

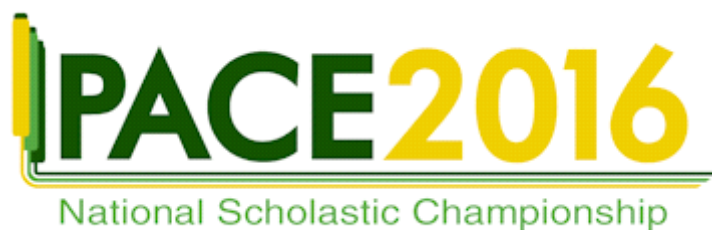
2016 NSC - Official Scoresheet

Round	15	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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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 15 - Tossups

1. Laborers of this nationality formed a united front with Mexican workers in the 1903 Oxnard strike. Two civilians of this nationality helped a downed fighter pilot terrorize a town in the Ni'ihau incident. People of this nationality fought in the highly decorated 442nd Infantry Regiment, whose 14,000 soldiers earned over 9,000 Purple Hearts. Ansel (*) Adams photographed people of this nationality for his collection *Born Free and Equal*. In 1907, their immigration to the U.S. was limited in the "Gentlemen's Agreement." U.S. civilians of this nationality were targeted by Executive Order 9066, which was unsuccessfully challenged in *Korematsu v. U.S.* For 10 points, identify this nationality whose members were sent to internment camps during World War II.

ANSWER: Japanese-Americans <Wang>

2. This character is confused for multiple siblings by a gay French teacher whom the protagonist plays chess with. The narrator slaps this character for lying about getting soda with a friend and altering the license plate number he recorded of the red convertible which was following them. The preface explains that this character died in childbirth after marrying Dick Schiller. A man's (*) diary entries about this character prompt Charlotte to run into the road and get hit by a car. This character is taken to a ranch owned by the playwright of *The Enchanted Hunters*, Clare Quilty. The narrator calls this character "light of my life, fire of my loins." For 10 points, name this "nymphet" loved by Humbert Humbert in the Vladimir Nabokov novel she titles.

ANSWER: Lolita Haze [or Dolores; or Lol; or Dolly; prompt on Haze] <Brownstein>

3. Either relative volume or the relative content of this substance are plotted on the x-axis of a Höfler diagram. Scarcity of this substance may cause embolisms to form due to cavitation through pit membranes. Scholander's pressure bomb can be used to measure a "potential" named for this substance which is denoted with the letter psi. Oxygen evolution in photosystem II proceeds through (*) oxidation of this compound. Loss of this substance from a plant cell may cause turgor loss. The cohesion-tension theory explains this substance's motion through the xylem, and it is lost from leaves through transpiration. For 10 points, name this compound that plants combine with carbon dioxide to make glucose in photosynthesis, which splits it in the first step.

ANSWER: water [or H₂O] <Kothari>

4. This country's Ardeche River, and its distinctly turquoise Verdon River, both run through large limestone gorges that are currently major tourist attractions. More than 10,000 Neolithic monoliths stand in this country's town of Carnac, which lies near the popular yachting destination of Quiberon Bay. Norman Foster designed this country's (*) Millau (**mee-YO**) Viaduct, the tallest bridge in the world, which crosses over a tributary of its Garonne River. The three-story tall Pont du Gard aqueduct stands in its historic region of Languedoc. The iconic monastery of Mont Saint-Michel, which is only accessible during low tides, sits on an island in this country's region of Normandy. For 10 points, name this country whose capital is Paris.
ANSWER: Republic of France <Wang>

5. A rubber eraser was used to create the fleur-de-lis pattern present on all of these paintings. Irving Blum had to buy some of these paintings back after some were sold during the artist's first solo show at Ferus Gallery. These works were traced and gradually enlarged from a mailing envelope. Despite the similarity of the entries in this series, they were made a few months before their artist discovered the silkscreen process for (*) mass reproduction. The word "Consommé" (**con-sum-MAY**) can be seen on one of these paintings, and one contains the phrase, "Great as a sauce, too!" These paintings were originally exhibited on shelves to evoke the feeling of a grocery aisle and include entries such as "Tomato." For 10 points, name this series of paintings by Andy Warhol of a packaged food product.
ANSWER: Andy Warhol's Campbell's Soup Cans [prompt on partial answer] <Bentley>

6. The first "psychological" types of this art form include *Cross-Gartered* and *Dark Elegies*, which were made by Antony Tudor; his work of this type named *Lilac Garden* showcased the talents of an aging Maria Tallchief. *Tales of Beatrix Potter* is a film from this artform's "neoclassical" phase made by Frederick Ashton. Nikolai Legat developed a method to teach this form that was employed in an institution named for Mariinsky. Marie Taglioni helped spread that (*) "Classical" style of this art form, and was one of the first to perfect the "en pointe" technique. Cesare Negri invented the "five positions" of this art form, in which feet are oriented at different angles. For 10 points, name this art form that whose practitioners might appear in *The Nutcracker* and *Sleeping Beauty*.
ANSWER: ballets [prompt on dance] <Jose>

7. A series of discussions between this man, R. Adam Engle, and neuroscientist Francisco Varela led Engle to found the Mind and Life Institute. This leader's repudiation of *The Yellow Book* caused friction with the New Kadampa Tradition, which venerates Dorje Shugden. Psychiatrist Howard Cutler posed questions to this man for *The Art of Happiness*. A vision in (*) Lhamo Lhatso of a house with strange gutters led to this person's discovery, which was confirmed when he recognized his predecessor's possessions, as depicted in the movie *Kundun*. This head of the Gelug school is 14th in a line of tulkus, or reincarnations. He went into exile in Dharamsala after his country was annexed by China. For 10 points, name this Tibetan Buddhist leader.
ANSWER: Tenzin Gyatso, the 14th Dalai Lama [accept either underlined portion; accept Jetsun Jamphel Ngawang Lobsang Yeshe Tenzin Gyatso; accept Lhamo Thondup] <Kothari>

8. A dream of the prophet Muhammed inspired the writing of a text in this genre by Evliya Çelebi (CHELL-eh-bee). The work of Odoric of Pordenone was incompetently plagiarized for a text in this genre attributed to the knight John Mandeville. The author of a text in this genre served as a judge in the Maldives and in the court of Muhammad ibn Tughluq. The Yam system and the carrying of *paiza* tablets by administrators are described in a text in this genre (*) narrated to Rustichello da Pisa in a Genoese prison. This genre of the *Rihla* of Ibn Battuta is shared by a text entitled *The Million* which describes the summer palace at Xanadu. For 10 points, the Silk Road and the court of Kublai Khan are described in a text of what genre by Marco Polo?

ANSWER: travelogues [or similar answers like travel literature or travel narratives; or journey texts] <Brownstein>

9. A poem by this author imagines a "splendid city, crown'd with endless day, whose twice six gates on radiant hinges ring" where the addressee, the painter "S.M.," will no longer paint "Damon" or "Aurora." One of this author's poems advises Christians to remember that certain people "may be refined and join th' angelic train." One of this author's poems states "Proceed, great chief, with virtue on thy side" and begins "Celestial (*) choir! enthron'd in realms of light." This poet addressed a "happy saint" in an elegy on George Whitefield's death and opened another poem with the line "mercy brought me from my pagan land." For 10 points, name this author of "To His Excellency George Washington" and "On Being Brought from Africa to America," an early female African-American poet.

ANSWER: Phillis Wheatley <Brownstein>

10. The drug denosumab mimics a protein produced in this material that acts as a decoy receptor for RANKL (RANK-kull), and its formation is accompanied by increased expression of alkaline phosphatases. A class of critical TGF-beta growth factors are named for this substance's morphogenesis. Polynucleated cells with ruffled borders, found in depressions called Howship's (*) lacunae (lah-COO-nay), resorb this substance to increase blood calcium. Biomineralization to form this substance requires hydroxyapatite to be deposited in an organic matrix. Calcitonin is administered to treat a condition of this tissue named osteoporosis. For 10 points, name this hard connective tissue created by osteoblasts which makes up the skeleton.

ANSWER: bone tissue [or bone marrow] <Yu>

11. Gerald Cohen's analytic approach to his philosopher's theory of history was a reaction against the vagueness of Louis Althusser's interpretation of this man's work. This man sketched out the plan for a multi-volume work and introduced the notion of "surplus value" in his sprawling *Grundrisse*. He criticized the SDAP political platform, which was based on the ideas of Ferdinand Lassalle, in a letter which states (*) "From each according to his ability, to each according to his need." This author of *Critique of the Gotha Program* proposed that a certain type of system divides society into a base and a superstructure, and wrote that class struggle will lead to a transitional dictatorship of the proletariat. For 10 points, name this German political economist who wrote *Das Kapital*.

ANSWER: Karl Marx <Jose>

12. In a play by this author, a man translates a passage of Euripides with the title character's name substituted for the word "loveliness." In one of his plays, the ruffian Bill Walker apologizes for hitting Jenny Hill after a wrestler kneels on his head and prays for him. Lady Britomart's ex-husband passes his company to the foundling scholar (*) Adolphus Cusins in a play by this author in which Andrew Undershaft perturbs his daughter by donating money made in arms manufacturing to the Salvation Army. Another play by this author opens with Colonel Pickering making a bet that Professor Higgins can't make the flower girl Eliza Doolittle speak like a duchess. For 10 points, name this Irish playwright of *Major Barbara* and *Pygmalion*.

ANSWER: George Bernard Shaw <Brownstein>

13. After his family was expelled from Portugal, this city became the home of rabbi Menasseh ben Israel, who later negotiated with Oliver Cromwell to allow Jews to reside in England. The high prices fetched by items such as the *Semper Augustus* in this capital city are described in an exaggerated account by Charles MacKay. In 1603, the world's first stock exchange was founded in this city by the world's first multinational corporation, which was known by the initials (*) VOC. Tulip bulbs were traded on that stock exchange in this capital city during a 17th-century mania. In 1656, its Jewish community expelled the young philosopher Baruch Spinoza. For 10 points, concentric rings of canals surround what capital of the Netherlands?

ANSWER: Amsterdam <Wang>

14. In a composition of this type, Robert Schumann depicted putting some of these pieces into a coffin and casting them out to sea. A collection of these pieces partly titled for a swan includes "Taubenpost," its composer's final work in this form. Dietrich Fischer-Dieskau was best-known for performing these pieces. Variations on the main theme of a piece of this type comprise the second movement of the (*) *Death and the Maiden* Quartet. A father rushes home on horseback as his son is whisked away by a malevolent spirit in *Der Erlkönig*, a piece in this genre. *Die Schöne Müllerin* and *Winterreise* are two collections, or "cycles," of these pieces. For 10 points, Franz Schubert composed hundreds of what genre of art song?

ANSWER: lied [or lieder; accept song until it is read and prompt thereafter] <Kim>

15. A character in this book describes a pill he invented which allows its user to save 53 minutes a week by not having to drink water. A geographer alarms this novel's protagonist by defining "ephemeral" as "in danger of speedy disappearance." This book describes a scientist whose discovery is ignored because of his Turkish costume. This novel's protagonist is told "It is only with the heart that one can see rightly" by a fox who asks to be tamed. The protagonist of this novel (*) meets a king, a drunk, and a lamplighter after leaving his home, where he battles baobabs and tends a proud rose. This book's narrator encounters the title character after his plane crashes in the Sahara. For 10 points, name this novella about a boy from asteroid B-612 by Antoine Saint-Exupéry ("sahn ex-oo-per-EE").

ANSWER: *The Little Prince* [or *Le Petit Prince*] <Brownstein>

16. Singmaster's conjecture states that all but one of the positive numbers in this construct appear a constant number of times. The sum of the values running along a "heel" of this entity equals its "toe," according to the Christmas Stocking Theorem. The time-space diagram of Rule 90 generates a modulo-two version of this construct called Sierpiński's sieve. The Fibonacci sequence can be generated by summing the shallow (*) diagonals of this construct. When expanding the expression x plus y , all to the n th power, the coefficients of the polynomial are given by the n th row of this construct. Entries in its n th row are generated by summing two values from its n minus one-th row. For 10 points, name this geometric array of numbers that is named for a 17th-century French mathematician.

ANSWER: Pascal's triangle [or Pascal Triangle; accept Yang Hui's triangle or Tartaglia's Triangle or Khayyam Triangle or Khayyam–Pascal Triangle] <Jose>

17. Coke of Holkham promoted his own supposed innovations in this field of endeavor. During a period of innovation in this activity, new areas for use in it were created by the projects of Dutch engineer Cornelius Vermuyden (fer-MAO-dun**). After withdrawing to his estate at Raynham, Charles Townshend earned his alliterative nickname for innovations in this activity, such as developing the Norfolk system. The belief that all (*) wealth originated from this activity was held by the Physiocrat school. A drill for use in this activity was developed by Jethro Tull. Prior to this activity's namesake 18th-century revolution in Britain, it often involved three-year rotations followed by a fallow year. For 10 points, name this human activity which uses techniques like plowing and crop rotation.**

ANSWER: agriculture [or farming; prompt on answers such as land development or land reclamation] <Brownstein>

18. Alberto Alesina and Larry Summers summarized results showing that this phenomenon decreases as central bank independence increases. According to the Taylor principle, an increase in this phenomenon necessitates a corresponding increase in the interest rate. Increases on the y -axis in the AD–AS model represent this phenomenon, which can occur when aggregate demand grows (*) faster than aggregate supply. In 1981, the Fed chairman Paul Volcker intentionally caused a recession in order to combat this phenomenon. Milton Friedman claimed that it "is always and everywhere a monetary phenomenon," supporting the theory that it only happens due to increases in the money supply. For 10 points, name this phenomenon in which prices increase and money becomes less valuable.

ANSWER: inflation [or inflation rate; or price inflation; prompt on descriptions such as increase in price [levels]; do not accept or prompt on "deflation"] <Wang>

19. In one story, this thing was represented by a god who was born from a blue lotus bud after the creator god wept. Nefertem represented an aspect of this entity, which often appeared as a part of the *uraeus* ornament. A demon who lived beyond the farthest mountain and had a head made of flint frequently attacked this thing. During the Middle Kingdom, the deity associated with it was syncretized with Horus, gaining the name "Horakhty". The (*) scarab god Khepri was believed to be responsible for this thing's movement. A barge representing this object was regularly attacked by the fiendish Apep during the journey through the underworld it made every night. For 10 points, Aten and Ra represented aspects of what celestial body that provided warmth and light?

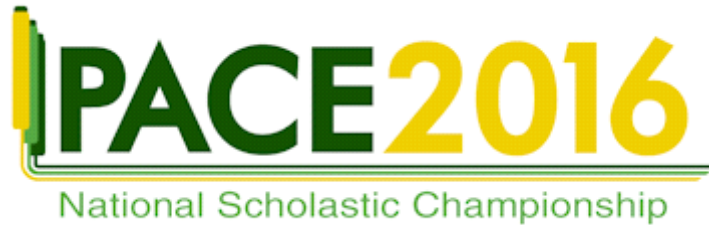
ANSWER: the sun [or Sol; or the solar barque or solar barge] <Jose>

20. The software package COMSOL uses models such as yPlus and k-omega to describe this phenomenon. Momentum and heat transfer effects caused by this phenomenon can be modeled by the "mixing length" model developed by Ludwig Prandtl. Blasius theory does not apply in this type of boundary layer, in which the coefficient of skin friction is large and boundary layer separation caused by adverse (*) pressure gradients becomes delayed. Energy cascades caused by this phenomenon break up large eddies and vortexes into small ones. At Reynolds numbers above 3000, this type of flow occurs, resulting in irregular and chaotic fluctuations in the fluid velocity. Laminar flow is contrasted with, for 10 points, what type of flow which can cause airplane passengers to have a bumpy ride?

ANSWER: turbulence or turbulent flow <Busse>

21. This philosopher wrote of a heliocentric world in his scientific inquiry *The World*, but abandoned it after hearing of Galileo's condemnation. This philosopher compared the task of separating knowledge from false belief with separating good and bad apples in the last of a set of replies to objections to one of his books. In that book, he wrote "whether I am awake or asleep, two and three add up to five" and used a (*) melting ball of wax to illustrate the importance of grasping things through reason. He imagined that all his knowledge of the world was corrupted by an evil demon and doubted his own existence in his *Meditations on First Philosophy*. For 10 points, name this philosopher, whose *Discourse on Method* contains the statement "I think, therefore I am."

ANSWER: René Descartes <Jose>



PACE NSC 2016 - Round 15 - Bonuses

1. This pope's 1979 visit to his native Poland catalyzed the formation of the Solidarity movement. For 10 points each:

[10] Name this pope who preceded Pope Benedict XVI, serving from 1978 to 2005. He was the first non-Italian pope since the 16th century.

ANSWER: Pope **John Paul II** [or Karol Józef **Wojtyła**; prompt on John Paul or JP II]

[10] John Paul II discussed topics like the resurrection, celibacy, and natural family planning in six cycles of lectures on the theology of this entity, which he claimed is oriented toward marriage.

ANSWER: the **body**

[10] The Theology of the Body lectures were discussed in Pope Benedict XVI's *Deus caritas est*, which meditates on the relationship between Christianity and three Greek terms for this concept, including *agape*. C. S. Lewis wrote a book on four kinds of this concept.

ANSWER: **love** <Kothari>

2. This composer was slow to finish his Sibelius-inspired Symphony No. 1 in B-flat minor thanks to writer's block resulting from his relationship with Irna von Doernberg. For 10 points each:

[10] Name this English composer who set poems by Edith Sitwell in his *Facade*. Edith's brother Osbert selected the text he used in his extremely popular cantata *Belshazzar's Feast*.

ANSWER: William **Walton** [or William Turner **Walton**]

[10] Walton's other famous works include a concerto for this string instrument, which is slightly larger and pitched slightly lower than the violin. Most music written for this instrument uses the alto clef.

ANSWER: **viola**

[10] Walton's Viola Concerto was premiered by this German composer, who advocated "utility music" composed for a specific, identifiable purpose. He also composed the opera *Mathis der Maler* and the *Symphonic Metamorphosis of Themes by Carl Maria von Weber* (**VAY-burr**).

ANSWER: Paul **Hindemith** <Alston>

3. Answer the following about the Manitoba schools question of the 1890s, for 10 points each.

[10] Manitoba's premier Thomas Greenway cut funding for religious schools because the number of Manitoba residents in this church had declined significantly. A plurality of French-speaking Canadians belong to this church.

ANSWER: Roman **Catholic** Church [prompt on the Christian church]

[10] The 1870 Manitoba Act, which established a system of Protestant and Catholic schools in the province, was signed by this man's provisional government. This member of the Métis people led the Red River Rebellion.

ANSWER: Louis David **Riel**

[10] The Manitoba Schools Question allowed this man to defeat Charles Tupper in the 1896 federal election. This man was Canada's first French-speaking prime minister.

ANSWER: Wilfrid **Laurier** [or Sir Henri Charles Wilfrid **Laurier**] <Bentley>

4. William Hazlitt declared that this artist only depicted folly and vice "pampered into all sorts of affectation, airy, ostentatious and extravagant." For 10 points each

[10] Name this artist who achieved commercial success by selling subscriptions to prints of works such as *Marriage a la Mode* and *Beer Street / Gin Lane*.

ANSWER: William **Hogarth**

[10] Hogarth satirized the fashions of this century with the etching *Five Orders of Periwigs*. During his career in this century, Hogarth was insulted when King George II rejected his painting *The March to Finchley*.

ANSWER: **18th** century [or **1700s**]

[10] In a Hogarth painting which may be classified as a self-portrait or a still life, one of these specific animals belonging to Hogarth stands next to an oval frame of the artist and a pile of books.

ANSWER: **pug** [prompt on **dog**] <Bentley>

5. This event began after a car crash in the Jabaliya refugee camp. For 10 points each:

[10] Name this conflict, which lasted from 1987 until the signing of the Oslo Accords in 1993. Its name translates as "shaking off," and it was followed by a second such event in 2000.

ANSWER: First **Intifada** [accept but do NOT reveal First Palestinian **Intifada**]

[10] The First Intifada was an unsuccessful effort by these people to forge their own state. The PLO agitates for the rights of this group, who live in the West Bank and Gaza Strip territories.

ANSWER: **Palestinians** [or **Palestinian** Muslims; or residents of **Palestine**]

[10] While serving as Minister of Defense during the First Intifada, this Israeli earned the nickname of "bone breaker" after his instructions to "break the bones" of demonstrators. This man was serving as Prime Minister when he was assassinated in 1995.

ANSWER: Yitzhak **Rabin** <Bentley>

6. This man was tapped for his highest post while serving as President of Texas A&M. For 10 points each:

[10] Name this man, the only cabinet member from the Bush administration who joined the Obama cabinet. He wrote the tell-all memoir *Duty* about his time serving both presidents.

ANSWER: Robert **Gates** [or Robert Michael **Gates**]

[10] Gates served in this cabinet position before resigning in 2011. Ash Carter is the current holder of this position, which was earlier held by Donald Rumsfeld.

ANSWER: Secretary of **Defense**

[10] In *Duty*, Gates describes how hard he had to fight to get more frontline troops in Iraq equipped with these types of vehicles, which are better able to withstand explosions from IEDs. The BAE Caiman 4x4 is an example of the Category I type of these vehicles.

ANSWER: **MRAPs** [or **Mine Resistant Ambush Protected** vehicles] <Bentley>

7. Wilhelm Dilthey popularized this word in an essay about Friedrich Schleiermacher and held that *Wilhelm Meister's Apprenticeship* was its prototypical example. For 10 points each:

[10] Give this German term that means "novel of formation," which usually depicts the upbringing of a character in the world.

ANSWER: **bildungsroman**

[10] This German author of *The Sorrows of Young Werther* and *Faust* wrote the bildungsroman *Wilhelm Meister's Apprenticeship*.

ANSWER: Johann Wolfgang von **Goethe**

[10] The common tropes of the *bildungsroman* are reversed in this author's novel *Beneath the Wheel*, in which Hans Giebenrath fails to acclimatize to society and ultimately ends up drowning in a river.

ANSWER: Hermann **Hesse** <Jose>

8. A "runaway" form of this effect on the planet Venus is an example of a positive feedback loop in the atmospheric sciences. For 10 points each:

[10] Name this phenomenon in which namesake gases cause thermal radiation to be re-emitted in all directions. It is named for a structure used to control the climate of plants.

ANSWER: **greenhouse** effect [or **greenhouse** gas]

[10] This is the most abundant greenhouse gas in Earth's atmosphere, although both methane and carbon dioxide are stronger contributors to the greenhouse effect.

ANSWER: **water** vapor [or **aqueous** vapor or **H₂O**]

[10] To calculate the effects of the greenhouse effect, the Intergovernmental Panel on Climate Change proposed this quantity, which is defined as the difference between outgoing and incoming radiation at the tropopause.

ANSWER: radiative **forcing** [do not accept or prompt on word forms, such as "force"] <Jose>

9. Answer the following about fork bombs, for 10 points each.

[10] In a fork bomb, these entities are duplicated until an operating system slows to a halt. These things are more resource intensive than threads, and they utilize their own memory pools.

ANSWER: **processes**

[10] Hackers and other computer intruders may create a fork bomb to initiate one of these attacks, in which a computer or computer network's resources are made useless to its users. A "distributed" one involves numerous IP addresses.

ANSWER: **denial of service** attack [accept distributed **denial of service** attack; prompt on **DOS**; prompt on **DDOS**]

[10] Fork bombs are often written by putting the fork system call inside of the "while" type of these structures. They are often unrolled during compilation.

ANSWER: **loops** <Jose>

10. In one of this man's plays, the owner of Don's Resale Shop plans a burglary after thinking he's been duped into undervaluing a coin. For 10 points each:

[10] Identify this profanity-loving American playwright of *Glengarry Glen Ross* and *American Buffalo*.

ANSWER: David **Mamet** [or David Alan **Mamet**]

[10] In Mamet's play *Speed-the-Plow*, Bobby and Richard both work in this industry. F. Scott Fitzgerald's unfinished novel *The Last Tycoon* centers on Monroe Stahr, who also works in this industry.

ANSWER: **film** industry [or **movie** industry or **Hollywood**]

[10] In Mamet's screenplay for the film version of *Glengarry Glen Ross*, the character Blake delivers a monologue in which he insists to Levene that "coffee's for [people who perform this action] only".

Later, Blake points to a blackboard and yells, "always be [performing this action]!"

ANSWER: **closing** a sale <Bentley>

11. Medieval Arab historians such as al-Tabari contended that this woman was Arab and not Greek and was originally named al-Zabba. For 10 points each:

[10] Name this Queen of Palmyra who revolted against Emperor Aurelian, gaining control of Egypt and some of Asia Minor.

ANSWER: **Zenobia** [or Julia Aurelia **Zenobia**; or Septimia **Zenobia**; or **Znwbya** Bat Zabbai]

[10] Zenobia compared herself to this Egyptian monarch when refusing an invitation to surrender at the siege of Palmyra. This woman and her lover Mark Antony were defeated at the Battle of Actium.

ANSWER: **Cleopatra** [or **Cleopatra** VII Thea Philopator; or **Cleopatra** the Father-Loving Goddess]

[10] According to Edward Gibbon, Zenobia "almost fainted under the intolerable weight of jewels" during one of these events. Vercingetorix was strangled after appearing in one of these events, during which a slave had the job of whispering a *memento mori*.

ANSWER: Roman **triumphs** <Bentley>

12. This model's inability to model blackbody radiation led to the ultraviolet catastrophe. For 10 points each:

[10] Name this theorem stating that molecules in thermal equilibrium have equal amounts of energy in each degree of freedom.

ANSWER: **equipartition** theorem

[10] The equipartition theorem explains why this number is multiplied by Boltzmann's constant times absolute temperature to calculate the average kinetic energy of molecules.

ANSWER: **3/2** [or **1 1/2**; or **1.5**]

[10] In 1907, Albert Einstein claimed that his theory explaining this motion of a particle suspended in a fluid could be used to test the equipartition theorem. The experiment Einstein proposed was successfully carried out by Mark Raizen in 2010.

ANSWER: **Brownian** motion <Reinstein>

13. A disguised Odin advises this creature's killer to dig a ditch so that this being's poisonous blood can be drained away. For 10 points each:

[10] Name this son of the dwarf Hreidmar, who was turned into a hideous dragon after he was afflicted with the curse of Andvari.

ANSWER: **Fafnir** [or **Fraenir**]

[10] Fafnir was slain by this hero, a son of Sigmund who gains the ability to understand the language of the birds after tasting Fafnir's blood.

ANSWER: **Sigurd** [accept **Siegfried**]

[10] The story of Sigurd slaying Fafnir appears in the "Poetic" one of these texts, which were compiled and written by Snorri Sturluson.

ANSWER: **Eddas** [accept **Poetic Edda**] <Jose>

14. Answer the following about Paul Ehrlich's 1968 book *The Population Bomb*, for 10 points each.

[10] Ehrlich expanded on the work of this 18th-century English thinker, who warned that the human population grew exponentially but food production could only grow linearly.

ANSWER: Thomas **Malthus** [or Thomas Robert **Malthus**]

[10] So far, Ehrlich's predictions of mass starvation have been allayed thanks in part to this so-called "Father of the Green Revolution." This biologist won the 1970 Nobel Peace Prize for introducing high-yield wheat to developing nations.

ANSWER: Norman **Borlaug**

[10] The persistence of mass starvation despite the Green Revolution has been studied by this Indian economist in books such as *Poverty and Famines*.

ANSWER: Amartya **Sen** <Wang>

15. This author rewrote a letter he addressed to his nephew as a pamphlet on the art of currying favor entitled *The Apprentice's Vade Mecum* (**WAH-day MAY-koom**). For 10 points each:
[10] Name this author, who wrote about Sir Hargrave Pollexfen kidnapping Harriet Byron in his novel *The History of Sir Charles Grandison*.
ANSWER: Samuel **Richardson**
[10] Samuel Richardson also wrote this novel, sometimes considered to be the English language's longest, in which Robert Lovelace convinces the title character to elope with him but later makes her his prisoner.
ANSWER: **Clarissa**, or *the History of a Young Lady*
[10] *Clarissa*, as well as Richardson's other novel *Pamela*, is an epistolary novel, meaning that it is written in the form of these documents,
ANSWER: **letters** <Jose>

16. Most proteins destined for this organelle unusually have a localization signal near the C-terminus. For 10 points each:
[10] Name this organelle, which oxidizes long-chain fatty acids and has high concentrations of catalase to break down reactive oxygen species.
ANSWER: **peroxisomes**
[10] Another cellular mechanism to break down hydrogen peroxide involves redox coupling between glutathione and this compound. This reducing agent is required for hydroxylating lysine during collagen synthesis.
ANSWER: **ascorbate** [or **ascorbic acid**; or **Vitamin C**]
[10] Cells in this organ have a particularly high concentration of peroxisomal catalase due to its role in detoxifying alcohol and other substances in the body. Excessive alcohol consumption can lead to cirrhosis and scarring of this organ.
ANSWER: **liver** <Zhang>

17. A poet from this movement wrote "Let the Ancestors speak around us as parents do when the children are in bed" in the poem "Night in Sine." For 10 points each:
[10] Name this literary movement led by the author of the poem "Black Woman," Léopold Senghor, as well as by Aimé Césaire and Léon Damas.
ANSWER: **Négritude**
[10] The Négritude movement advocated for a shared racial consciousness among residents of this continent and those who are part of its worldwide diaspora.
ANSWER: **Africa**
[10] Senghor told "red," "black," and "white" objects of this sort that "I greet you in silence!" in a poem written as a "prayer to" them. This sort of object "grins and lies" in a Paul Laurence Dunbar poem.
ANSWER: **masks** [or "Prayer to **Masks**"; or "We Wear the **Mask**"] <Brownstein>

18. This architect entrusted Iannis Xenakis with the construction of the Philips Pavilion for the 1958 World's Fair in Brussels. For 10 points each:
[10] Name this Swiss-born French architect who said that a house was a "machine for living" in his book *Towards a New Architecture*. He designed the Villa Savoye.
ANSWER: Le **Corbusier** [or Charles-Édouard **Jeanneret-Gris**]
[10] In the 1950s, Le Corbusier started liberally using this material in his buildings, such as in the Villa Savoye and Philips Pavilion. It can be reinforced with steel rods before it hardens.
ANSWER: reinforced **concrete** [accept **brut**]
[10] Le Corbusier's idea of a Radiant City, replete with high-rise apartments, was put into practice with his design for this planned city of India. This city also features the largest of his Open Hand sculptures.
ANSWER: **Chandigarh** <Bentley>

19. These laws mandated prison sentences of at least 15 years for selling more than two ounces of substances such as cannabis or heroin. For 10 points each:

[10] Name these New York State laws of the 1970s, named for a governor with the first name Nelson.

ANSWER: **Rockefeller** Drug Laws

[10] Many people who were ultimately prosecuted under the Rockefeller drug laws were arrested during one of these proceedings. The name for this type of police stop comes from a 1968 Supreme Court case concerning reasonable suspicion.

ANSWER: **Terry** stops

[10] In 1973, Michigan passed a law which mandated this type of sentence for people who were found in possession of over 650 grams of either heroin or cocaine. Defense attorney Clarence Darrow helped secure this type of sentence for the murderers Leopold and Loeb.

ANSWER: **life** sentence without the possibility of parole [or **lifelong** incarceration; or **life** imprisonment plus 99 years] <Bentley>

20. In a dialogue with his student Boso titled *Cur Deus Homo*, this man presented the "satisfaction" view on the mystery of the atonement. For 10 points each:

[10] Name this scholastic thinker, who wrote a "dialectic" between justice and mercy in the 9th, 10th, and 11th chapters of most famous work, which introduced his motto of "faith seeking understanding."

ANSWER: **Anselm** of Canterbury

[10] St. Anselm's *Proslogion* advanced this argument for the existence of God, which states that God must exist since being maximally great entails existence.

ANSWER: **ontological** argument

[10] Norman Malcolm argued that Anselm actually proposed two ontological arguments, but he is perhaps more famous as an interpreter of this author of *Tractatus Logico-Philosophicus* and *Philosophical Investigations*.

ANSWER: Ludwig Josef Johann **Wittgenstein** <Jose>

21. In a letter about this opera, Mozart wrote to his father Leopold that ensembles must sing *parlando*, or expressively, rather than *spianato*, or smoothly. For 10 points each:

[10] Name this opera composed by Mozart about a king who vows to sacrifice the first creature he sees on land if Neptune will save him from a storm. Unfortunately, it turns out to be his son.

ANSWER: **Idomeneo**, *re di Creta* [or **Idomeneo**, *King of Crete*]

[10] The plot of *Idomeneo* was influenced by this composer whose *Iphigénie en Aulide* also depicts a person almost being sacrificed to the gods. This man also wrote *Orfeo ed Euridice*.

ANSWER: Cristoph Willibald **Gluck**

[10] The imprint of Gluck's influence is also found in this Mozart *Singspiel*. In this opera, the Queen of the Night orders Pamina to kill Sarastro in the aria "Der Hölle Rache" (**der HER-luh RAHK-huh**).

ANSWER: *The **Magic Flute*** [or *Die **Zauberflöte***] <Kothari>