessee

[10] Along the Natchez Trace, Rock Springs is a renowned gathering place for hundreds of the ruby-throated type of these creatures, which carry the pollen of orange jewelweed plants. They migrate across the Gulf of Mexico.

ANSWER: ruby-throated **hummingbirds** [or **Trochilidae**; prompt on "**birds**"] <Bentley>

6. The second movement of this piece highlights two of each instrument at a time by having them the same melody a fixed interval apart. For 10 points each:

[10] Name this five-movement piece which includes a "Game of Pairs," an "Interrupted Intermezzo," and a third-movement "Elegy" featuring the composer's style of "night music."

ANSWER: **Concerto for Orchestra**

[10] This Hungarian composer of the opera *Duke Bluebeard's Castle* wrote *Concerto for Orchestra*.

ANSWER: Béla **Bartók** [or Béla Viktor János **Bartók**]

[10] The second movement of *Concerto for Orchestra* begins with a solo for a modified version of this instrument, which opens the overture to Gioachino Rossini's *The Thieving Magpie*.

ANSWER: **snare** drum [or **side drum**; prompt on **drum**] <Kim>

7. Balram Halwai writes to Wen Jiabao about how he murdered his boss Mr. Ashok and then became a successful entrepreneur in Aravind Adiga's novel titled for a tiger of this color. For 10 points each:

[10] Name this color that is also the surname of an author who wrote about the doomed German explorer Voss, who dies in the Outback while trying to travel across Australia.

ANSWER: **white** [or *The **White** Tiger*; or Patrick **White**]

[10] In addition to writing *Voss*, Patrick White wrote this novel about the artist Hurtle Duffield, who dies while working on his painting "The Whole of Life."

ANSWER: *The **Vivisector***

[10] Adiga's *The White Tiger* was originally written in this language, which is why it was able to win the Man Booker Prize in 2008.

ANSWER: **English** <Gehring>

8. The largest remains of one of these structures can be found at Chonga Zanbil, which was built by the Elamites. For 10 points each:

[10] Name these terraced religious buildings. A seven-storied example called the Etemenanki, which was dedicated to the god Marduk, got a reference in Herodotus's histories.

ANSWER: **ziggurats** [prompt on step **pyramids**]

[10] The Etemenanki was located in this city, whose Hanging Gardens were perhaps the most famous example of ancient world landscaping. The Code of Hammurabi was promulgated in this city.

ANSWER: **Babylon**

[10] A positional number system representing numbers in this way was used by Babylonian astronomers and mathematicians. Ptolemy's *Almagest* includes a "Table of Chords" whose numbers are written in this manner.

ANSWER: **base-60** number system [or **sexagesimal** system] <Bentley>

9. Women in this culture produce brightly colored textile art, or paj (**pah**) ntaub, one kind of which is the "story cloth." For 10 points each:

[10] Name this Southeast Asian culture. Anne Fadiman wrote *The Spirit Catches You and You Fall Down* about cultural conflicts with American doctors in the treatment of Lia Lee, an epileptic girl of this ethnicity.

ANSWER: **Hmong** people [or **Hmoob** people]

[10] Hmong medicine uses the services of these people, who are called "Txiv (**tseev**) Neng" in Hmong. This term, derived from Tungusic (**toon-GOO-sik**) languages, denotes people who enter into altered states of consciousness and communicate with spirits.

ANSWER: **shamans** [prompt on answers like **medicine men**, **medicine women**, **witch doctors**]

[10] Hmong clans are exogamous, meaning that these ceremonies cannot be performed between members of the same clan. In many cultures, they involve the payment of a dowry.

ANSWER: **marriages** [or **weddings**] <Kothari>

10. Answer the following about Newton's law of universal gravitation, for 10 points each.

[10] In SI units, the proportionality constant, big G, for Newton's law of universal gravitation is equal to 6.67 times 10 to what power?

ANSWER: **minus eleven** [or obvious equivalents, such as **negative eleven**]

[10] In the *Principia*, Newton derived this equation in the case that universal gravitation is the centripetal force. This law sets the orbital radius cubed proportional to the orbital period squared.

ANSWER: **Kepler's third** law [prompt on partial answers]

[10] Inside the radius of the Earth, the gravitational force is proportional to this other power of the radius. Inside a uniformly charged, spherical, insulating material, the electric field is proportional to this power of the radius.

ANSWER: **one** [or **first** power; or **linear** dependence] <Silverman>

11. This triptych and its companion were both later removed by Napoleon. For 10 points each:

[10] Name this triptych located in the Cathedral of Our Lady in Antwerp. The central panel is dominated by muscular men and by Jesus, whose body forms a sharp diagonal running from top-left to bottom-right.

ANSWER: *The **Elevation of the Cross*** [or *The **Raising of the Cross*** or ***Kruisoprichting***]

[10] Inspired by the Counter-Reformation, this Baroque Flemish painter filled his religious scenes like *Elevation of the Cross* with energy and splendor. He was also fond of painting plump nudes.

ANSWER: Peter Paul **Rubens**

[10] Rubens often contracted out paintings in this genre to his colleague Frans Snyders so he could focus on history paintings. This genre occupied the lowest rung on the traditional hierarchy.

ANSWER: **still-lives** <Rosenberg>

12. This book contains a detailed, moralistic description of pitch-pot, a game where you toss arrows into a canister. For 10 points each:

[10] Name this compilation of writings about social customs and ceremonial rituals during the Zhou Dynasty. Its chapters about the "Great Learning" and the "Doctrine of the Mean" were later expanded into their own books.

ANSWER: **Book of Rites** [or **Classic of Rites**; or **lij**]

[10] The *Book of Rites* is one of the "Five Classics" of this Chinese philosophical tradition, named for the advocate of filial piety whose teachings are compiled in the *Analects*.

ANSWER: **Confucianism** [or **Ruism**]

[10] One of the "Four Books" of Confucianism consists of several conversations with this Confucian "second sage," who taught that humans are born with "Four Sprouts" that develop into wisdom, propriety, righteousness, and humaneness.

ANSWER: **Mencius** [or **Meng Zi**; or **Meng Tzu**; or **Meng Ke**; or **Meng Ko**; or Master **Meng**] <Gupta>

13. This essay's last chapter questions the validity of royal rule when it is impossible to determine the line of descent from the biblical Adam. For 10 points each:

[10] Name this essay that refutes the argument for the divine right of kings made by the now ignored book by Robert Filmer, *Patriarcha*.

ANSWER: ***First Treatise of Government*** [prompt on "***Two Treatises of Government***"; accept versions of the answer with "on" instead of "of"]

[10] Locke's Second Treatise of Government defines this concept as one's "life, liberty, and estate" that is the product of one's labor. The "Lockean proviso" gives restrictions on the right to this concept of stuff one can own.

ANSWER: private **property**

[10] In the Second Treatise, Locke writes "in the beginning all the world was" like this place, because money had no value before any social contract. Locke contributed to a set of *Fundamental Constitutions* for a province of this then mostly uninhabited region.

ANSWER: **America** [or North **America**; or obvious equivalents] <Yu>

14. Ponceau S staining can be used to check the effectiveness and uniformity of transfer during this technique. For 10 points each:

[10] Identify this technique in which proteins can be detected in a tissue extract by subjecting them to gel electrophoresis, transferring them to a membrane, and staining them with target antibodies. It is named after a cardinal direction, not a person.

ANSWER: **Western blot** [or **protein immunoblot**]

[10] Western blot membranes are often made from a nitric-acid treated derivative of this polysaccharide found in plant cell walls

ANSWER: **cellulose**

[10] In Western blotting, antibody recognition can be aided with a c-myc-derived type of these short peptide sequences tacked onto proteins for various purposes. Polyhistidine is a common "affinity" type of this sequence useful in purifying proteins.

ANSWER: protein **tags** [or epitope **tags**; accept word forms, like **tagging**] <Gupta>

15. The plea "Remember us in the roads, the heaven-haven of the Reward" appears in this poem's final stanza. For 10 points each:

[10] Identify this 1876 poem, dedicated to the memory of five Franciscan nuns who died in the title event while fleeing the *kulturkampf* aboard a vessel that "on Saturday sailed from Bremen / American-outward-bound".

ANSWER: "The **Wreck of the Deutschland**"

[10] "The Wreck of the Deutschland" was written by this Victorian Catholic poet, who wrote many poems, including "Pied Beauty" and "The Windhover", in a form that counts only stressed syllables called "sprung rhythm".

ANSWER: Gerard Manley **Hopkins**

[10] Another Hopkins poem compares a "dare-gale" one of these creatures in a cage to "Man's mounting spirit in his bone-house". The speaker of an 1820 poem asks one of these creatures to "Teach me half the gladness / That thy brain must know".

ANSWER: a **skylark** [accept "A Caged **Skylark**" or "To a **Skylark**"; prompt on "birds" or equivalents] <Carson>

16. The Savoy Ballroom in New York is considered the birthplace of this dance, which lent its name to a professional dance group founded by George "Whitey" White. For 10 points each:

[10] Name this swing dance developed in Harlem in the 1920s and 30s which grew out of the Charleston and may have been named for an aviator.

ANSWER: **Lindy hop** [or **jitterbug**]

[10] In a 6-count Lindy hop pattern, beats 5 and 6 are usually occupied by this type of step in which weight is transferred from one leg to the other without actually moving the legs along the floor.

ANSWER: **rock** step

[10] The Savoy Ballroom later became a popular battlefield for contests between bands, such as the one between Chick Webb and this clarinetist, popularly called the "King of Swing."

ANSWER: Benny **Goodman** <Rosenberg>

17. Using observations on the star RW Draconis, Sergey Blazhko found variations in this quantity and amplitude for RR Lyrae Stars. For 10 points each:

[10] Name this quantity that is a measure of how frequently a star pulsates. Henrietta Swan Leavitt derived a relation between luminosity and this quantity for Cepheid (**SEH-fee-id**) variable stars.

ANSWER: **period**

[10] Cepheid variables are an essential part of the cosmic ladder for this quantity, which is often measured in parsecs and astronomical units.

ANSWER: **distance** [or obvious equivalents]

[10] Because these events all have the same maximum absolute magnitude on their light curve, one can measure the peak light output and use the inverse square law to calculate the distance at which these events occurred.

ANSWER: type **Ia (one a)** supernovae [prompt on **supernovae**] <Jose>

18. These geographic features were included within the walls erected by King Servius Tullius. For 10 points each:

[10] Identify these seven geographic features which included the Mons Aventinus and Mons Capitolinus.

ANSWER: **hills of Rome** [or obvious equivalents; or **montes Romae**]

[10] Roman emperors tended to live on this hill, which was the location of Nero's Golden House and the Domus Tiberiana.

ANSWER: **Palatine** Hill [or Mons **Palatinus**]

[10] This emperor began construction on the Domus Augustana on the Palantine Hill. This final member of the Flavian Dynasty's fifteen-year reign ended when he was stabbed to death by a slave named Stephanus.

ANSWER: **Domitian** [or Titus Flavius **Domitianus**] <Bentley>

19. A pest that targets this crop entered the US from Mexico and began devastating yields in 1892. For 10 points each:

[10] Identify this cash crop, whose devastation by the boll weevil is credited by some scholars with aiding the Great Migration and forcing the South to move to a more industrialized economy.

ANSWER: **cotton**

[10] This 1948 Dixiecrat candidate for President was an example of a "boll weevil" politician. This man, who gave the longest filibuster ever against the Civil Rights Act, represented South Carolina in the Senate until his death at age 100 in 2003.

ANSWER: Strom **Thurmond** [or James Strom **Thurmond**]

[10] The namesake of this 1940 act was a Virginia politician who used the boll weevil as a symbol. Yates v. United States narrowed the power of this act, which required alien registration and set penalties for "subversive activities."

ANSWER: **Smith** Act <Bentley>

20. Identify the following about Ancient Greek theatre, for 10 points each.

[10] A figure named Thespis supposedly originated the concept of a soloist in Greek drama by employing one of these items. These objects might have a built-in megaphone.

ANSWER: a **mask** [or a **prosopon**]

[10] Aeschylus, Euripides, and Sophocles combined for at least 12 wins in the tragedy category of the "city" version of this Athenian festival, named for the god it honored.

ANSWER: the **Dionysia** [or the City **Dionysia**]

[10] A crane that swung actors playing gods across the stage gives rise to the term for this literary device, which is Latin for "god from the machine".

ANSWER: **deus ex machina** <Bentley>

21. Answer the following about contemporary African-American playwrights, for 10 points each.

[10] The "washer of souls" Aunt Ester appears in many of the plays in this author's *Pittsburgh Cycle*, which also includes *Ma Rainey's Black Bottom*, *The Piano Lesson*, and *Fences*.

ANSWER: August **Wilson** [or Frederick August **Kittel**, Jr.]

[10] *Topdog/Underdog* author Suzan-Lori Parks wrote the teleplay for a 2005 adaptation of this novel, in which the protagonist narrates her life, including her marriages to Logan Killicks and Jody Starks, to her best friend Pheoby Watson.

ANSWER: ***Their Eyes Were Watching God*** [by Zora Neale Hurston]

[10] This author, who asserted "we want 'poems that kill'" in his poem "Black Art", wrote a play set on a subway car in which a white woman named Lula verbally spars with, then stabs, a black man named Clay, called *Dutchman*.

ANSWER: Amiri **Baraka** [or LeRoi **Jones**; or Everett LeRoi **Jones**; or Imamu Amear **Baraka**] <Carson>

22. The vacuum permeability is divided by this constant in the Biot-Savart Law. For 10 points each:

[10] Name this constant that is multiplied by ten to the negative seventh power to give the exact value of the vacuum permeability.

ANSWER: **four pi** [or approximately **12.57**; do not accept or prompt on partial answers]

[10] The Biot-Savart law can be used to calculate the field inside one of these devices, which consist of a wire wrapped around a metallic core to give a strong electromagnet.

ANSWER: **solenoids**

[10] According to Coulomb's Law, this quantity equals the product of two charges, divided by four pi times the vacuum permittivity, divided by the distance between the charges squared.

ANSWER: electrostatic **force** [or **E**] <Silverman>

23. The Akademia, Lykeion and Kynosarges were the three public examples of these places in Athens. For 10 points each:

[10] Identify these places where Ancient Greeks might train in the nude for the Greater Panathenaia games. These places also served as educational facilities.

ANSWER: **gymnasium** [or **gymnasium**; or **gym**]

[10] Greek athletes would cover their skin in this material along with a coating of dust. This substance, made from fruit of an olive tree, was often stored in jars called amphorae.

ANSWER: olive **oil**

[10] During the Panathenaia festival, Athenians would march past this part of town. Similar to the Roman forum, this open space in the center of a Greek city might contain shops and be enclosed by public buildings.

ANSWER: **agora** <Bentley>