**Ben Cooper Memorial Tournament 2010 / ABC Spring 2010**

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Packet 5

**Tossups**

1. **This artist depicted a clerk, a farmer, and a soldier sleeping under a table-tree in *The Land of Cockaigne*. In another painting, a small crowd dances to the left of a cross while a magpie watches on the gallows. A skeleton army massacres humans in his *Triumph of***[\*] *Death*. In one work in his series *Labors of the Months*, three figures return with dogs while skaters play on a frozen pond; the title figure makes a small splash in his *Landscape with the Fall of Icarus*. For 10 points, name this Dutch Renaissance painter, known for paintings such as *The Peasant Wedding* and *The Hunters in the Snow*.

ANSWER: Pieter **Breughel** the **Elder** [accept Peasant Breugel; Pieter Bruegel De Oudere] [DU]

2. **The narrator of this work assumes one character is a dentist because his buttons are made of human molars. In it, one character is rebuked by Michaelis for seeing the eyes of God in a billboard of T.J. Eckelburg, while another character cries over a pile of** [\*] colorful shirts, and is a friend to the golfer Jordan Baker. Few people attend the title character’s funeral after George Wilson kills him and Wilson’s wife Myrtle is run over by the idealized Daisy Buchanan. For 10 points, name this book narrated by Nick Carraway, a 1925 Jazz Age novel by F. Scott Fitzgerald.

ANSWER: The **Great Gatsby** [DB-N]

3. **Their festivals include binghi, or ‘groundations’, and the more common “reasonings”, and their dietary code, I-tal, stems from a literal belief that one’s body is a temple. One sacred text of this group is called the *Holy Piby,* and members of this faith use word formations like** [\*] “downpression” and “overstanding” , while rejecting “isms”. They await the fall of “Babylon”, or white oppression. For 10 points, name this faith whose exponents worship Haile Selassie I of Ethiopia as God, a Jamaican religion whose practices include the religious use of cannabis and the wearing of dreadlocks.

ANSWER: **Rasta**fari movement [or **Rasta**farianism] [MJ]

4. **The oxyrhyncus fish was one danger to this deity, and the *djed* pillar often represented this deity’s backbone. Also known for getting trapped in a box filled with molten lead, this god was syncretized with Apis and sometimes Zeus in the form of Serapis, and his cult center was** [\*] Abydos. His wife found all but one of the 14 pieces into which this god’s half-brother Set had torn him, after which he was resurrected. Often depicted holding a flail and a crook, this husband of Isis and father of Horus is, for 10 points, what white-clothed Egyptian god, the ruler of the afterlife?

ANSWER: **Osiris** [accept **Asar**, accept **Usire**, accept other reasonably similar pronunciations]

5. **This ruler subdued a minor revolt in the city of Taxila. His name means “without sorrow” in his native language, and he ruled from the region of Maghda. He erected a sculpture featuring a namesake 24-spoke** [\*] ‘wheel of righteousness’ and four outward-facing lions at Sarnath, and many his Rock and Pillar Edicts still stand. He conquered the Kalinga Empire, and this grandson of Chandragupta’s conversion to pacifist Buddhism greatly aided that religion’s spread. For 10 points, which Mauryan Emperor ruled India from 273 to 232 BCE?

ANSWER: **Ashoka** [accept **Asoka**; prompt “Devanampriya Priyadarsi”, prompt “Dhamma”] [JH]

6. **Home to the Wallula Gap, this river’s geologic history included a mudslide called the “Bridge of the Gods,” for which a modern cantilever bridge over it is named. Two of its major hydroelectric dams, equipped with ‘fish-ladders’ to help salmon climb, are the John Jay and** [\*] Bonneville Dams. It forms its infamous ‘bar’ of shoals near Astoria, its confluence with the Willamette River is in the city of Portland, and its largest tributary is the Snake River. For 10 points, name this Pacific Northwest river which forms the border between Oregon and Washington State.

ANSWER: **Columbia** River [SR]

7. **One work by this composer features three characters; one whose name literally means “stick in the mud,” Lieschen, is addicted to the titular substance. This composer of the *Coffee Cantata* composed a piece** **rediscovered and conducted by Felix Mendelssohn, “St.** [\*] Matrhew’s Passion,” and a collection which contains 24 preludes and fugues, one in each key, *The Well-Tempered Clavier*. For 10 points, name this Baroque composer of *The Art of the Fugue* and *Goldberg Variations*, as well as six pieces named for a German state, the *Brandenburg Concertos*.

ANSWER: **J**ohann **S**ebastian **Bach** [do not accept “Johann Christian Bach” or any of Bach’s other composer relatives; prompt on just “Bach”] [DB-N]

8. **Aromatic compounds found in the liquid form of this substance can undergo the Birch reduction, and a reagent named containing two ligands of this molecule creates a “silver mirror” in the presence of aldehydes and is named for Tollens. This substance is combusted to form an oxidized** [\*] product in the Ostwald process, and it is synthesized with an iron catalyst at high temperatures in the Haber-Bosch process. For 10 points, identify this simplest amine, a weak base with chemical formula NH3.

ANSWER: **ammonia** [accept **NH3** until read] [MJ]

9. **One civil conflict in this nation was known as the Gukuruhundi; this nation underwent large neighborhood clearances as part of Operation Drive Out Trash. Home to Johsua Nkomo, known as its “father”, a republic here declared independence under Ian** [\*] Smith; its capital was formerly known as Salisbury. Its current ruling party, ZANU-PF, recently struck a frequently violated power-sharing deal with Prime Minister Robert Tsvangirai *[TCHANG-gir-aye].* For 10 points, name this dysfunctional African country run by Robert Mugabe, whose many recent crises include record hyperinflation.

ANSWER: Republic of **Zimbabwe** [MJ]

10. **It wasn’t in Ireland, but one side in this conflict was deserted by Saint Patrick’s Batallion. Colonel Steven Kearney commanded a force of dragoons that Robert Stockton relieved during it, and legislative action during this war included “spot resolutions” and the** [\*] Wilmot Proviso. The Bear Flag Revolt was encouraged by John C. Frémont during it, and it was successfully resolved after Winfield Scott landed at Veracruz. For 10 points, name this war ended by the treaty of Guadalupe Hidalgo, which made Zachary Taylor famous for fighting our southern neighbor.

ANSWER: **Mexican**-**American** **War** [prompt “Bear Flag Revolt” during power] [MJ]

**[HALF-TIME / SCORE CHECK]**

[If a team’s roster has more than four players, that team may substitute players in or out at this point.]

11. **The reservoir type of these devices smooths pulsating direct current from rectifiers. The Q factor, which relates energy loss in these devices, is a function of equivalent series resistance. In them, a lag of pi over 2 radians exists for** [\*] voltage behind current; their breakdown voltage depends on the dielectric strength. Their strength is proportional to the area of their parallel plates and inversely proportional to their distance. A really old one was the Leyden Jar, and its namesake unit, measured in coulombs per volt, is the farad. For 10 points, name this circuit device that stores charge.

ANSWER: **capacitor**s [accept **condenser**s] [DU]

12. **Subtypes of this process include arrhenotoky and the much more common thelytoky, and an analogous process in plants is known as apomixis. First studied in sea urchins by Jacques Loeb, the largest land animals to undergo it are Komodo dragons, while in** [\*] bees, it produces drones. It was used in a Tokyo lab to create the mouse Kaguya, and was artificially induced by Gregory Pincus in female rabbits of mothering age. For 10 points, name this form of asexual reproduction by which egg cells develop into newborns without male fertilization, from the Greek for ‘virgin birth’.

ANSWER: **parthenogenesis** [MJ]

13. **Asher Roth used one of this man’s beats to record the line “Self-centered humans be the root of all evil”. This person claims that “y’all too plain, I am a helicopter” in the song “Banned From TV”; that song appears along with “Watch my Shoes” and a “Sweet Dreams” remix featuring Nicki Minaj on his mixtape** [\*]*No Ceilings*. Other albums that he made include *Da Drought* and *500 Degreez*. He was discovered and later adopted by the rapper Birdman. For 10 points, name this rapper with such hits as “Fireman”, “A Milli”, and “Lollipop”.

Answer: Dwayne Michael **Carter**, Jr [accept **Lil’ Wayne**; do not accept “Little Wayne,” but don’t push it] [OW]

14. **This nation lost the 1467 Battle of Baia under Matthias Corvinus. This nation’s first king was Stephen I of the Arpad dynasty, and short-lived political careers here include those of an 1848 revolutionary with a namesake county in Iowa, Lajos Kossuth, Bela Kun’s** [\*] pro-Soviet 1919 rule, and the Arrow Cross Movement of fascist Ferenc Szalasi. Janos Kadar deposed Imre Nagy *[NAJ]* in a 1956 Stalin-backed coup here, and this country, the location of the 1526 battle of Mohacs, signed the 1867 *Ausgleich*. For 10 points, name this country, whose dual monarchy with Austria ruled over the Magyars.

ANSWER: **Hungary** [accept **Magyarorszag**] [MJ]

15. **This thinker examined seemingly contradictory statements with his namesake Theory of Fallacies, and in another work, he proposed examining a certain substance engulfed in flame in his “wax argument.” He suggested the pineal gland is the interaction point between** [\*] mind and body, and, independently of Snell, formulated the law of reflection. Employing skepticism in his “Discourse on Method,” for 10 points, name this 17th century French philosopher, who invented a namesake coordinate system and claimed “I think, therefore I am”.

ANSWER: René **Descartes** [accept **Cartesius**] [OH]

16. **For a real projective plane or a tetra-hemi-hexahedron, a characteristic symbolized chi is equal to this. The Riemann zeta function evaluated at this argument is identical to the harmonic series. Fermat’s Little Theorem states that for a prime number p and any integer a, a to the p minus one is congruent to** **it mod p, and every square of an odd number, taken modulo 8, is** [\*]congruent to this number. The natural log of e, and fourth power of the imaginary unit *i* is, for 10 points, what number which is the multiplicative identity, and the only positive integer that is neither prime nor composite?

ANSWER: **one** or **1** [AJ]

17**. In this work, Sergei Koznyshev visits his half-brother and castigates him for quitting an administrative post. Varenka and another character’s brother Nikolai are recovering at a spa in Germany in this novel. One character is courted by Konstantin Levin and flirts with Veslovsky. At its opening, Stiva** [\*] Oblonsky is caught cheating on his wife, Dolly. One character in this work rides the horse Frou-Frou too hard and breaks her back, and rejects Kitty for the title character. That woman, the lover of Count Vronsky, dies by throwing herself under a train. For 10 points, name this novel by Leo Tolstoy.

ANSWER: **Anna Karenina** [GT]

18. **This poet asks the reader to mourn two enamored creatures who “fled/ In a mutual flame from hence” in *The Phoenix and the Turtle*. One collection by him “wisheth the Well-Wishing Adventurer in setting forth”, and was published by “T.T.” He** **described the** **violation of Collatine’s** **wife by** [\*] Tarquin in his narrative poem *Lucrece*, and a boy who refuses to kiss the goddess of love gets gored by a boar in his *Venus and Adonis*. Another poem asks, “Shall I compare thee to a summer’s day?” For 10 points, name this poet who claimed his “mistress’s eyes are nothing like the sun” in one of his 154 sonnets, and who also wrote *The Two Gentlemen of Verona*.

ANSWER: William **Shakespeare** [MJ]

19. **This person’s Ph.D. dissertation, about the importance of individual religious experiences, is called *The Concept of the Guardian Spirit in North America*. Two of this figure’s other books, written after 11 years of research into the beliefs of the Apache, Serrano, Blackfoot, and Pueblo, were called *Tales of the Cochiti Indians* and** [\*] *Zuñi Mythology*. Another book of hers argued that each society decided upon a certain few personality traits to emphasize, *Patterns of Culture*. For 10 points, name this anthropologist, author of *The Chrysanthemum and the Sword*, student of Franz Boas, and friend of Margaret Mead.

ANSWER: Ruth **Benedict** [accept Ruth **Fulton**] [JaC]

20. **In this man’s memoir, he describes Trevelyan’s beating of Eddie, and a novel by this author retells the story of Robinson Crusoe from the perspective of Susan Barton. In addition to *Boyhood* and *Foe*, this author fictionalized Dostoyevsky’s reaction to the death of his friend Pavel in *The Master of***[\*] *Petersburg*. In a novel by this author of *The Lives of Animals*, Melanie Isaacs is seduced by the professor David Lurie, and another depicts the title hare-lipped gardener’s return to Cape Town. For 10 points, name this author of *Disgrace* and *The Life and Times of Michael K*, a South African also famous for *Waiting for the Barbarians*.

ANSWER: John Michael **Coetzee** [IE]

**[STOP HERE]**

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. **One god of this type from Celtic myth brewed beer that granted immortality to the drinker and was the son of Danu. In addition to Goibniu, a deity of this type in Finnish myth served as the patron of travelers and gave fire to man in addition to his more famous role. Along with Ilmarinen, who** [\*] made the Sampo, a Greek god of this type was raised by Thetis and Eurynome and worshipped at Lemnos after being thrown from Olympus by Hera. That god was married to Aphrodite, created the armor of Achilles and was lame. For 10 points, name this class of god, exemplified by Hephaestus in Greek mythology.

ANSWER: **gods** of the **forge** [or **blacksmith** **gods**; accept reasonable equivalents] [IE]

**Bonuses**

1. This short story features a fighting dog named Andrew Jackson, who attacks enemies’ legs. For 10 points each:

[10] First, name this short story in which an amphibian named Dan’l Webster is filled with lead shot, preventing Jim Smiley from winning a bet.

ANSWER: **The Celebrated Jumping Frog of Calaveras County** [accept **The Notorious Jumping Frog of Calaveras County**; accept **Jim Smiley and His Jumping Frog**]

[10] “The Celebrated Jumping Frog of Calaveras County” was written by this witty American whose longer works of fiction include “The Gilded Age” and “The Adventures of Huckleberry Finn”.

ANSWER: Mark **Twain** [accept Samuel Langhorn **Clemens**]

[10] In this other short story by Twain, 19 couples in a town receive letters that will win them a bag of gold worth $40,000. It turns out that the gold belongs to none of them, and that the bag is full of lead anyway.

ANSWER: The **Man That Corrupted Hadleyburg** [do not accept “The Man *Who* Corrupted Hadleyburg”] [DB-N]

2. Answer the following about mixtures, for 10 points each.

[10] Often held together by Van der Waals forces or electrostatic interaction, fog exemplifies this type of medium in which one substance’s particles are dispersed in another’s. They include gels and aerosols, but *not* solutions.

ANSWER: **colloid**

[10] Mayonnaise is an example of this type of immiscible liquid-liquid colloid.

ANSWER: **emulsion**

[10] Colloids, like surfactants, are subject to this namesake effect, which describes the scattering of light by particles in suspension. The scattering of headlight beams by fog is an example of this effect.

ANSWER: **Tyndall effect** [RyM]

3. Robert Smithson’s *Partially Buried Woodshed* was supposedly inspired by this event, which occurred after Leroy Satrom requested assistance in suppressing a protest from James Rhodes. For 10 points each;

[10]Identify this 1970 killing of four students by members of the Ohio National Guard, famously depicted in a photograph of Mary Ann Vecchio.

ANSWER: **Kent State** massacre [or **May 4th** massacre; accept anything involving Kent State and death]

[10] Many Kent State students were protesting the American attack on this Southeast Asian nation, which later saw a genocide under the rule of Pol Pot’s Khmer Rouge.

ANSWER: **Cambodia**

[10]During his tenure as Nixon’s Secretary of State, this man helped orchestrate the bombing of Cambodia. Along with Le Duc Tho, he was awarded the Nobel Peace Prize for supposedly ending the Vietnam War.

ANSWER: Henry **Kissinger** [IE]

4. At its end, the protagonist walks offstage to kill herself with a shaving razor. For 10 points each,

[10] First, name this August Strindberg play in which the servant Jean and the title aristocratic lady have a forbidden liaison at the Count’s residence.

ANSWER: **Miss Julie** [accept **Froken Julie**]

[10] August Strindberg set *Miss Julie* in this native country of his. The author of *The Wonderful Adventures of Nils,* Selma Lagerlof, was from here, and went to its capital to receive the Nobel Prize in Literature.

ANSWER: **Sweden**

[10] This “chamber play” by Strindberg, designed for his Intimate Theater in Stockholm, features the student Arkenholz, the old man Jakob Hummel, and a formerly-beautiful mummy living in the closet.

ANSWER: The **Ghost Sonata** [accept **Spöksonaten**]

5. Name the following economic curves, for 10 points each:

[10] This downward sloping curve represents the amount of goods and services that can and will be purchased at all possible price levels.

ANSWER: **Demand** Curve

[10] This curve, central to supply-side economics, claims that, in theory, increasing the rate of taxation will not necessarily increase the government’s tax revenue. It works under the assumption that tax rates of 0% and 100% will generate no revenue.

ANSWER: **Laffer** Curve

[10] This curve graphs a different good on each of its axes, and graphs the relation, all else being equal, of how many of one good can be produced in terms of the opportunity cost of creating the other.

ANSWER: **production possibilities** curve / frontier [accept **PPF** or **PPC**] [AJ]

6. The president of this nation authorized the shelling of Tskhinvali in South Ossetia. For 10 points each:

[10] First, name this post-Soviet nation in the Caucasus which lost contact with its enclave of Abkhazia after the resulting 2008 Russian intervention.

ANSWER: **Georgia**

[10] This President of Georgia and his United National Movement party led the 2003 Rose Revolution, in which the post-Soviet autocracy was overthrown democratically.

ANSWER: Mikhail **Saakashvili**

[10] The Rose Revolution overthrew this ex-Soviet leader, formerly Minister of Former Affairs under Gorbachev.

ANSWER: **Eduard Shevardnadze** [MJ]

7. For 10 points each, answer some questions about an operation.

[10] This operation can be done by substitution or by parts, and, in its definite form, it represents “the area under a curve”. A Fundamental Theorem of Calculus defines it as the inverse of the derivative.

ANSWER: **Integration** or **integral**

[10] This German defined the integral by partitioning the area beneath a function into infinitesimally small rectangles and summing up their area. His namesake hypothesis involves the “zeta” function.

ANSWER: **Riemann** integral [accept G. F. Bernhard **Riemann**]

[10] This numerical method of approximating an integral, similar to the trapezoid rule, divides a function into subintervals, creates a parabola over each interval, then adds those areas together.

ANSWER: **Simpson’s** Rule

8. A heroic one was Tassadar, who sacrificed himself and his Carrier ship to destroy the Overmind. For 10 points each,

[10] First, name this reptilian race of Psi-using aliens from the planet Aiur, who must construct additional Pylons.

ANSWER: **Protoss**

[10] The Protoss fight Terrans and Zerg in this Blizzard Entertainment PC strategy game with professional devotees like JangBi and Boxer in Korea.

ANSWER: **Starcraft**

[10] In Starcraft II, the Protoss will be able to control only one of these vehicles at a time, and they will have Time Rift and Black Hole Vortex powers. An expansion to *Fallout 3* takes place on one of these entitled “Zeta”.

ANSWER: **mothership**s [accept “Fallout 3: **Mothership** Zeta”] [MJ]

9. The artist claimed that this painting was his only satire. For 10 points each:

[10] In what work do three self-righteous old women, one of whom pretentiously holds a cup, stand in front of a copy of Emmanuel Leutze’s *Washington Crossing the Delaware*?

ANSWER: **Daughters of Revolution**

[10] *Daughters of Revolution* is a work by this Midwestern painter of *Arbor Day*, whose other works include a birds-eye-view painting of *The Midnight Ride of Paul Revere.*

ANSWER: Grant **Wood**

[10] Wood used his sister and dentist as models in this painting, in which a man with a pitchfork and a woman are seen in front of a Gothic house.

ANSWER: **American Gothic** [DU]

10. One of these, once a land bridge, is named after Bering. For 10 points each,

[10] Identify this term for a narrow passage of water connecting two larger bodies of water.

ANSWER: **Strait**

[10] This is narrowest strait in the world used for commercial use and it splits the Turkish city of Istanbul.

ANSWER: **Bosporous** Strait [do not accept Istanbul Strait]

The Black Sea's southwestern portion ends with the Bosporous; this notably shallow sea juts out of the north-east portion of the Black Sea, east of the Crimea and south of the rest of Ukraine.

ANSWER: Sea of **Azov** [SR]

11. Its first part espouses closeness to God in poems such as “Nurse’s Song” and “Infant Joy”. For 10 points each,

[10] First, name this William Blake collection whose second part contains the dismal poems “London” and “The Chimney Sweeper”.

ANSWER: **Songs of Innocence and of Experience**: Shewing the Two Contrary States of the Human Soul

[10] In this poem within Blake’s Songs of Innocence, the speaker asks the title creature: “Dost thou know who made thee?” Its opposing poem in Songs of Experience is “The Tyger”.

ANSWER: The **Lamb**

[10] In this poem from “Songs of Experience,” the narrator states “I was angry with my foe, / I told it not; my wrath did grow”. The title object later “bore an apple bright” which “outstretch’d” said foe beneath it.

ANSWER: **A Poison Tree** [JaC]

12. It is found in all plant and fungal cells, where it can fill up to 90 percent of the cell’s space, and in some protist, animal and bacterial cells. Name, for 10 points each:

[10] That organelle, which stores water and sometimes other substances.

ANSWER: **Vacuole**

[10] Caused by the presence of water in the vacuole, this is the name given to the force that gives plants their rigidness by forcing cell walls to be pushed out. A lack of this causes plants to wilt.

ANSWER: **turgor pressure** or **Turgidity**

[10] Two contractile vacuoles regulate osmotic pressure in this commonly-studied genus of freshwater protists. They are covered in cilia that allow them to move.

ANSWER: **Paramecium** [JoC]

13. For 10 points each, name some Mexican Revolutionaries.

[10] This man, an indigenous Zapotec, fought against the French puppet Emperor Maximilian I. He then held the Mexican presidency until he died in 1872.

ANSWER: Benito Pablo **Juárez** García

[10] This later rebel and leader of the División del Norte was provisional governor of Chihuahua, and helped Francisco Madero overthrow Porfirio Diaz. US General John Pershing attempted to capture this man.

ANSWER: Fransisco “Pancho” **Villa** [or José Doroteo **Arango** Arámbula]

[10] This other revolutionary helped Madero fight Diaz in the South of Mexico. Killed by Col. Jesús Guajardo, a modern revolution in Chiapas, led by Subcomandante Marcos, takes its name from this man.

ANSWER: Emiliano **Zapata** Salazar [JaC]

*[EDITOR’S NOTE: Those rebels are known as the Zapatistas.]*

14. In this opera, Escamillo sings the Toreador song, and a tango-like cello part accompanies the title character’s Habanera aria. For 10 points each,

[10] Name this opera about a Spanish gypsy murdered by Don José.

ANSWER: **Carmen**

[10] This French composer of Don Procopio and a set of twelve piano duets called Childrens’ Games wrote Carmen.

ANSWER: Georges **Bizet**

[10] In this other Bizet opera, set in Ceylon, Zurga and Nadir sing the duet “Au fond du Temple Saint, ” recounting their love for Leila, a priestess of Brahma.

ANSWER: The **Pearl Fishers** [accept Les pêcheurs de perles] [MJ]

15. They descended from a group known as the Tervingi, or “forest people”. For 10 points each,

[10] First, name this western barbarian tribe which eventually settled in Iberia. They sacked Rome in 410 CE.

ANSWER: **Visigoths** [do not accept “Ostrogoths;” prompt “Goths”]

[10] This Visigoth king was responsible for that 410 sack of Rome.

ANSWER: **Alaric I**

[10] A later Visigoth ruler, Pelayo, was credited with starting the Reconquista against Spanish Muslims by winning this 722 battle in northern Spain.

ANSWER: Battle of **Covadonga** [MJ]

16. He wrote about his tutor in works like “Cratylus” and “Meno”. For 10 points each:

[10] Name this ancient Greek philosopher who wrote Socrates’ “Apology”.

ANSWER: **Plato**

[10] In this Platonic dialogue, characters like the doctor Eryximachus and the lawyer Pausanians, attend a party in the house of Agathon in Athens.

ANSWER: The **Symposium**

[10] This other Platonic dialogue sees Socrates explain to the title character that he cannot escape Athenian prison, even though he hasn’t committed a crime, because the law must be followed.

ANSWER: **Crito** [DB-N]

17. The setup includes a Geiger counter, a vial of prussic acid, and an atom with 50 percent chance of radioactive decay. For 10 points each,

[10] Name this thought experiment, whose namesake creature is caught in a superposition of life *and* death until the box containing it is opened.

ANSWER: **Schrödinger’s cat** [If anyone says “Schrödinger’s Elephant,” give them a huge cookie even though they are still wrong]

[10] Schrödinger also has a namesake equation including this function symbolized psi. When squared, it helps find a probability distribution for electrons’ locations by treating them like the namesake entities.

ANSWER: **wave function**

[10] The Schrödinger equation contains this operator on the wave function, which represents the total energy of a system. In classical mechanics, it can be approximated by kinetic energy plus potential energy.

ANSWER: **Hamiltonian** operator [prompt “H”] [MJ]

18. Their mythology includes large swamp beasts called bunyips and a network of sacred trails known as songlines. For 10 points each,

[10] First, give the general term for an indigenous group whose artifacts include cave paintings and boomerangs.

ANSWER: Australian **aborigine**s or **indigenous Australian**s [accept logical equivalents]

[10] Many Aborigines believe in this creator deity that resides in waterholes. Its long, perhaps endless body carved out the rivers, mountains, and billabongs of Australia.

ANSWER: **Rainbow Serpent** or **rainbow snake** [when in doubt, prompt names like “Julunggul” or “Wagyl”]

[10] Aboriginal myths often refer to this cyclical era in which ancestral totem spirits emerged to create the world.

ANSWER: **Dreamtime** or The **Dreaming** [prompt “Everywhen”] [MJ]

19. Some people believe this writer was acting as a spy when he wrote the travelogue *The Narrow Road to the Deep North*. For 10 points each:

[10] First, name this 17th century poet, who pioneered in the development of haikus.

ANSWER: Matsuo **Bashō**

[10] Haikus and tankas are traditional forms of poetry in this nation, whose Edo Period poets included Yosa Buson.

ANSWER: **Japan** [accept **Nihon** or **Nippon**]

[10] Other traditional forms of literature in Japan include kabuki and this art of puppet theater. A famous example of it is *The Love Suicides at Sonezaki* by Chikamatsu.

ANSWER: **bunraku** [accept **ningyō jōruri**] [DU]

In Shinto mythology, Izanagi fails to rescue his wife from one of these called Yomi. For 10 points each:

20. [10] First, name these locations, of which the Greek one includes Elysium, Asphodel, Tartarus, and five rivers including the Lethe and the Styx.

ANSWER: **underworlds** [accept **lands of the dead** or other reasonable equivalents; prompt on “hells”]

[10] Literally meaning “Mist World,” this Norse underworld lies under the third root of Yggdrasil. Within it, Loki’s daughter Hel has a namesake realm for those who do not die in battle.

ANSWER: **Niflheim**

[10] Ruled by Hun-Came and surrounded by rivers of scorpions, blood, and pus, this underworld with an entrance near Corbán, Guatemala is visited by the Hero Twins in the *Popol Vuh*, a Mayan epic.

ANSWER: **Xibalba** [JoC]

21. He weighs the hearts of the dead against the Feather of Ma’at, For 10 points each:

[10] First, name this jackal-headed Egyptian god of mummification and embalming.

ANSWER: **Anubis** [or **Inpu;** or Anupu; or Ienpw]

[10] This Egyptian god of wisdom and writing recorded the results of the weighing of the heart. He is often depicted with the head of an ibis.

ANSWER: **Thoth** [or **Djehuty**]

[10] This demon, with the rear legs of a hippopotamus, the front legs of a lion, and the head of a crocodile, devours hearts that weigh more than the feather.

ANSWER: **Ammit** or **Ammut** [Prompt on “Devourer” or “Bone-Eater”] [JoC]