

**Brookwood Invitational Scholars Bowl XXVI: Brought to you by the letter *J'accuse***  
**Round 6**

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**Tossups**

1. This city was divided into clans called calpulli. After a flood, this city was rebuilt by a ruler who came to power in 7 Rabbit. Another ruler of this city increased the power of the elite “pipiltin”, and had a name meaning “One who is angry in a noble manner.” This city, the site of the Night of Sorrows, was built on artificial islands used as “floating gardens” called chinampas. In this city, Teotlalco [TEO-LOL-KO] was used to play the “ball game.” This city was built around Lake Texcoco, and its ruler Montezuma II was killed after mistaking Hernan Cortés for Quetzalcoatl. For 10 points, identify this capital of the Aztec Empire.

ANSWER: Tenochtitlan

2. One man’s bent wrist in this painting mirrors the bent wrist of Adam in Michelangelo’s *Creation of Adam*. A boy clad in black and white in this work stares at the hand of Saint Peter and has a sword on his left hip. This painting’s companion works are in the Contarelli Chapel and depict the “Inspiration” and “Martyrdom” of the title figure. The four-panel window at the top-right corner of this painting is illuminated by a single shaft of light, which shines down onto the central apostle, who is pointing at himself. For 10 points, name this Caravaggio painting of the “calling” of the title tax collector.

ANSWER: *The Calling of St. Matthew*

3. One of this author’s protagonists tells his Nationalist captors that Ramon Gris is in a cemetery to protect his real hideout, not knowing Ramon has since moved to that cemetery. In a play by this man, a character with no eyelids works for his uncle as a Valet. This writer of “The Wall” retold the Orestes myth in a play whose title creatures represent the Furies. This author is best known for a play set in a “Second Empire” room inhabited by the lesbian clerk Inez and Joseph Garcin, who proclaims that “Hell is other people.” For 10 points, name this French Existentialist author of *The Flies* and *No Exit*.

ANSWER: Jean-Paul Sartre

4. Gates representing this operation are symbolized with a triangle with a circle at its tip. According to *modus tollens*, this operation applied to Q implies this operation applied to P, if P implies Q. In Java, this operation is represented with a “bang” or exclamation point. This operation may be represented as a tilde before a proposition. DeMorgan’s Laws give the result when this operation is applied to binary conjunction and disjunction. The inverse of a logical statement requires this operation to be applied to both statements. When applied to binary 0, it results in 1. For 10 points, name this binary operation that gives the logical opposite.

ANSWER: NOT [or negation; or word forms; or inverse or word forms; or logical complement]

5. Description acceptable. Visitors to these locations can write their wishes onto wooden plaques called ema, which are then hung onto the ceilings. These places are maintained by leaders called kannushi. The larger of the two houses at these locations are called haiden, which are connected by halls to the honden. These sites are usually flanked by two stone lions or dogs called komainu, and can also be guarded by stone foxes if dedicated to Inari. The entrances to these places are marked by tall orange and black torii gates. For 10 points, name these holy places which house the *kami* of an indigenous Japanese faith.

ANSWER: Shinto shrines [or gongen or taisha or jinja or jingu or mori; or places of Shinto worship or similar; prompt on “shrines”]

6. The Yabloko party was formed to oppose this no-longer-living politician, who drew conflict with his second-in-command Alexander Rutskoy. This politician once fell off of a bridge drunk, then rushed into a police station, claiming he was pushed. This leader’s system of vouchers became known as “shock therapy”. During a constitutional crisis, this man barricaded himself in his country’s “White House” and gave a speech atop a tank. The “oligarchs” arose near the end of this man’s presidency as a result of his free market reforms. He ceded power on December 31, 1999, to Vladimir Putin. For 10 points, name this first president of modern-day Russia.

ANSWER: Boris Yeltsin

7. In a Raymond Carver story, the narrator and a person of this type draw a picture of a cathedral. In one novel, the girl in dark glasses, the car thief, and the doctor, but not the doctor's wife, are these people. Rochester becomes one after Bertha Mason burns down Thornfield in *Jane Eyre*. HG Wells wrote a story titled for the "country" of them, while Margaret Atwood titled a novel for an "assassin" of this type. After learning from a prophetic person with this attribute that Jocasta is his mother, Oedipus makes himself one. Jorge Luis Borges and John Milton suffered this impediment. For 10 points, name this condition, which, along with deafness, was suffered by Helen Keller.

ANSWER: blind people [accept same-knowledge equivalents; accept "people who have ripped out their eyes" after the Oedipus clue]

8. When constructing molecular orbitals, the letters alpha and beta symbolize the eigenfunctions of this quantity. In the singlet state, the net value of this quantity equals zero. Metals with low splitting energy prefer to maximize this quantity according to Hund's rule of maximum multiplicity. This quantity explains why two lines appeared when silver atoms were passed through an inhomogeneous magnetic field in the Stern-Gerlach experiment, as it "couples" with orbital angular momentum. This quantity is opposite in sign for two electrons in an orbital according to the Pauli exclusion principle, and has a magnitude of 1/2. For 10 points, name this intrinsic angular momentum of a particle.

ANSWER: spin

9. The cause of one of these events was studied by utilizing "suicide PCR" on teeth pulp. Napoleon stands as Apollo Belvidere while visiting people affected by this type of event at Jaffa in a painting by Antoine-Jean Gros. A figure escaping one of these events passes the tests put forth by Walter, the Marquis of Saluzzo, and is named Griselda. Ten people fleeing this type of event tell stories in the *Decameron*. Mercutio proclaims one of these "o both your houses" in his dying words to Romeo and Juliet. For 10 points, name these events, one of which was caused by the bacteria *Yersinia pestis*, was spread by rats, and decimated the population of Europe during the "Black Death."

ANSWER: plague breakout [or Black Death before mention or Bubonic Plague or Septicemic Plague or Pneumonic Plague or Great Mortality]

10. Ralph ("rafe") Vaughan Williams' symphony of this number uses "Passage to India" and other poems by Walt Whitman as its text, and is called "A Sea Symphony." Bernstein's symphony of this number has a "Lamentation" third movement and tells the story of Jeremiah. Mahler's symphony of this number features a variation on "Frere Jacques" in the double bass, and is nicknamed the "Titan." Due to similarities to earlier works, Brahms' symphony of this number is referred to as "Beethoven's Tenth." For 10 points, name this symphony number, indicating a composer's initial foray into the category.

ANSWER: first symphonies [or Symphony No. 1]

11. James Bayard Sr. convinced his colleagues not to vote during this election year. The eventual winner of this election was called "not so dangerous a man" by an outgoing politician. The loser joined with James Wilkinson in a Spanish plot to have the American West secede. The Twelfth Amendment was passed in response to this year's election. In the lame duck period after this election, a Judiciary Act allowed for the appointment of Midnight Judges like William Marbury. For 10 points, name this election in which a tied electoral vote gave Thomas Jefferson the presidency over Aaron Burr and John Adams.

ANSWER: Election of 1800

12. Visitors to this city often drop a coin into a bronze bull's mouth, then rub its nose for luck. This city celebrates the First Crusade with a festival in which a cart full of fireworks explodes. An outdoor statuary in this city is home to Giambologna's *Perseus with the Head of Medusa*. Gold merchants swarm the central bridge over this city's river. The Vasari Corridor here connects the Vecchio Palace with the Pitti Palace. An octagonal building adjacent to this city's cathedral held a competition over the design of its doors, which Ghiberti won. Like its neighbor Pisa, the Arno River flows through this city. For 10 points, name this home of the Uffizi, the capital city of Tuscany, Italy.

ANSWER: Florence, Italy [or Firenze]

13. A character in this novel is disgusted with a man who doesn't like the writing of Cowper. Several characters in this novel debate over the origin of a lock of hair after a woman notices a locket-shaped ring. This novel's central family is forced to live with the Middletons at Barton Cottage after John and his wife Fanny give them only 2000 pounds. One character is spurned by the duplicitous John Willoughby, and another woman marries the former fiancée of Lucy Steele, Edward Ferrars. This novel ends with a marriage proposal by Colonel Brandon. For 10 points, name this novel whose title contrasts the philosophies of Elinor and Marianne Dashwood, written by Jane Austen.

ANSWER: *Sense and Sensibility*

14. This man called inhabitants of a neighboring country "descendants of apes and pigs" a year before he escaped from prison with the help of an organization from that country. "Rejection Friday" consisted of his supporters. The National Salvation Front was formed in response to a crisis brought on when this man's government failed to write a constitution. This leader defeated the Salafist Nour party to win his first election. Nobel Laureate and IAEA president ElBaradei opposed this politician, who led the Freedom and Justice Party in the 2012 elections. For 10 points, name this leader of the Muslim Brotherhood who was forcibly removed from the presidency of Egypt in 2013.

ANSWER: Mohammed Morsi [or Mohammed Mursi]

15. Efferent vessels attach to these structures at the hilum. The subcapsular and trabecular sinuses are located in these structures, which may act as germinal centers, where isotype switching occurs. Peyer's patches are analogous to these structures in the small intestines. These structures are the "N" in TNM, an important acronym involved in cancer staging. These structures are infected in Hodgkin's disease, and their swelling is a telltale symptom of AIDS. Humans have more than five hundred of these structures in the body, each storing macrophages and lymphocytes. Tonsils are large examples of, for 10 points, what "nodes" storing white blood cells?

ANSWER: lymph nodes [prompt on "nodes"; prompt on "lymphoid tissue"]

16. A hrímthurs [HER-IM-THURS] and one of these creatures built the walls of Asgard. In Norse myth, Arvakr and Alsvídr were these creatures. Odin stakes his head on a competition with Hrungrnir involving these creatures, and Thor gives one named Gullfaxi to Magni. One of these named Grani appeared from a river in front of Sigurd. One of these animals has runes carved onto his teeth and transports Hermódr to Hel after the death of Baldr. That son of Svadilfari [SVOD-ILL-FAR-EE] and Loki has eight legs and belongs to Odin. For 10 points, Sleipnir is a type of what animal, exemplified by the winged Pegasus in Greek myth?

ANSWER: horses

17. In a work composed by this man, four men bring the dancer a flower, then alternately dance with her, in a technically challenging scene called the Rose Adagio. In another of his ballets, four dancers grasping hands fall to the ground when trying to separate from each other; that scene was choreographed by Lev Ivanov. While squatting, men violently kick upward to perform the *prisiadka* in the *Trepak* of one of his ballets. Another ends with a procession of fairy tale characters after Desire wakes up Aurora. A celesta plays the Dance of the Sugar Plum Fairy in his ballet about Clara. For 10 points, name this composer of *The Sleeping Beauty*, *Swan Lake*, and *The Nutcracker*.

ANSWER: Pyotr Ilyich Tchaikovsky

18. In 1986, Curtis Kills Ree and Birgil Kills Straight established a 120 mile long horseback tour to memorialize this event. At a 1973 incident at the same place this event occurred, Richard Wilson's dissidents were killed by the GOONs. This event began at Pine Ridge after one side engaged the Miniconjou and Chief Big Foot surrendered. After shirts were unable to protect the victims of this event, followers of the self-proclaimed messiah, Wovoka, ended their adherence to the Paiute [PIE-OOT] Ghost Dance. For 10 points, name this December 1890 event in South Dakota at which the US Army massacred over 150 Lakota Sioux near a namesake creek.

ANSWER: Wounded Knee Massacre

19. The narrator of one poem by this author has “heard what the talkers were talking, the talk of the beginning and end” and discusses the “procreant urge of the world.” Another work by this poet ends “Great or small, you furnish your parts towards the soul.” That poem begins “Flood tide below me! I watch you face to face.” The narrator of this man’s most famous poem sounds his “barbaric yawp over the roofs of the world,” and begins “I celebrate myself, and sing myself.” For 10 points, name this American free-verse poet who included “Crossing Brooklyn Ferry” and “Song of Myself” in his *Leaves of Grass*.

ANSWER: Walt Whitman

20. This function of the vapor pressure is given by “A minus B over T plus C” in Antoine’s equation. The derivative of this function of the equilibrium constant with respect to temperature is related to the enthalpy of reaction by the Van’t Hoff equation. This function is applied to the reaction quotient, then multiplied by RT over nF, in the Nernst equation. pKa can be calculated as the negative of this function of the acid dissociation constant, and analogously, pH is the negative of this function of hydronium ion concentration. For 10 points, name this function, the inverse of exponentiation.

ANSWER: logarithm [or common logarithm; or natural logarithm; or ln]

### **The Round Is Over. Only Read the Tiebreaker if Needed**

21. A character of this type insults Mavis Pellington after Cornelius Appin shows him off at a dinner party in Saki’s story “Tobermory.” One of these characters is the only living thing that doesn’t sneeze at the Duchess’ peppery soup. The line “Nor all that glisters gold” comes from a poem by Thomas Gray about the death of one named Salima. The “Napoleon of crime” is one named Macavity, according a book owned by Old Possum about “practical ones.” One of these animals “may look on a king”, even though its smile disappears mysteriously. For 10 points, name these animals whose “Cheshire” variety lives in Wonderland.

ANSWER: cats

## Round 6 Bonuses

1. It was prophesied that Aeneas would found this city in the land of his forebears, where his shipmates were so hungry that they'd consume their own plates. For 10 points each:

[10] Name this city founded by the twins Romulus and Remus.

ANSWER: **Rome**

[10] This Roman god of gates was traditionally depicted as two-faced. He saved the Sabine Women from Romulus' men by having a hot spring erupt in their faces.

ANSWER: **Janus**

[10] This semi-mythical general was allegedly banished from Rome, so he allied with the Volscians to conquer the city before surrendering at the insistence of his mother Veturia.

ANSWER: Gaius Marcius **Coriolanus** [do not accept or prompt on "Gaius Marius"]

2. Answer the following about sodium, for 10 points each:

[10] Sodium is located in this first group on the Periodic Table, consisting of elements with very low ionization energies.

ANSWER: **alkali** metals [do NOT accept "alkaline" or "alkaline earth" metals]

[10] Sodium was first synthesized by Humphrey Davy using this process, which passes a current through a solution to promote non-spontaneous reactions. It is also used to produce hydrogen and oxygen from water.

ANSWER: **electrolysis**

[10] Sodium catches fire when added to water; however, it is stable in this compound, which can solvate electrons to form a characteristic blue solution. This is the simplest trigonal pyramidal compound.

ANSWER: **ammonia** [or **NH3**]

3. The first item on Barack Obama's policy agenda was shutting down this location. For 10 points each:

[10] Name this facility camp in Cuba which continues to house detainees.

ANSWER: **Guantanamo** Bay detention camp [or **Guantanamo** Bay Naval Base; or **Gitmo**; or **G-Bay**]

[10] This prison in Baghdad was the subject of similar international outcry when reports of *strappado* and rape of the inmates surfaced. Fernando Botero painted a series of gruesome works titled for this prison.

ANSWER: **Abu Ghraib**

[10] This man was the defendant in cases launched by two detainees at Guantanamo, Shafiq Rasul and Lakhdar Boumediene. This politician was the plaintiff in a court case which permitted Katherine Harris to stop recounts.

ANSWER: George Walker **Bush** [do not accept or prompt on George Herbert Walker Bush; accept anything to distinguish **Bush Jr.** from Bush Sr.]

4. This ruler managed to conquer the city of Larsa before illness forced him to hand power to his son Samsuilina. For 10 points each:

[10] Name this king of Babylon, best known for promulgating "an eye for an eye" in his namesake code.

ANSWER: **Hammurabi**

[10] The neo-Babylonian Empire lost to this man at the 539 BCE Battle of Opis. This father of Cambyses II conquered the Medians, ushering in the Achaemenid Empire.

ANSWER: **Cyrus** the Great [or **Cyrus II**]

[10] Cambyses II wasn't nearly as effective as his father, demonstrated by his failed invasion of this kingdom based in modern-day Sudan. This kingdom's capital of Meroe was eventually overtaken by Axum.

ANSWER: Kingdom of **Kush**

5. This poem mentions “the grating roar of pebbles”, a “tremulous cadence slow” which “Sophocles long ago heard...on the Aegean”, bringing to his mind the “turbid ebb and flow of human misery.” For 10 points each:  
[10] Name this poem which states that the “world which seems to lie before us, like a land of dreams” “hath really neither joy, nor love, nor light”.

ANSWER: “**Dover Beach**”

[10] “Dover Beach” was written by this British poet of “The Scholar-Gipsy”.

ANSWER: Matthew **Arnold**

[10] Give the last six words of “Dover Beach”. Making up the poem’s last line, these words immediately follow, “And we are here on a darkling plain/Swept with confused alarms of struggle and flight”.

ANSWER: “**where ignorant armies clash by night**” [do not accept or prompt if any of the words are incorrect at all]

6. Answer the following about bacterial culture, for 10 points each:

[10] Bacterial cells are frequently grown in this culture medium containing yeast extract, tryptone, and sodium chloride. Super Optimal Broth is a variant of this broth.

ANSWER: **LB** [or **Luria** broth; or **lysogeny** broth; or **Luria-Bertani** medium; or **Lennox** broth]

[10] This other gelatinous material is frequently applied as a culture medium to Petri dishes. This substance derived from red algae is also a laxative.

ANSWER: **agar** [do not accept “agarose”]

[10] The most common cultured bacterium is probably this model organism which is found in the intestines of mammals and which can also cause food poisoning.

ANSWER: **Escherichia coli** [or **E. coli**]

7. For 10 points each, name these Japanese art forms:

[10] Participants of this art form groom namesake miniature trees in order to maintain a level of aesthetics called wabi-sabi.

ANSWER: **bonsai**

[10] In this form of Japanese theatre, men wear copious amounts of makeup to depict characters in dramatic scenes. It grew out of the older Noh style.

ANSWER: **kabuki**

[10] In Japan, these Buddhist-style, multi-storied buildings are referred to as *To* and are made out of either stone or wood. A *gorinto* is one kind of them.

ANSWER: **pagoda**s

8. Answer the following about the literature of World War I, for 10 points each:

[10] This novel by Erich Maria Remarque takes the German perspective of the war and is narrated by Paul Baumer.

ANSWER: **All Quiet on the Western Front** [or **Im Westen nichts Neues**]

[10] “The poppies blow/Between the crosses, row on row”, in a poem about this city’s “fields” by John McCrae.

ANSWER: **Flanders** [or “In **Flanders Fields**”]

[10] At the outbreak of WWI, this character disguises himself as a man named Altamont and drugs the German spy Von Bork. That occurs in the short story “His Last Bow”, after which this character retires to a life of beekeeping.

ANSWER: **Sherlock Holmes** [accept either]

9. During the first of these events, Jonathan Edwards compared people to spiders hanging over hellfire in his “Sinners in the Hands of an Angry God”. For 10 points each:

[10] Name these periods of religious revival in the United States.

ANSWER: **Great Awakenings** [accept First or Second **Great Awakenings**]

[10] In particular, the Second Great Awakening was prominent in the “burned-over district” in the Western portion of this state. Joseph Smith began the Church of Latter Day Saints in this state.

ANSWER: **New York**

[10] This “Father of Modern Revivalism” gained prominence for preaching in the Burned-over district during the Second Great Awakening. This president of Oberlin College rejected Calvinist ideas in his *Systematic Theology*.

ANSWER: Charles Grandison **Finney**

10. “Going downtown” refers to doing this action after working on Capitol Hill. For 10 points each:

[10] Name this action that involves special interest groups hiring individuals to argue their cause to politicians.

ANSWER: **lobbying** [or being a **lobbyist**]

[10] Lobbyists, along with legislative committees and executive agencies, form political alliances known by this name, which draw on different areas of government to make policies.

ANSWER: **“iron triangle”**

[10] Lobbyists might fight for this type of spending, which is often attached to bills in the form of riders. This type of spending usually funds local projects in a Congressman’s constituency.

ANSWER: **pork-barrel** spending [or **pork**]

11. Name some sciencey things that are upside-down, for 10 points each:

[10] This planet’s axial tilt is nearly 98 degrees, unlike all other planets. This third “ice giant” is orbited by Miranda and Oberon.

ANSWER: **Uranus**

[10] A real image placed outside this point for a converging lens will appear inverted. This is the point at which light rays converge from a lens, and for a spherical lens, its distance from the lens equals half the radius of curvature.

ANSWER: **focus** [or **focal length** or **f**]

[10] The upside-down version of this capital English letter signifies the existential qualifier. The upside-down version of its lowercase counterpart is the “schwa” sound in the IPA.

ANSWER: **e** [or **E**]

12. Though written without vowels, this text includes cantillation marks for chanting trope. For 10 points each:

[10] Name this holy text of Judaism, which consists of the first five books of the Old Testament on a scroll. A parasha from it is read every Shabbat.

ANSWER: **Torah**

[10] The Torah reading is often supplemented by this reading, from one of the books of prophets, or Nevi’im.

ANSWER: **Haftarah** [or **Haftorah**]

[10] The Tanakh, consisting of the Torah, Nevi’im, and Ketuvim, is often contrasted with this secondary text comprised of the Mishnah and the Gemara, which lays out many of the laws and traditions for Rabbinic Judaism.

ANSWER: **Talmud**

13. This region extends north to Killiniq Island, where it borders Nunavut. For 10 points each:

[10] Name this mainland portion of a Canadian province which has its capital at St. Johns.

ANSWER: **Labrador**

[10] The maritime portion of the province is this island, which Leif Ericson called “Vinland” when he landed there in the eleventh century. Like Labrador, a dog breed is named for this island.

ANSWER: **Newfoundland**

[10] A “duck tolling” retriever is named for this other Canadian province. The Strait of Canso separates the mainland of this province from Cape Breton Island.

ANSWER: **Nova Scotia**

14. Mary McCarthy claimed that every word this woman wrote was a lie, including “and” and “the”. For 10 points each:

[10] Name this left-wing author of *The Children’s Hour* and *The Little Foxes*.

ANSWER: Lillian **Hellman**

[10] Hellman had a romantic relationship with Dashiell Hammett, who wrote a classic detective novel about the “Maltese” type of this bird.

ANSWER: **falcon** [or *The Maltese Falcon*]

[10] Hammett was a practitioner of this type of detective fiction, characterized by cynical, unpopular detectives such as Sam Spade. Raymond Chandler also wrote novels in this style.

ANSWER: **hard-boiled** detective fiction

15. Dancing is a popular subject for painters. For 10 points each:

[10] Impressionist Edgar Degas is best known for painting these types of dancers wearing their pink tutus.

ANSWER: **ballerina** [or **ballet dancers** or similar answers]

[10] This Flemish artist painted a man playing a bagpipe in his less than flattering portrayal of a peasant's dance. No one notices the two little legs sticking out of the water in his *Landscape With the Fall of Icarus*.

ANSWER: Pieter **Bruegel** the Elder

[10] Two men in black strum their guitars as a Spanish gypsy raises out her left hand out in dance in this American's *El Jaleo*. Four young girls disconcertingly stare at the viewer in his *The Daughters of Edward Darley Boit*.

ANSWER: John Singer **Sargent**

16. The expedition to this colony was led by Christopher Newport aboard the *Susan Constant*, *Godspeed*, and *Discovery*. For 10 points each:

[10] Name this English colony founded in 1607 by a group sponsored by the Virginia Company. It largely depended upon cultivating tobacco.

ANSWER: **Jamestown**

[10] Inspired by a verse from Thessalonians, John Smith instituted this strict policy onto Jamestown after trading with the Powhatan Indians. A general description is acceptable.

ANSWER: “**no work, no food**” [or equivalents like “**Whoever will not work should not be allowed to eat.**”]

[10] This period of Jamestown's history followed John Smith's departure from the colony. It was characterized by conflict between the colonists and the natives and the death of over 90% of the population.

ANSWER: “**Starving time**”

17. At this play's conclusion, the protagonist shouts, “I'm not capitulating”, as he examines the green-skinned heads adorning his house's walls. For 10 points each:

[10] Name this play which begins when a cat is crushed in a marketplace. Characters in this work include The Logician, Dudard, and the protagonist's boss Papillon.

ANSWER: **Rhinoceros**

[10] *Rhinoceros* was written by this absurdist who also wrote the mostly nonsensical play *The Bald Soprano*.

ANSWER: Eugene **Ionesco**

[10] Ionesco originally hailed from Romania, whose *vast* literary tradition mostly consists of this Bram Stoker novel set partly in Transylvania. This novel's title character is a blood sucking monster.

ANSWER: **Dracula**

18. A bonus about Richard Feynman? Surely you're joking! For 10 points each:

[10] Feynman's perhaps best-known for his quantum treatment of this fundamental force, which was united with the weak force by Salam, Glashow, and Weinberg.

ANSWER: **electromagnetism** [or word forms; prompt on “electroweak”]

[10] Quantum electrodynamics makes use of Feynman diagrams, which depict these particles as blue wavy lines. These massless particles are the quanta of light.

ANSWER: **photons**

[10] In his off time, Feynman also served on the Rogers Commission, which determined that this event was caused by a glass transition in a piece of rubber. On live TV, Feynman placed the offending object in a glass of ice-water.

ANSWER: **Challenger** explosion/disaster [accept anything involving the Challenger]

19. This piece starts with an eighth note-triplet ostinato in the snare drum, before the flute enters with the melody. For 10 points each:

[10] Name this piece originally commissioned as an Ida Rubinstein ballet that is essentially a 16 minute crescendo. This piece's composer had a quarrel with conductor Arturo Toscanini over its tempo.

ANSWER: **Bolero**

[10] *Bolero* is the most famous work by this French composer of “Pavane for a Dead Princess.”

ANSWER: Maurice **Ravel**

[10] Ravel composed a suite for his friends who died during World War I named for the “Tomb” of this earlier composer. This composer wrote the tome *The Art of Harpsichord Playing*.

ANSWER: François **Couperin** [or *The Tomb of Couperin*; or *Le Tombeau de Couperin*]



20. Answer some questions about positions in the Roman Republic, for 10 points each:

[10] Tribunes were elected officials in the Republic to represent this lower-class of free Romans, contrasted with the patricians.

ANSWER: plebeians [or plebs]

[10] The Senate appointed Cincinnatus to this post to help defeat the Aequians in 458 BC. Julius Caesar held this position '*perpetuo*,' which, contrary to popular belief, does not mean "for life."

ANSWER: Roman dictator [accept Magister populi or "Master of the people"]

[10] This post once held by Crassus dealt with the finances of the Republic. This post was the first on the *cursus honorum*, the sequential path for a citizen to go through to serve in politics.

ANSWER: quaestor

**The Round is Now Over.**

21. Beer's Law is frequently used in conjunction with one of these devices to determine a solution's concentration. For 10 points each:

[10] Name these devices which measure the percent absorbance or transmittance of light through a sample.

ANSWER: spectrophotometers [or UV-vis spectrophotometers; or ultraviolet in place of "UV"; prompt on photometers]

[10] If the reflectance spectrum of a sample is at 100% through the entire visible range, then the sample is most likely this color. This color is formed by the reflection of all wavelengths of light.

ANSWER: white [do not accept synonyms]

[10] Rounded to the nearest hundred, and expressed in nanometers, what is the longest wavelength of light still included as part of the visible spectrum?

ANSWER: 700 nanometers [do not accept any other answers]