

2022-2023 IQBT Regular Season Set #1
Round 9 – Tossups

1. Institutions of this kind that are considered “global systemically important” are often subjected to special regulations formulated by the Basel Committee. The activities of these institutions were deregulated by the Gramm-Leach-Bliley Act, which repealed a key portion of the earlier (*) Glass-Steagall Act. The largest of these institutions are called the “bulge bracket.” Formerly, consumer-facing, commercial, and investment functions could not be combined in, for 10 points, what financial institutions that take deposits?

ANSWER: banks [or investment banks]

2. Phoebus Levene's ideas about this molecule's function did not fall out of favor until radioactive phosphorus and sulfur tags and a centrifugation step were used on this molecule in the Hershey-Chase experiment. Square Bessel functions were used to explain diffraction by this molecule by Maurice (*) Wilkins. “Photo 51” is an x-ray crystallography image of this molecule taken by Raymond Gosling and interpreted by Rosalind Franklin. For 10 points, name this molecule whose double helix structure, modeled by Watson and Crick, carries the genetic code.

ANSWER: DNA [or deoxyribonucleic acid]

3. In this state, a woman told a photographer that she sold her car tires and lived on frozen vegetables. Eadweard Muybridge's (Edward MOY-brij's) series *Sallie Gardner at a Gallop* was made in this state. Florence Owens Thompson is the subject of a photo taken in this state, where the moon appears over a (*) rock face in another photograph. Sites such as Manzanar (MAN-zuh-nar) in this state were photographed by Ansel Adams and Dorothea Lange (LANG), who documented Japanese internment camps. *Migrant Mother* was taken in, for 10 points, what state, where *Moon and Half Dome* shows Yosemite (yoh-SEM-it-ee)?

ANSWER: California

4. The potential energy of a harmonic oscillator is represented by this kind of function. A function of this type published by Euler (OY-lur) generates a prime for the function's first forty positive integer outputs. One method for solving functions of this type uses one of Vieta's formulas, and another method for solving them is (*) completing the square. A formula named for functions of this type contains the term “square root of b squared minus four ac.” For 10 points, name these degree-two polynomials that take the shape of a parabola.

ANSWER: quadratic equation [or functions of degree two until “degree-two” is read; prompt on polynomials until “polynomials” is read]

5. At the start of this decade, a coal-for-food exchange was arranged at the Spa Conference. During this decade, Carl von Ossietzky (KARL von ahs-YET-skee) began to expose the illegal “Black Reichswehr” (RAIS-veer). The occupation of the Ruhr (roar) in this decade was ended by the adoption of the (*) Dawes Plan. In this decade, the Kampfbund (KAMF-bund) staged a failed coup at a beer hall in Munich a year prior to the start of a hyperinflationary period. For 10 points, name this decade in which the Weimar (VAI-mar) Republic repeatedly failed to pay reparations demanded by the prior decade's Treaty of Versailles (vair-SAI).

ANSWER: 1920s [prompt on 20s]

6. One of these features “of Death” covers the provinces of Nimruz (NIM-rooz) and Helmand (HELMUND). One of these features between the Amu Darya (AA-moo DAAR-yuh) and Syr Darya (SEER DAAR-yuh) is the native habitat of Russian tortoises and is called the Kyzylkum (kuh-ZEEL-koom). A so-called “death worm” is said to live in one of these features. The largest of these features completely within China is west of (*) Lop Nur and includes Kashgar and Urumqi (oo-RUM-chee). The Tian Shan mountains divide one of these features called the Taklamakan (TAHK-lim-uh-KAHN) from another with snow-capped dunes. For 10 points, name these dry features such as the Gobi.

ANSWER: deserts

7. The founding of a religious tradition from this region is recorded in the *Testament of Ba*, in which Samye (SAHM-yay) is begun by Rinpoche (rin-poh-CHAY). The Nyingma (NING-mah) literature of this region includes the *Bardo Thodol* (BAR-doh thud-AHL). A religious tradition from this region includes a high-ranking (*) “Panchen” (PON-chen) position. A leader of a tradition from this region known as the “Yellow Hat” sect, who was born as Tenzin Gyatso (TEN-zin gee-AHT-soh), was exiled and now lives in India. For 10 points, what region's religious literature includes the Buddhist writings of the Dalai Lama?

ANSWER: Tibet [or Bod; or Xizang; do not accept or prompt on “Xinjiang”]

8. A commentator with this surname cited “women in combat units” and “homosexual rights” as things he opposed “in a nation we still call God's country.” That person with this name gave the “culture war” speech at the 1992 Republican National Convention. During the last months in office of a President with this surname, Lewis Cass (*) resigned as Secretary of State and the Crittenden Compromise failed. That president with this surname ordered an attempt to reinforce Fort Sumter. For 10 points, give this surname of the president who left office near the start of the Civil War.

ANSWER: Buchanan [or Pat Buchanan; or Patrick Joseph Buchanan; or James Buchanan Jr.]

9. The last track of the album *Return to Forever* is named for this country and was composed by Chick Corea (kuh-REE-uh). A song called “Will o' the Wisp” appears on side one of an album named for this country, whose tracks “The Pan Piper” and “Saeta” (sai-AY-tuh) were written by Gil Evans. Teo Macero (TAY-oh mah-SAY-roh) produced a Miles Davis album titled for (*) *Sketches* of this country, which includes the second movement of native composer Joaquín Rodrigo's (wah-KEEN rah-DREE-gohz) *Concierto de Aranjuez* (kahns-YAIR-toh day-rah-WEZ). Many jazz standards were inspired by the flamenco (flah-MAIN-koh) music of, for 10 points, what European country?

ANSWER: Spain [Kingdom of Spain; or Reino de España]

10. The title poem of a collection by this author described “Two who are Mostly Good” for whom “Dinner is a casual affair.” This author ended a poem by saying “Believe me, I knew you, though faintly” in a poem that begins by declaring “Abortions will not let you forget.” This author of the collection *The* (*) *Bean Eaters* and the poem “the mother,” described a group that “Left school,” “Sing sin,” and “Thin gin” in a poem about “Seven at the Golden Shovel.” For 10 points, name this poet who wrote about young pool players in “We Real Cool.”

ANSWER: Gwendolyn Brooks

11. Tutter the mouse lives in the kitchen of one of these other animals. A 2022 Hulu series that centers on a young Chicago chef is named after one of these animals. The sea type of these animals can be attracted by eating cubed cheese or playing the clarinet badly, but (*) Spongebob knows that drawing a circle in the sand will prevent their attack. Three brothers that are this kind of animal form a “stack” to move around town; the oldest of those is Grizz. For 10 points, name this type of animal whose “panda” type is also featured in that show.

ANSWER: bears [The unnamed shows are *Bear in the Big Blue House* and *We Bare Bears*.]

12. During a period of financial stress in this war, the Lex Oppia (op-EE-ah) was passed, limiting women's public display of wealth. The Battle of Ilipa (ill-AH-pa) in this war drove one side out of Iberia. After being granted emergency dictatorial powers in this war, Quintus Fabius Maximus adopted a cautious “delaying” strategy. The losing commander of this war was initially victorious at (*) Trebia, Lake Trasimene (TRAA-sim-eeen), and Cannae (KAA-nay) after making an arduous crossing of the Alps. For 10 points, name this war lost by Carthaginian forces under Hannibal.

ANSWER: Second Punic War [prompt on Punic Wars]

13. This character is predicted to “tenderly be led by the nose / As asses are” in a speech closing Act 1. This character says of his love that “so sweet was never so fatal” before concluding he “loved not wisely but too well.” This character is the addressee of a speech that calls jealousy a (*) “green eyed monster,” and this man kills himself after being fooled by a scheme involving his wife's handkerchief. Iago (ee-AH-goh) plots against this husband of Desdemona (DEZ-duh-MOH-nuh). For 10 points, name this “Moor of Venice” who titles a Shakespeare play.

ANSWER: Othello

14. A philosopher who worked full-time for this organization theorized that a full merging of all consciousness is impending at the “omega point” in *The Phenomenon of Man*. This organization's advocacy of the “double effect” doctrine is explored in the moral philosophy of the author of *Intention*. A head of this organization issued (*) *Evangelium Vitae* (ee-van-JEL-ee-um VEE-tay) to restate its position on abortion. Elizabeth Anscombe and Pierre Teilhard de Chardin (pee-YAIR TAI-yar doo SHAR-duh) were 20th-century philosophers who belonged to, for 10 points, what church in which Chardin was a Jesuit priest?

ANSWER: Roman Catholic Church [or Roman Catholicism; or Jesuits or Society of Jesus until “Fides” is read]

15. This thinker analogized his ideas to Charles Lyell's conclusions about uniformitarianism in a passage comparing “the excavation of a great valley” to “continued creation.” This scientist spent eight years studying barnacles and created the still-used taxonomic classification of that subclass. This scientist examined human sexual selection in his book *The* (*) *Descent of Man*. While aboard the *HMS Beagle*, this man collected specimens of Galapagos finches. For 10 points, name this biologist who described natural selection in *On the Origin of Species*.

ANSWER: Charles Darwin

16. This character carries a pop gun in a short from *Make Mine Music* narrated by Sterling Holloway, which features a happier ending than the original version commissioned by Natalya Sats. A friend of this title character who earlier argues over the merits of swimming and flying helps this character lasso an opponent's tail. In a (*) “symphonic fairy tale,” a string quartet represents this Young Pioneer, whose grandfather warns of a wild predator. For 10 points, name this character from a Sergei Prokofiev (SUR-gay pro-KAH-fee-ev) composition titled for him “and the Wolf.”

ANSWER: Peter [or Petya]

17. In this state in 2022, the Fern Hollow Bridge collapsed on the same day that Joe Biden was scheduled to speak nearby about infrastructure. A candidate whose slogan is “walk with free people” was criticized for not interacting with voters in this state. Rudy Giuliani held a press conference outside of (*) Four Seasons Total Landscaping in this state, whose 2022 Senate candidates have feuded over the Democrat's health and the Republican never living here. For 10 points, name this state where John Fetterman and Mehmet Oz are running for office.

ANSWER: Pennsylvania

18. People who held this position oversaw building feats including the fortress of Sacsayhuamán (SAK-say-wah-MAHN) and a road network used by *chasquis* (CHAH-skees). During a civil war between two half-brothers claiming this position, Atoc won the Battle of Chillopampa (CHEE-yoh-PAHM-pah) prior to several victories by Quizquiz (KEEZ-keez). This title was abolished following the execution of (*) Tupac Amaru I (TOO-pahk ah-MAH-roo the first). A holder of this position offered a room full of gold to Francisco Pizarro in 1532. For 10 points, identify this position held by Atahualpa (ah-tah-WAL-pah) that led an empire in the Andes.

ANSWER: Incan emperor [or Sapa Inca; or emperor of the Incans; or emperor of the Incan empire]

19. This quantity multiplied by the speed of light represents the Y-axis on a Minkowski (min-KAHV-skee) diagram. The letter tau denotes the “proper” form of this quantity measured along a worldline. The change in length and this quantity is measured by the Lorentz (luh-RENZ) factor in (*) special relativity. GPS satellites must continuously correct themselves due to the gravitational dilation of this quantity. The change in velocity with respect to this quantity gives acceleration. For 10 points, name this quantity commonly measured in seconds.

ANSWER: time

20. A poetry collection in this language begins with a series of contradictions such as “I burn and yet I freeze.” An early humanist writing in this language described the “Ascent of Mount Ventoux” (VOW-too). A poetry collection in this language starts “You who hear the sound, in scattered rhymes,” and is addressed to the author’s lover, (*) Laura. Many poems in this language use a scheme whose name means “third rhyme.” For 10 points, name this language used to write *Il Canzoniere* (eel KAN-sun-YAIR-ee) by Petrarch.

ANSWER: Italian language

21. In the largest churches, the standard position regarding this field of religious thought relies on the Greek word “homoousios” (hoh-moh-OO-shus). Conclusions in this subject made at the Council of Chalcedon (KAL-see-din) are rejected by Oriental Orthodox churches, whose position on this subject is often called (*) “miaphysite” (MEE-aaf-IZ-ait). This field of study seeks precise definitions of words such as “substance,” “person,” and “nature” and is closely tied to explaining the Trinity. For 10 points, name this field of theology which seeks to explain how God and man can both exist in the Savior.

ANSWER: Christology [or theology of the nature of Jesus; or theology of the nature of Christ; or theology of the Trinity until “Trinity” is read; or Trinitarianism until “Trinity” is read]

2022-2023 IQBT Regular Season Set #1
Round 9 – Bonuses

1. Fermat's theorem regarding these specific shapes states, in part, that the area of these shapes cannot be a square number if the length of each side is rational. For 10 points each:

[10] Name these specific shapes. Drawing one of these shapes is a typical step in solving related rate problems involving sliding ladders.

ANSWER: **right triangle** [prompt on **triangle**]

[10] This theorem states that the square of the length of the hypotenuse of a right triangle is equal to the sum of the squared lengths of the other two sides.

ANSWER: **Pythagorean** theorem [or **Pythagoras'** theorem]

[10] This point on a right triangle is found on the right angle's vertex. Generally, it is the intersection of the three altitudes.

ANSWER: **orthocenter**

2. Porfirio Díaz and Francisco Madero appear in this artist's *Dream of a Sunday Afternoon in Alameda Park*. For 10 points each:

[10] Name this painter whose inclusion of Vladimir Lenin in his mural *Man at the Crossroads* led Nelson Rockefeller to order that mural destroyed.

ANSWER: Diego **Rivera** [Diego María de la Concepción Juan Nepomuceno Estanislao de la **Rivera** y Barrientos Acosta y Rodríguez]

[10] An image of one of these things wears a boa in Rivera's *Sunday Afternoon*. Many Day of the Dead paintings depict these kinds of remains.

ANSWER: **skeletons** [or **skulls**; prompt on **bones**]

[10] Many of Rivera's murals depict Aztecs, as do the paintings of this other Mexican muralist, who showed Aztec history in his *The Epic of American Civilization* on Dartmouth's campus.

ANSWER: José Clemente **Orozco**

3. Citalopram (**sit-AL-uh-pram**) and fluoxetine (**floo-AHK-suh-teen**), which are sold under the brand names Celexa (**suh-LEX-ah**) and Prozac, respectively, are among the medicines in this class. For 10 points each:

[10] Name this class of medications which are normally used to treat anxiety and depression.

ANSWER: **SSRI**s [accept, but do not otherwise reveal, **selective serotonin reuptake inhibitors**; prompt on **antidepressants**]

[10] SSRIs specifically block the reuptake of this neurotransmitter, which is derived from tryptophan.

ANSWER: **serotonin** [or **5-hydroxytryptamine**; or **5-HT**]

[10] Serotonin is produced in the raphe (**RAY-fee**) nuclei, which is located in this part of the brain that also contains the medulla oblongata (**med-OO-luh ahh-long-GAH-tuh**).

ANSWER: **brainstem**

4. William Longsword succeeded a duke of this region who acquired it in the Treaty of Saint-Clair-sur-Epte (**SAH-klair-soor-EP-tuh**). For 10 points each:

[10] Name this region, now in northern France, whose first Scandinavian duke took control here 175 years before a descendant commissioned the *Domesday* (**dooms-day**) *Book*.

ANSWER: **Normandy**

[10] France reconquered Normandy from England at this war's Battle of Formigny (**FOR-meen-ye**). Henry V (**the fifth**) was victorious in this war's Battle of Agincourt (**AH-jin-kor**).

ANSWER: **Hundred Years' War**

[10] This Viking, who was baptized as Robert I (**the first**), was the first Duke of Normandy. He often clashed with Charles the Simple.

ANSWER: **Rollo** (**RAH-loh**)

5. After sleeping with this god, the goddess Eos (**AY-ohs**) was cursed by Aphrodite (**AFF-roh-DAI-tee**) to fall in love with a series of mortals. For 10 points each:

[10] Name this god who had his own affair with Aphrodite and was the Greek god of war.

ANSWER: **Ares** (**AA-reez**) [do not accept or prompt on "Mars"]

[10] Eos's union with Astraeus (**ast-RAY-us**) produced these deities, known in Greek as the Anemoi (**AN-em-OY**). Boreas (**BOR-ee-us**) and Zephyrus (**ZEFF-uh-rus**) were the north and west members of this group.

ANSWER: **winds** [or **wind** gods]

[10] Eos fell in love with this mortal and gave him immortality. As Eos did not give him eternal youth, this Trojan prince eventually withered into a cicada.

ANSWER: **Tithonus** (**TITH-uh-nus**)

6. Ruth Landes's book *The City of Women* claims that the structure of this religion does not allow a patriarchy. For 10 points each:

[10] Name this Afro-Brazilian syncretic religion whose members meet in temples called "terreiros" (**tay-RAY-rohs**).

ANSWER: **Candomblé** (**KAN-dohm-BLAY**)

[10] Candomblé practices were often derived from the religious beliefs of this Nigerian ethnic group, which venerated beings called orishas (**or-EE-shuz**).

ANSWER: **Yoruba** [or **Isese**]

[10] Yoruba practices also inspired rituals in this religion practiced in Haiti. Popular culture exaggerates the relatively rare practice of poking namesake "dolls" in this religion.

ANSWER: Haitian **Vodou** [or **voodoo** dolls]

7. Donald Trump accused this newspaper of being a lobbyist for another company with the same owner. For 10 points each:

[10] Name this newspaper which published a recording of a phone call between Donald Trump and the Secretary of State for Georgia on which Trump asked for the results of the state's electoral count to be changed.

ANSWER: *The* **Washington Post** [prompt on *The Post*]

[10] This politician was the Secretary of State for Georgia whom Trump called in January 2021.

ANSWER: Brad **Raffensperger** [Bradford Jay **Raffensperger**]

[10] Trump's criticism of *The Washington Post* regularly mentioned this man, who owns the newspaper. He founded Amazon.

ANSWER: Jeff **Bezos** [Jeffrey Preston **Bezos**]

8. This film is divided into five chapters including “Gordy” and “Jean Jacket.” For 10 points each:
[10] Name this 2022 sci-fi horror film that mostly takes place at the Haywoods' horse ranch in Agua Dulce (**AH-gwuh DUL-say**).

ANSWER: Nope

[10] *Nope* is the third film written and directed by this former comedic partner of Keegan-Michael Key. This man also wrote and directed *Get Out*.

ANSWER: Jordan Peele [Jordan Haworth Peele]

[10] This actor starred in both *Nope* and *Get Out*. In 2021, he won the Academy Award for Best Supporting Actor for his performance as Fred Hampton in *Judas and the Black Messiah*.

ANSWER: Daniel Kaluuya

9. An actor who impersonates this person is the main character in Suzan-Lori Parks's play *Topdog/Underdog*. For 10 points each:

[10] Name this historical person, who was assassinated at a performance of the comedy *Our American Cousin*.

ANSWER: Abraham Lincoln

[10] Booth wants to make money by performing this activity in *Topdog/Underdog*. A different play's main character meets Harold Mitchell, nicknamed Mitch, while Mitch is engaging in this activity in a New Orleans apartment.

ANSWER: playing cards [or cheating at cards; or playing poker; or playing three-card monte; prompt on gambling]

[10] Parks also wrote a dramatic adaptation of this novel. In this novel, Governor Bellingham threatens to take away the main character's daughter, Pearl.

ANSWER: *The Scarlet Letter*

10. Items such as an entire Quran inscribed within a ring were produced during this conqueror's namesake “Renaissance.” For 10 points each:

[10] Name this Uzbek (**OOZ-bek**) warlord who, from his capital of Samarkand (**SAA-mark-and**), assembled an empire stretching from Delhi to Damascus in the late 14th century.

ANSWER: Tamerlane (**TAM-er-lain**) [or Tamerlane; or Timur the Lame; or Timūr Gurkānī; or Temür Kūregen]

[10] An eleven-year “Interregnum” in this Turkish Islamic empire began in 1402 after Timur captured its sultan at the Battle of Ankara (**ONK-uh-ruh**).

ANSWER: Ottoman Empire

[10] Timur captured this Ottoman sultan at Ankara. This sultan, who took the throne after Murad I's death at the Battle of Kosovo (**KAW-suh-voH**), completed the Ottoman conquest of Bulgaria at Nicopolis (**nik-AH-puh-lis**) in 1396.

ANSWER: Bayezid (**bai-EZ-id**) the Thunderbolt [or Bayezid I; or Yıldırım Bayezid]

11. Yunchan (**YOON-chan**) Lim concluded the winning performance at the 2022 Cliburn Competition by playing the third in a set of this kind of piece in D minor. For 10 points each:

[10] Name this genre used for four compositions by Sergei Rachmaninoff (**SUR-gay rahk-MAH-nin-off**), the second of which imitates tolling bells.

ANSWER: piano concertos [prompt on concerto]

[10] The second of Rachmaninoff's piano concertos is in this key, whose relative major is E-flat major.

ANSWER: C minor [do not accept or prompt on “C”]

[10] The “Russian” version of this term refers to how Rachmaninoff played his piano concertos as a soloist. This term refers to a sustained increase in volume.

ANSWER: crescendo (**kreh-SHEN-doh**)

12. This author's time in Mexico inspired his highly political novel *The Plumed Serpent*. For 10 points each:

[10] Name this author of another novel, *Lady Chatterley's Lover*, that was the subject of a massive obscenity trial.

ANSWER: D.H. **Lawrence** [David Herbert **Lawrence**]

[10] *The Plumed Serpent* was frequently published under this alternate title. A group called the “men of” this deity inspire a rebellious religious movement in the novel.

ANSWER: **Quetzalcoatl** (**KET-sul-ko-AH-tul**)

[10] *The Plumed Serpent* starts with Kate going to one of these events. In *The Sun Also Rises*, Brett runs off with Romero, a professional who engages in these events.

ANSWER: **bullfights**

13. This city is located between a namesake mountain range and the Medicine Bow Mountains. For 10 points each:

[10] Name this city, the third most populous in its state after Casper and Cheyenne, which contains the remains of Fort Sanders. A Moisés Kaufman play titled this city's “project” remembers an infamous 1998 hate crime here.

ANSWER: **Laramie**

[10] Laramie is located in this state, also home to the tourist center of Jackson Hole.

ANSWER: **Wyoming**

[10] Laramie is located in a county that shares its name with this non-Wyoming city, which was connected via a canal to Buffalo in 1825.

ANSWER: **Albany**

14. The youngest U.S. Senator in history had this surname and later served as Secretary of War under Andrew Jackson. For 10 points each:

[10] The widow of John Timberlake acquired what surname in a second marriage that led to the Petticoat Affair?

ANSWER: **Eaton** [or John Henry **Eaton**; or Peggy **Eaton**]

[10] Peggy Eaton was ostracized by Floride (**Florida**), the wife of this South Carolina politician who resigned as Jackson's Vice President.

ANSWER: John C. **Calhoun** [John Caldwell **Calhoun**]

[10] This group of informal advisors was formed after the Petticoat Affair and included Jackson's allies Francis Preston Blair and Martin Van Buren.

ANSWER: **Kitchen Cabinet**

15. Eleanor Gibson and Richard Walk's visual cliff experiment compared these human subjects to various animals. For 10 points each:

[10] Name this type of person, whose capacity for attachment was tested in Mary Ainsworth's “strange situation” experiment.

ANSWER: human **infants** [prompt on **babies**; prompt on **children**; do not accept or prompt on “toddlers”]

[10] Harry Harlow subjected animals commonly known by this name to various tortures including a “Pit of Despair” and a “wire mother” in order to develop theories about mother-child attachment.

ANSWER: rhesus **monkey**s [or rhesus **macaques**; or *Macaca mulatta*; or Old World **monkey**s; prompt on **mammals**; prompt on **primates**]

[10] Harlow was inspired to study the mother-child relationship by this Austrian psychologist who theorized the Oedipus (**ED-ip-us**) complex in *The Interpretation of Dreams*.

ANSWER: Sigmund **Freud** [Sigismund Schlomo **Freud**]

16. A document of this kind depicts Jerusalem at the center and Mansa Musa (MAHN-suh MOO-suh) with a golden scepter at the bottom. For 10 points each:

[10] Name these documents that include a “Catalan” example by Abraham Cresques (AH-bruh-HAHM KRAY-skus). The Majorcan (mai-ORK-aan) school of making these things often depicted the Alps as a chicken's foot.

ANSWER: maps [or atlases; or mappamundi]

[10] Martin Waldseemüller (VALHD-see-moo-lur) was the first cartographer to use this word in maps as the name of a landmass, following explorations by a 15th-century Florentine merchant.

ANSWER: America

[10] This Flemish geographer created a 1569 world map that represented sailing courses as straight lines and distorted Greenland to the size of Africa.

ANSWER: Gerardus Mercator (merk-AY-tor)

17. This structure is made out of chitin (KAI-tin) in fungi, and in plants it is made out of cellulose. For 10 points each:

[10] Name this cell structure, which is absent in animal cells, that surrounds the cell membrane.

ANSWER: cell wall

[10] Bacterial cell walls are made up of this polymer that accounts for the majority of the dry weight in Gram-positive bacteria.

ANSWER: peptidoglycan (PEP-tid-oh-GLAI-kan) [or murein (MYOO-reen)]

[10] These antibiotic compounds discovered by Alexander Fleming kill bacteria by inhibiting the full synthesis of peptidoglycan.

ANSWER: penicillins

18. Chefs in this country's multi-ethnic food tradition prepare a form of pepperpot called cassareep (KAZ-uh-REEP). For 10 points each:

[10] Name this country. By some measures, this is the only Western Hemisphere country where the majority of the population is of South Asian descent.

ANSWER: Guyana [Cooperative Republic of Guyana]

[10] Guyanese dishes such as “chicken in the ruff” pull from the cuisine of this country. Mild, Americanized dishes such as chop suey introduced this country's cuisine to the U.S.

ANSWER: China [People's Republic of China; or PRC; or Zhongguo]

[10] A staple India-influenced dish in Guyana uses this preparation of dried, split pulses such as lentils.

ANSWER: dal [or dhal; or dal bhat]

19. Richard Pevear and Larissa Volokhonsky (vahl-HOHN-skee) are a married translating team primarily working with this language. For 10 points each:

[10] Name this language from which Pevear and Volokhonsky translated *Crime and Punishment* into English.

ANSWER: Russian language [or Russkiy yazyk]

[10] The couple's first major translation was this novel in which Alyosha, Dmitri, and Ivan (ee-VAHN) are members of the title family.

ANSWER: *The Brothers Karamazov* [or *The Karamazov Brothers*; or *Brat'ya Karamazovy*]

[10] The couple's most recent volume was a set of 52 previously untranslated stories by this author.

They have also worked on this man's story “The Black Monk” and a play by him that ends with the army doctor Chebutykin (chay-BOO-tay-kin) singing in the background.

ANSWER: Anton Chekhov [Anton Pavlovich Chekhov]

20. The squared magnitude of this function gives the probability density function. For 10 points each:
[10] Name this quantity, symbolized psi, that represents the quantum state of a particle.

ANSWER: **wavefunction**

[10] The wavefunction can be described by an equation named after this physicist, who formulated a thought experiment in which a cat is locked in a box with poison.

ANSWER: Erwin **Schrodinger**

[10] Schrodinger's cat is meant to illustrate the absurdity of this interpretation of quantum mechanics, named for a Danish city, which states that physical systems do not have defined properties until observed.

ANSWER: **Copenhagen** interpretation

21. The theory of these objects is connected to field theory by Galois (**gal-WAH**) theory. For 10 points each:

[10] Name these mathematical objects, defined as a set and operation, that obey three other namesake axioms.

ANSWER: **groups**

[10] Groups require identity elements, inverse elements, and this property, which means that rearranging parentheses will not affect the result of an operation.

ANSWER: **associative** property [or **associativity**]

[10] Niels Henrik Abel used group theory to prove the impossibility of a general formula that finds these values for polynomials of degree five or higher.

ANSWER: **roots** [or **solutions**; or **zeroes**; or **x-intercepts**]