

1. In 1875 this man published the results of his experiments on localizing tones produced by tuning forks, and followed it with his *Theory of Sound* two years later. This man worked out that the intensity of low-frequency blackbody radiation was inversely proportional to the fourth power of wavelength, and derived the proportionality constant in that equation with James (*) Jeans. This man proposed his namesake elastic scattering to explain why the sky is blue. For 10 points, name this physicist that won the 1904 Nobel Prize for his isolation of argon.

ANSWER: Lord **Rayleigh** [or John William **Strutt**, Lord Rayleigh]

003-09-10-06102

2. The first chapter of this book is entitled "A Fable for Tomorrow" and tells of a harmonious town suddenly hit with a "strange blight." A parody of this book is "The Desolate Year," which imagined a world where insects ran amok. That parody of this work was produced by the (*) Monsanto Corporation, which, along with other companies, objected to this book's criticism of the pesticide DDT. For 10 points, name this landmark environmentalist book written by Rachel Carson.

ANSWER: Silent Spring

052-09-10-06103

3. This country's forces stopped invading Italy after losing the Battle of Fornovo, thwarting the plans of this country's king, Charles VIII, to conquer Naples. This country's Wars of Religion pitted the Duke of (*) Guise (GEEZ) against three kings named Henry. The last of those kings, Henry IV, ended the conflict by proclaiming that this country's capital was "worth a mass." For 10 points, name this country whose Protestants were known as Huguenots.

ANSWER: France

004-09-10-06104

4. Rudyard Kipling wrote a response to this poem in which he bemoaned that "the thirty million English sent twenty pounds and four!" The action of this poem is completed while "all the world wonder'd." The speaker reveals "someone had (*) blunder'd," but the title group rides "into the valley of death" after deciding "their's not to reason why, their's just to do and die." For 10 points, name this Alfred, Lord Tennyson poem about a group of six hundred British soldiers who ride into Russian cannon fire. ANSWER: "The Charge of the Light Brigade"

015-09-10-06105

5. In the presence of a magnetic field, the energy separation between the most and least stable of these orbitals is two times the field magnitude in units of Bohr magnetons. Electrons delocalizing from these orbitals leads to resonance. Elements with this subshell partially filled include (*) halogens, which have five electrons in it. Overlaps between examples of these orbitals, when left unhybridized, lead to pi bonds. For 10 points, give the letter that denotes the three orbitals that make up a namesake subshell that is filled after the s subshell.

ANSWER: **p** orbitals

6. This group occupied Gotland under Winrich von Kniprode (VIN-rick von NIP-road), who led their successful defeat of the pirates known as the Victual Brothers. This group set up a monastic state after conquering Baltic pagans during the (*) Northern Crusades. Their fall came under their Grand Master Ulrich von Jungingen (OOL-rick von YOON-geen-gehn), who lost the Battle of Tannenberg against the Polish-Lithuanian Commonwealth. For 10 points, identify this order of knights whose name indicates that they were German.

ANSWER: the <u>Teutonic</u> Knights of St. Mary's Hospital in Jerusalem [or <u>Teutonic</u> Order; do not accept "Knights Hospitaller"]

026-09-10-06107

7. This composer wrote movements entitled "The Farewell" and "Wine in Spring" for one of his works. This composer wrote an "adagietto" movement in the middle of his fifth symphony in C-sharp minor. One of his symphonies quotes Frere Jacques as a funeral march. His eighth symphony requires an (*) extremely large chorus and orchestra, and ends with a scene from *Faust*. His works include *The Song of the Earth* and symphonies nicknamed "Titan" and "Resurrection." For 10 points, name this composer of the "Symphony of a Thousand."

ANSWER: Gustav Mahler

027-09-10-06108

8. He was killed in Sicily when the daughters of Cocalus (coh-CAH-lus) placed him in a boiling bath. This mythical figure is one of the judges of the underworld along with his brother (*) Rhadamanthys (RAD-uh-MAN-this), and Aeacus (eye-EE-kus). His wife placed herself in a hollow wooden cow devised by Daedalus to fulfill her Poseidon-inflicted lust for the bull. For 10 points, what king of Crete demanded seven Athenian youths and seven maidens to feed the Minotaur?

ANSWER: Minos

034-09-10-06109

9. In one story by this author, the bathwater near Aliokhin turns brown; later, Ivan tells Burkin of his brother Nikolai, who became supercilious after acquiring an estate on which he could plant the title *Gooseberries*. He wrote a play in which a serf discovers that he has been boarded up inside his longtime home to die; that servant, Firs, has remained after (*) Lopakhin purchased the title location, long owned by Madame Ranevskaya. For 10 points, name this author of *The Cherry Orchard*.

ANSWER: Anton Pavlovich Chekhov

022-09-10-06110

10. In December 2009, this man's nephew was one of eight people killed by police during an Ashura (ah-SHUR-uh) demonstration. Though his time as prime minister in the 1980s ended due to a dispute with Ali Rafsanjani (ROFF-sahn-JAH-nee), he later became president of the Academy of Arts. He advocated for an expansion of (*) women's rights and the loosening of censorship during June 2009 elections. For 10 points, identify this Iranian opposition leader who lost a disputed presidential election to Mahmoud Ahmedinejad (MACH-mood ah-meh-DIN-uh-zhod).

ANSWER: Mir Hossein Mousavi

11. John C. Adams attempted to find this object. Compared to its neighbor, it has excess internal heat. This body has rings named after Lassell, Galle, and Leverrier. It has been home to such disturbances as Scooter and the Great Dark Spot. Scattered Disk objects and (*) Kuiper Belt objects are both members of the class of objects that orbit beyond it. Its moons include Nereid and Proteus, and its largest moon is Triton. It is locked in a three-to-two resonance with Pluto. For 10 points, name this eighth planet from the Sun.

ANSWER: Neptune

001-09-10-06112

12. This ruling was presaged by a case arising out of Texas four years earlier, *Sweatt v. Painter*. The question "Show me the doll that is the nice doll" was included in one of the arguments in this case. It was followed a year later by an order that (*) "all deliberate speed" be employed to implement its decision. The namesake of this case was the father of a third-grader who had to cross railroad tracks each morning. For 10 points, name this 1954 Supreme Court case, which ruled segregated public schools unconstitutional.

ANSWER: <u>Brown</u> v. Board of Education of Topeka, Kansas [or Board of Education of Topeka, Kansas v. **Brown**]

019-09-10-06113

13. One building in this city consists of a white dome with yellow towers holding cables up protruding from the top. A banquet house in this city has a Peter Paul Rubens-painted ceiling and was designed by Inigo Jones. Richard Rogers designed the Millennium (*) Dome in this city. St.-Martin-In-The-Fields is a church found in a square that commemorates Lord Nelson in this city. The Crystal Palace burned down in this city, which is also the site of Trafalgar square. For 10 points, name this city that Christopher Wren worked in, the site of Westminster Abbey and Big Ben.

ANSWER: London

027-09-10-06114

14. This author grouped some of his plays into such divisions as Plays Pleasant, Plays Unpleasant, and Plays for Puritans. The title character of one play by this man is engaged to the scholar Adolphus Cusins and debates accepting money from the munitions manufacturer Andrew (*) Undershaft. Another play by this author includes the Hungarian Nepommuck and Colonel Pickering, who bets against Henry Higgins' ploy to turn a cockney flower seller into a lady. For 10 points, name this Irish playwright of *Major Barbara* who wrote of Eliza Doolittle in *Pygmalion*.

ANSWER: George Bernard Shaw

015-09-10-06115

15. One city in this country contains the revolutionary Schroder House. It controls the popular tourist island of Texel. A 1953 flood in this country led to the construction of the Delta Works. This country is also home to a world renowned university at Leiden. Its highest point can be found just outside its southern city of (*) Maastricht. This country contains both the delta of the Rhine River and the Anne Frank House. For 10 points, name this country home to such cities as Utrecht, Rotterdam, and Amsterdam. ANSWER: Kingdom of the Netherlands [or Holland; or Koninkrijk der Nederlanden]

16. This man argued against empiricism by noting that melting wax changes some of the wax's qualities, yet we know it is the same wax. This man was asked by Princess Elizabeth of Bohemia to explain how an immaterial soul can cause a body to move in a correspondence. He claimed that he could (*) doubt everything except the fact that he exists. He is the namesake of a belief in mind-body dualism. For 10 points, name this author of *Discourse on the Method* and *Meditations on First Philosophy*, who is credited with saying "I think, therefore I am."

ANSWER: Rene **Descartes** (day-CART)

027-09-10-06117

17. One painting by this man shows an exchange between Maurice of Nassau and Ambrosio Spinola. This artist painted a portrait of his slave Juan de Pareja (pah-RAY-huh). Irish painter Francis Bacon based a series of works on this artist's portrait of (*) Pope Innocent X. One of his paintings shows himself at the left next to a large canvas, a mirror showing the reflection of the king and queen in the background, and the Infanta Margarita in the center. For 10 points, name this Spanish artist who served in the court of King Philip IV and painted *Las Meninas*.

ANSWER: Diego <u>Velazquez</u> [accept Diego Rodríguez de Silva y <u>Velázquez</u>]

064-09-10-06118

18. Motoo (moe-TOE-oh) Kimura's neutral theory states that this phenomenon is the main cause of molecular evolution. In one type of this phenomenon, a small number of individuals start a new population; that type is known as the (*) founder effect and can result from a population bottleneck. Its effects are greater in small populations, and it is one of the influences which can cause deviation from Hardy-Weinberg equilibrium. For 10 points, name this phenomenon involving chance variations in allele frequency.

ANSWER: genetic **drift** [or allelic **drift**]

024-09-10-06119

19. This battle saw the early death of Ariabignes (err-ee-AA-big-neez) and a feint attack to escape Ameinias (aa-MAIN-ee-as), inspiring the losing commander to note "my men have become women, and my women men." The losers of this battle included (*) Mardonius and Queen Artemisia. This battle was fought betweem Artemisium and Mycale (mee-CAL-ay) respectively. The victors in this battle, led by Themistocles (thuh-MIST-oh-cleez), defeated a larger fleet off an island near Athens. For 10 points, name this major Greek naval victory in the Persian Wars.

ANSWER: Battle of **Salamis**

020-09-10-06120

20. In one short story by this author, ten high schoolers are blindfolded and sent into a boxing match won by Tatlock. That story became the first chapter of this man's only novel and is entitled "Battle Royal." Herbert Bledsoe is the president of the college, and a (*) back-to-Africa supporter named Ras the Destroyer criticizes the Brotherhood, in that same novel by this author, who created a narrator living illegally in an all-white apartment building near Harlem. For 10 points, name this author of *Invisible Man*. ANSWER: Ralph Waldo Ellison

21. This rock is similar in composition to pegmatite and aplite, and it can be classified as I or S type. This rock is a common component of batholiths. It has relatively high sodium and potassium levels compared to magnesium and calcium. A finer-grained form is rhyolite. It is rich in alkali feldspars and (*) quartz. It is less dense than basalt, which causes oceanic plates to subduct below tectonic plates made of this type of rock. For 10 points, name this light-colored felsic igneous rock which makes up a major portion of the continental crust.

ANSWER: granite



1. Name some forms of volcanoes, for 10 points each.

[10] The Hawaiian Islands are home to many of these volcanoes, which form from continuous lava eruptions and have gently sloping sides.

ANSWER: shield volcanoes

[10] Mexico's Parícutin (par-EE-coo-teen), which has spontaneously grown over 10,000 feet tall since it began erupting in 1943, is one of these steep volcanoes made up of rock fragments.

ANSWER: cinder cone [accept scoria cone; prompt on partial answer]

[10] Very viscous magma can surface to form this type of volcano, which is convex shaped. One is forming inside the crater of Mount St. Helens.

ANSWER: <u>lava dome</u> [prompt on partial answer]

026-09-10-06201

- 2. Attractions in this South American city include the presidential Alvorada Palace and a memorial for Juscelino Kubitschek (joos-shell-EE-no KOOB-ish-eck). For 10 points each:
- [10] Name this city, planned by Lucio Costa in the shape of an airplane as a modern, less crowded alternative to its nation's previous capital.

ANSWER: Brasilia

[10] This architect designed many buildings in Brasilia, including Itamaraty Palace and the hyperbolic Metropolitan Cathedral. He was part of the team that designed the UN headquarters.

ANSWER: Oscar Niemeyer

[10] Niemeyer won this prestigious annual architectural award won by Frank Gehry in 1989 and Norman Foster in 1999.

ANSWER: The **Pritzker** Prize

063-09-10-06202

- 3. This man was tagged with his first loss of the season in his last collegiate game, in which he gave up two earned runs in a 5-1 loss to Virginia. For 10 points each:
- [10] Name this number one pick in the 2009 MLB draft, who just before the signing deadline agreed to a four-year, fifteen-point-one million dollar deal with the Washington Nationals.

ANSWER: Stephen James Strasburg

[10] Strasburg pitched for this Southern California school, who was eliminated from the Irvine Regional two days later by the host team.

ANSWER: San Diego State University

[10] The head coach at San Diego State University is this Hall of Fame right fielder and former Padres star, who hit .394 in the strike-shortened 1994 season.

ANSWER: Anthony Keith "Tony" Gwynn

- 4. A revolt for independence in this nation erupted soon after Prince Alexander Ypsilantis invaded Moldavia. For 10 points each:
- [10] Name this country, which gained independence from the Ottoman Empire and which was later the location of a coup against King Constantine II and his prime minister Papandreou.

ANSWER: **Greece** [or the **Hellenic Repiblic**; or **Elliniki Dhimokratia**; or **Ellas**; or **Ellada**]

[10] This island nation had strong ties to Greece under the administration of president and archbishop Makarios III, which prompted Turkey to invade and divide its capital Nicosia.

ANSWER: Republic of <u>Cyprus</u> [or <u>Kypros</u>; or <u>Kibris</u> Cumhuriyeti; or <u>Kypriaki</u> Dimokratia]

[10] This president announced a 1947 "doctrine" pledging to provide aid to the governments of Greece and Turkey in order to prevent them from becoming communist states.

ANSWER: Harry S. Truman

027-09-10-06204

5. By a namesake theorem they can be found in the expansion of x plus y to the n. For 10 points each:

[10]Name these values that for a given n and k are equal to n choose k.

ANSWER: binomial coefficients

[10]Binomial coefficients make up the entries in this geometric structure named after a French mathematician.

ANSWER: Pascal's triangle

[10] The shallow diagonals of Pascal's triangles sum to members of this sequence defined as f of n is equal to f of n minus one plus f of n minus 2.

ANSWER: Fibonacci sequence

001-09-10-06205

- 6. This novel sees the title tycoon recount the formative events of his life from his deathbed. For 10 points each:
- [10] Name this novel, whose initially idealistic title character became jaded as he cheated people and when his love Regina was killed by Pancho Villa.

ANSWER: The **Death of Artemio Cruz** [or La **Muerte de Artemio Cruz**]

[10] This author of Terra Nostra wrote The Death of Artemio Cruz.

ANSWER: Carlos Fuentes

[10] Fuentes is a writer from this Central American country. A poet from this country, Octavio Paz, analyzed its celebration of the Day of the Dead in *The Labyrinth of Solitude*.

ANSWER: Mexico

022-09-10-06206

- 7. Merely two weeks before the attack on Pearl Harbor, this man met with Admiral Nomura and Envoy Kurusu to broker a peaceful deal. For 10 points each:
- [10] Name this Tennessean who denied asylum for the 936 Jews aboard the S.S. *Saint Louis* in his capacity as the longest-serving Secretary of State.

ANSWER: Cordell Hull

[10] Cordell Hull helped to establish this global entity which passes resolutions in its Security Council and General Assembly. Its current Secretary-General is Ban Ki-Moon.

ANSWER: **United Nations** Organization [or **U.N.**]

[10] This 1941 agreement was drafted between Britain and America as a vision of the post-bellum world. Its eight points include freedom of the seas and the right to self-determination.

ANSWER: Atlantic Charter

- 8. One modern custom in this sect is for men to donate blood during the holiday of Ashura, which commemorates the death of Hussein at the Battle of Karbala. For 10 points each:
- [10] Name this branch of Islam that is second only to Sunni Islam in the number of followers.

ANSWER: **Shi'a** Islam [or **Shi'i**te Islam]

[10] Sects of Islam recognize five, seven, or twelve of these divinely appointed successors of Muhammad. In other branches of Islam, it is more generally used to denote a Muslim community leader.

ANSWER: imams

[10] Shi'ites consider the city of Najaf holy because it contains the tomb of this first imam, whom the Sunnis revere as the fourth and last Rightly Guided Caliph.

ANSWER: Ali ibn Abu Talib

003-09-10-06208

9. The title character of this poem "Grew lean while he assailed the seasons" and dreamed of "Thebes and Camelot." For 10 points each:

[10] Name this poem about a "child of scorn" who was "born too late."

ANSWER: "Miniver Cheevy"

[10] This American poet who gained popularity from Teddy Roosevelt's support wrote "Richard Cory" and "Miniver Cheevy."

ANSWER: Edwin Arlington Robinson

[10] Robinson's poetry won three of these prestigious awards. These prizes are awarded for drama, fiction, and journalism and are named after a *New York World* publisher.

ANSWER: Pulitzer Prize

015-09-10-06209

10. Identify some concepts from property law, for 10 points each.

[10] This is a legal right to use someone else's property for a specific purpose. An example is the ability of a utility company to access a power line on a private property.

ANSWER: easement [or right of way]

[10] This property tort is the act of unlawfully intruding onto someone else's property.

ANSWER: trespassing

[10] This is the process whereby an owner loses the right to their property, usually due to defaulting on a loan. The global economic crisis is due in part to a dramatic rise in the number of these in the United States.

ANSWER: foreclosure

024-09-10-06210

11. The good friends Nisus (NEE-suss) and Euryalus (yurr-ee-AH-luss) appear in both the raid in Book Nine and the funeral games in Book Five of this work. For 10 points each:

[10] Identify this epic Latin poem, by Virgil, which depicts a Trojan refugee coming to Italy.

ANSWER: the *Aeneid* (uh-NEE-id)

[10] The Aeneid ends with the hero killing this Rutulian leader to avenge the death of Pallas.

ANSWER: Turnus

[10] The funeral games in Book Five are for this father of Aeneas, who reappears in Book Six to deliver the Roman credo when Aeneas visits the underworld.

ANSWER: Anchises (ank-EYE-seez)

- 12. This man converted to Catholicism, rather than Arianism, on the advice of his wife Clotilda. For 10 points each:
- [10] Name this king of the Franks and founder of the first dynasty in France.

ANSWER: Clovis I

[10] Name that dynasty, which lasted until Childeric III was overthrown by Pepin the Short in the mid-eighth century.

ANSWER: Merovingian Dynasty

[10] Clovis issued this legal code, whose most often-cited section was used to justify prohibiting women from succeeding to the crown of various countries.

ANSWER: Salic Law [or Lex Salica; or Law of the Salian Franks]

003-09-10-06212

- 13. This painting depicts Heraclitus leaning on a block as Pythagoras writes an a book to his left. For 10 points each:
- [10] Name this painting which is housed in the *Stanza della segnatura*, which features numerous Greek luminaries lounging around some steps.

ANSWER: The School of Athens [or Scuola di Atene]

[10] This great Italian master of the High Renaissance painted *The School of Athens*.

ANSWER: Raphael [or Raffaello Sanzio da Urbino]

[10] Raphael painted a portrait of this pope, a patron of his who also commissioned the Sistine Chapel ceiling and was nicknamed the Warrior Pope.

ANSWER: Julius II [prompt on Julius]

015-09-10-06213

- 14. Crigler-Najjar's and Gilbert's Syndromes are rare causes for this disorder. For 10 points each:
- [10] Name this disease classified into pre-hepatic, hepatic, and post-hepatic types and characterized by a yellowish discoloration of the skin.

ANSWER: **jaundice** [or **icterus**]

[10] Jaundice sees an increased amount of bilirubin, the breakdown product of heme, which is secreted as this bitter and dark substance produced by liver.

ANSWER: bile

[10] Some of the heme comes from this molecule, the counterpart of hemoglobin in muscles.

ANSWER: myoglobin

020-09-10-06214

- 15. The Trung Sisters became national heroes of this country when they helped defeat a Chinese invasion. For 10 points each:
- [10] Name this country led by Ngo Dinh Diem shortly before the United States sent in troops to prevent it from falling to communism.

ANSWER: Vietnam

[10] During the Vietnam War, the Viet Cong launched this series of attacks that began on the titular day, the Vietnamese Lunar New Year.

ANSWER: Tet offensive

[10] This corridor, also called the Truong San Strategic Supply Route, helped the North Vietnamese send supplies to the Viet Cong in South Vietnam.

ANSWER: Ho Chi Minh trail

- 16. When multiplied by angular acceleration it is equal to torque. For 10 points each:
- [10] Name this rotational analog of mass.

ANSWER: **moment of inertia** [prompt on **inertia**; prompt on **I**]

[10] A consequence of the parallel axis theorem is that for a given direction, the axis running through this point has the minimum moment of inertia.

ANSWER: center of mass

[10] The moment of inertia for a solid sphere is equal to the mass times the square of the radius times this fraction.

ANSWER: <u>2/5</u> [or <u>40%</u>; or <u>0.4</u>]

001-09-10-06216

- 17. This man distinguished between "knowledge by acquaintance" and "knowledge by description" in a 1910 essay. For 10 points each:
- [10] Name this British logician whose namesake paradox considers the set of all sets that are not members of themselves.

ANSWER: Bertrand Russell

[10] This three-volume magnum opus of Russell was co-written with Alfred North Whitehead. It shares its name with a work by Isaac Newton.

ANSWER: Principia Mathematica

[10] Russell noted that "most people believe in God because they have been taught from early infancy to do it" in a 1927 lecture explaining why he was not one of these people.

ANSWER: a Christian [or "Why I Am Not a Christian"]

003-09-10-06217

- 18. This musical family included Carl Phillipp Emanuel, who wrote a series of influential keyboard sonatas. For 10 points each:
- [10] Name this family that also produced the composer of the *Saint Matthew Passion* and the hymn "Jesu, Joy of Man's Desiring."

ANSWER: Bach

[10] Johann Sebastian Bach's work labeled BWV 232 is a mass in the minor key of this note.

ANSWER: B

[10] This member of the Bach family, the youngest son of Johann Sebastian, is the attributed composer of 91 symphonies and was known as the "English Bach" for his longtime residence in London.

ANSWER: <u>J. C.</u> Bach [prompt on <u>Bach</u>; accept <u>Johann Christian</u> Bach]

026-09-10-06218

- 19. This author wrote about one of his friends in *The Life of Richard Savage*, and he also wrote a novel about a prince of Abyssinia. For 10 points each:
- [10] Name this author of Rasselas, who also produced a book called The Lives of the Poets.

ANSWER: Dr. Samuel Johnson

[10] This lawyer frequently traveled with Samuel Johnson to locations like the Hebrides, which resulted in his production of *The Life of Johnson*.

ANSWER: James Boswell

[10] *The Lives of the Poets* and *The Life of Johnson* are examples of this kind of work, which chronicles the life of a person. Other authors in this form include Suetonius and St. Augustine.

ANSWER: **biography**

20. Marjory Stoneman Douglas frequently wrote about this region. For 10 points each:

[10] Name this massive subtropical wetlands region located in the southern part of Florida. It is a national park and an UNESCO World Heritage Site.

ANSWER: Everglades

[10] The headwaters of the Everglades are in this large lake, which, at 730 square miles, is the second-largest lake entirely within the continental U.S. It means "big water" in Hichiti.

ANSWER: Lake Okeechobee

[10] This Florida city, the southernmost city in the continental U.S., is connected to the mainland through the Overseas Highway. At a certain point, this city is less than 100 miles from Havana, Cuba.

ANSWER: **Key West**

052-09-10-06220

21. In this novel, the protagonist's wife Ona becomes a prostitute, causin the protagonist to beat up the pimp Phil Connor. For 10 points each:

[10] Name this 1906 novel in which the protagonist's son drowns in a puddle in Chicago's Packingtown district. This novel caused a furor for its depiction of the meatpacking industry.

ANSWER: *The Jungle*

[10] The author of the Lanny Budd series, name this man whose novel *Oil!* was the basis for the film *There Will Be Blood*. This man also wrote *The Jungle*.

ANSWER: Upton Sinclair

[10] In *The Jungle*, this Lithuanian immigrant is the protagonist. This character becomes a socialist after meeting the hotel owner Tommy Hinds.

ANSWER: **Jurgis** Rudkus [prompt on **Rudkus**]