

Minnesota Undergraduate Tournament 2015: My Torah Portion was an Archie Comic
Questions by Rob Carson, Mike Cheyne, Andrew Hart, Gautam Kandlikar, Shan Kothari, Bernadette
Spencer, Cody Voight, and *special guest* Ike Jose
Packet 07: Tossups

1. For two regions of space, the sums of the volume and surface integrals of the constants of the region of space times this quantity for the other region of space are equal, according to Green's reciprocity theorem. The time derivative of this quantity is multiplied by one over the speed of light squared in the condition for the Lorenz gauge. According to Poisson's equation, the Laplacian of this quantity is equal to the negative of (*) charge density over the permittivity. This quantity is equal to Coulomb's k times the charge Q of a point charge over the distance from the charge. In electrostatics, the negative gradient of this quantity, usually denoted phi or V, yields the electric field. For 10 points, name this scalar whose difference at two points is determined by the magnitude of the electric field.

ANSWER: **voltage** [or **electric** scalar **potential**; or **electric field potential**; or **electrostatic potential**; do not accept "electric potential energy"]

2. This author claimed that "thou didst love the pen / While others wrote in steel" in a poem addressed to Jean Froissart called "Thou in Whose Sword-Great Story Shine the Deeds". Another of his poems is about a group who would "rather black the boots of / success than enquire whose soul dangles from his / watch-chain", and who is "forever making poems in the lap of death". He wrote a poem whose speaker notes "i do not know what it is about you that (*) closes and opens"; that poem ends with the line "nobody, not even the rain, has such small hands". Another of his poems rhymes its title with the parenthetical "with up so floating many bells down". For 10 points, name this author of "Humanity i love you" and "anyone lived in a pretty how town", an American poet known for his unusual orthography and typography.

ANSWER: e e **cummings** [or Edward Estlin **Cummings**]

3. This man's probable successor was killed in Operation Ogre when his car was blown over a five story building. Political parties in his country have declared the "Pact of Forgetting" regarding his government. This leader's country underwent an economic "miracle" keyed by making the SEAT 600 car. There is suspicion that he engineered the plane crash that killed rival Emilio Mola. In a war that allowed him to take control, this man combined the (*) Falange movement with the Carlists. In that war, the Condor Legion supported him by bombing Guernica. This man designated Juan Carlos I as his successor and he took power after a civil war against the leftist Republican government. For 10 points, name this fascist who led Spain from 1939 to 1975.

ANSWER: Francisco **Franco** Bahamonde

4. This ballet's title character is represented by a motif comprising two minor seconds followed by a major third. The "sudden appearance" of this ballet's protagonist is accompanied by horn and clarinet solos, after which other characters perform a "Khorovod." A bassoon solo represents the title character's "Berceuse." This ballet's finale begins with a French horn solo in a slow 3/2 but switches to a fast (*) 7/4. Its longest section begins with a timpani roll over which winds play an octatonic, syncopated melody in 2/4; that section is the "Infernal Dance." Choreographed by Michel Fokine, this ballet was the first its composer wrote for the Ballets Russes. It concerns Prince Ivan's quest to marry the thirteenth princess and defeat Kashchei the Immortal. For 10 points, name this ballet by Igor Stravinsky about a magical flying animal.

ANSWER: *The* **Firebird** [or *L'oiseau de feu*; or *Zhar-ptitsa*]

5. This work claims that for an artist to depict something impossible is an error that can be justified only if the resulting effect is more striking. It claims that a certain art form consists of complication and unraveling, and it uses similar passages from Aeschylus and Euripides to depict the drastic effects of changing one word. This work argues that characters must be good, proper, true to life, and consistent, and that is better for characters' (*) downfall not to be caused by vice but by error in judgment, or *hamartia*. It argues that dramatic poetry is a product of imitation, or *mimesis*. The classical unities of time, action, and place are derived from a passage in this work. This work claims that *anagnorisis*, or recognition, is key to the effect of tragedies in causing a purgation of emotions called catharsis. For 10 points, name this treatise on literary theory by Aristotle.

ANSWER: **Poetics** [or *De Poetica*]

6. The KLEMS measures for this concept takes into account intermediate activity. A “paradox” about this concept, in which measures for it had not risen for a two-decade period, was described by Erik Brynjolfsson. Modern measures for it were inspired by a paper written by Dale Jorgenson and Zvi Griliches. One form of this concept is calculated via growth accounting exercises as the (*) residual from output not attributable to labor or capital. Technological shocks are assumed to affect this concept, which may be measured in its “total factor” form. For 10 points, name this economic concept which is often measured in “dollars per hour worked”, which describes how many units of input are needed to make a given output.

ANSWER: productivity [accept “Total factor productivity” or “multi-factor productivity” or abbreviations; accept “productivity growth” or anything implying changes in productivity; reverse prompt, i.e. ‘can you be less specific?’ on “Solow Residual;” do not accept “production” or “output”; do NOT accept or prompt on “technology” or “technological progress”]

7. Every linear ODE of this type with at most three regular singular points can be transformed into the hypergeometric differential equation, whose solution is the hypergeometric function. A homogeneous differential equation of this type must have its solutions's zeros occur alternately according to Sturm's separation theorem. Bessel functions of this kind are singular at the origin. This order is the minimum for which (*) “homogeneous” means that all of an equation’s terms contain the dependent variable, or derivatives of such, which means it can be written as a function of the dependent variable that’s equal to zero. The Wronskian is first introduced when considering equations of this order. For 10 points, identify this order of the differential equation describing the harmonic oscillator.

ANSWER: second order [or two; or obvious equivalents]

8. A character in this play claims to have an “answer that fits all questions”, which he compares to “a barber’s chair that fits all buttocks”. That character, a clown named Lavache, verbally spars with the Countess, who advises her son to “Love all, trust a few, do wrong to none”. A group of lords in this play arrange a ploy in which the retrieval of a drum is used as a pretext to reveal the cowardice of Parolles. In this play, (*) Lafew arranges for the King to be cured of a fistula by the daughter of Gerard de Narbon, who then fakes her own death and travels to Florence, where she switches places with Diana in order to fulfill the conditions of a challenge set by the Count of Rousillon, namely to acquire his signet ring and bear his child. For 10 points, name this Shakespeare comedy about Bertram and Helena, whose fractious marriage is repaired by play’s end.

ANSWER: All’s Well That Ends Well

9. During a battle for this city, LI Corps commander General Seydlitz-Kurzbach was relieved of command after telling his subordinates that they could surrender, then personally surrendered himself. Operation Koltso was the final phase of a battle in this city. Two weeks after a surrender in this city, the Sportpalast speech declared that the country must accept total war. In a battle for this city, Operation (*) Uranus resulted in the encirclement of the German Sixth Army under field marshal Friedrich Paulus, which Adolf Hitler then ordered to be supplied from the air. From August 1942 to February 1943, this city was the site of a battle often credited as the bloodiest in the history of warfare. For 10 points, name this site of a decisive Soviet victory during World War II, a city now known as Volgograd.

ANSWER: Stalingrad [accept Volgograd before “Volgograd”]

10. This action is performed in an alternative version of the *brit milah* called the *brit rechitzah*. On a holiday whose common name refers to this action, the British monarch distributes small silver coins as alms to the elderly. The Moravian Lovefeast includes three ordinances, namely the Eucharist, an Agape feast, and this action. Jesus relates the Parable of the Two Debtors in the Book of Luke shortly after a sinful woman does this to him with her (*) hair. In 2013, Pope Francis broke from tradition by doing this for two women after a Mass. The name of Maundy Thursday refers to this action, which despite Peter’s protestations was performed by Jesus to his disciples shortly after the Last Supper. For 10 points, identify this action, a symbol of hospitality involving the cleaning of one’s lower extremities.

ANSWER: foot washing [accept word forms and synonyms like “anointing the feet”; accept pedilavium; accept maundy or mandatum until “Maundy” is read; prompt on “washing” or “anointing” or other similar answers; prompt on “anointing with oil”]

11. A comic strip of this title often depicts its title character's long-running feud with Walter Brown and his gang of "Softies", in which he is aided by his dog Gnasher. The title character of another comic strip with this name was portrayed in a TV adaptation by Jay North. British and American comic strips with this name both first appeared in March 1951. In two separate incidents in the 1980s, the dialogue for this comic was swapped with that of *The (*) Far Side*. A controversial May 1970 strip depicted a Sambo-like character named Jackson with whom its protagonist claims to be having "race trouble". The title character of this strip enjoys playing with his dog Ruff and hanging out with Gina and Joey, while his foes include Margaret and his neighbor Mr. Wilson. For 10 points, name this Hank Ketcham-created comic strip about an ostensibly fiendish child.

ANSWER: **Dennis the Menace**

12. This man employed Amancio Williams to oversee the construction of a dwelling, he designed in La Plata, Argentina called the Curutchet House. His furniture designs include a pair of cube-shaped armchairs referred to as "cushion baskets" or "Grand Confort". He employed a recurring motif of a birdlike "open hand" that famously appears in the form of many statues in a city for which he designed the Punjab and Haryana High Court building. This designer of the city of (*) Chandigarh developed a philosophy involving the use of a free floor plan, a functional roof, and *pilotis* for support. He developed that theory, the "five points of architecture", in his book *Towards a New Architecture*. For 10 points, name this International Style architect of the Notre Dame du Haut and the Villa Savoye.

ANSWER: Le **Corbusier** [or **Le Corb**; or Charles-Edouard **Jeanneret**]

13. The practical application of these materials was advanced by RCA researcher Richard Williams's discovery of the TN-effect, which allows the electrical modulation of a twisted or untwisted geometry. Austrian botanist Friedrich Reinitzer discovered the first of these materials, which exhibited a helical structure and was of their cholesteric variety. If these materials are formed based on the addition of a solvent, they are termed (*) lyotropic. Thermotropic types of these materials, which are ordered based on temperature, include their nematic and smectic phases. These mesophasic materials are named because they exhibit both the ordering properties of one of their namesakes, and the flow properties of the other. For 10 points, name this phase of matter used for the displays on some digital wristwatches and alarm clocks.

ANSWER: **liquid crystals** [prompt on "LC(s)" or "crystal(s)"]

14. In 1795, this man responded in a letter to a friend that he would collaborate on a proposed poetry collection to attack their critics entitled *Die Xenien*. This man was inspired by the French Revolution to write the philosophical treatise *On the Aesthetic Education of Man*. This man founded the magazine *Thalia*, which published a poem he wrote that calls its title subject, in various translations, a "bright spark of (*) divinity" or a "beautiful spark of the gods". He wrote an ode originally dedicated to freedom that refers to its subject as the "daughter of Elysium". In one of his plays, Karl Moor leads a band of outlaws; another of his plays is about a rebellion against a governor named Gessler by a Swiss huntsman. For 10 points, name this German poet of "Ode to Joy," who also wrote the plays *The Robbers* and *William Tell*.

ANSWER: Friedrich von **Schiller** [or Johann Christoph Friedrich von **Schiller**]

15. In 2000, a high court dismissed P.N. Oak's petition stating this building was actually a palace seized by its owner, an idea thought to have anti-religious connotations. Lord Curzon commissioned the large, brass lamp that is located in this building. A persistent myth states that a "black" version of it was meant to be built nearby, across the Yamuna River. It is being tarnished by pollution from the (*) Mathura Refinery. Ustad Ahmad Lahauri was the Persian architect in charge of designing this building, and the man who ordered its construction was later buried there by his son, Aurangzeb. This place was conceived of after a woman died during childbirth. For 10 points, name this white domed building in Agra, a mausoleum built by Shah Jahan in memory of his wife.

ANSWER: **Taj Mahal**

16. This deity saved Iakhos, the son of Aura, who was driven mad after being raped by Dionysus at this deity's request. The Elaphebolia and the Mounikhia were festivals dedicated to this deity, who had a major cult center at Brauron. Hermes and Apollo's affections prompted Chione to foolishly claim that she was prettier than this goddess. She covered herself in mud to thwart the advances of Alpheus, from whom she also rescued the nymph (*) Arethusa. Calchas advised Agamemnon to propitiate this goddess by sacrificing Iphigenia. This goddess sent a boar to ravage Calydon and shot the daughters of Niobe, who had claimed that her children were superior to this goddess's mother Leto. For 10 points, name this twin sister of Apollo, the Greek goddess of the hunt.
ANSWER: Artemis [or Diana until "Greek" is read]

17. A leader of this people wrote the essay "Why Am I a Heathen?" A state Supreme Court case ruled that they were not able to give testimony at George Hall's murder trial, and a national Supreme Court case involving one of these people featured defendant Sheriff Peter Hopkins, who had shut down a laundry in a wooden building. Denis Kearney was adamantly opposed to these people, who were favorably affected by both the (*) Burlingame Treaty and Magnuson Act. The Workingmen's Party's slogan was that these people "must go." In California, these people formed frequently criminal groups called tongs. For 10 points, name these immigrants that were the subject of a namesake 1882 Exclusion Act despite many working to construct the transcontinental railroad.
ANSWER: Chinese Americans [prompt on Asian-Americans]

18. This man showed the title saint writing in an open book atop a table draped in a sumptuous red and gold cloth in his *Miracle of St. Ildefonso*. This man was fiercely critical of Michelangelo, calling him a "good man" who "did not know how to paint" and offering to Pope Pius V to paint over *The Last Judgment*, while working in Rome. One of this man's paintings, whose top part shows an enthroned Christ above a Madonna and John the Baptist in an example of the *deesis*, illustrates a legend in which Saints Stephen and Ambrose (*) descended to earth during the title event. This artist, who showed a heavenly scene above a funeral of a nobleman in his *Burial of the Count of Orgaz*, painted two "views" of his adopted hometown of Toledo. For 10 points, identify this Spanish painter whose nickname derives from his origins on the island of Crete.
ANSWER: El Greco [or Doménikos Theotokópoulos; prompt on "(The) Greek"]

19. Defects of GDP-fucose transporters in this organelle's membrane contribute to the Bombay blood type. This organelle tends to be located near centrosomes in mammals, and it is found near exit sites of another organelle to which it is connected by the vesicular-tubular cluster. Brefeldin A prevents the action of COPII, which coats vesicles bound for this organelle. This organelle adds (*) mannose-6-phosphate to proteins bound for lysosomes and can carry out other post-translational modifications like phosphorylation and sulfation. It has a cis face and a trans face and consists of a series of flattened, membrane-enclosed discs called cisternae. It receives peptides from the rough endoplasmic reticulum and packages them in vesicles for transport. For 10 points, name this organelle named for an Italian physician.
ANSWER: Golgi apparatus [or Golgi body]

20. One of this man's novels is set in a town that provides a mixed reception to the passionate artist Max Sattler, condemns the protagonist's mediocre rival Christoff, and supports the drunk conductor Brodsky. James Wood claimed that a novel by this man had "invented its own category of badness"; in that novel, the amnesiac pianist Ryder continually fails to get to a concert. The protagonist of another of his novels fires two Jewish (*) maids while his employer is associating with the fascist Mrs. Barnet. In his most famous novel, the protagonist takes a motoring trip at the behest of Mr. Farraday after receiving a letter from Miss Kenton, during which he practices his banter and reflects on his time working for Lord Darlington. For 10 points, name this author of *The Unconsoled* who wrote about the butler Stevens in *The Remains of the Day*.
ANSWER: Kazuo Ishiguro [accept names in either order]

TB. A character in this poem describes another person as “drooping, woeful wan, like one forlorn” and is himself described as a “hoary-headed swain”. This poem describes how “Chill Penury” froze the “genial current of the soul” in the stanza after it imagines a “heart once pregnant with celestial fire”. It claims that “all that beauty, all that wealth e'er gave, awaits alike the inevitable hour” because “The paths of (*) glory lead but to the grave”. This poem also hypothesizes about “some Cromwell guiltless of his country's blood” or “some mute inglorious Milton”, and it coined the phrase “far from the madding crowd”. For 10 points, the line “The curfew tolls the knell of parting day” opens which poem set in a cemetery and written by Thomas Gray?
ANSWER: **“Elegy Written in a Country Churchyard”**

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Packet 07: Bonuses

1. This activity, along with trigonometry and tornadoes, titles an essay about “a midwestern boyhood” by an author who also examined a practitioner of it in an essay alternately titled for that man “as Religious Experience” and “Both Flesh and Not”. For 10 points each:

[10] Identify this activity performed professionally by Michael Joyce and, as a teen, by the author of *Infinite Jest*, in which novel it’s taught at the Enfield Academy.

ANSWER: playing **tennis**

[10] Those essays, like *Infinite Jest* itself, were written by this American author of *Brief Interviews with Hideous Men*. He committed suicide in 2008.

ANSWER: David Foster **Wallace**

[10] Wallace’s essay about Joyce appears in this 1997 collection, whose title essay details Wallace’s experiences on a seven-night Caribbean cruise and was originally published in Harper’s as “Shipping Out”.

ANSWER: A **Supposedly Fun Thing I’ll Never Do Again**

2. The existence and uniqueness of solutions to this set of equations is the subject of a Millenium Prize Problem. For 10 points each:

[10] Name these nonlinear equations from fluid dynamics that completely describe the motion of a viscous flow.

ANSWER: **Navier-Stokes** equations

[10] Stokes’s formula for a sphere moving slowly in a fluid gives the drag as equal to this constant times dynamic viscosity times the radius of the sphere times fluid velocity.

ANSWER: **6 pi**

[10] For fluids where thermal conductivity and viscosity are unimportant, one can instead use this set of simpler equations. These equations are in part derived from the Cauchy momentum equation.

ANSWER: **Euler**’s equations

3. Ned Block argued that this position implies that the nation of China could become conscious if it organized itself like a brain. For 10 points each:

[10] Name this position in the philosophy of mind which holds that mental states are constituted by their causal role within a system. Arguments for this position often involve the multiple realizability of the mental by the physical.

ANSWER: **functionalism** [accept word forms]

[10] This American philosopher was the first to propose machine-state functionalism. He proposed the Twin Earth thought experiment for semantic externalism, which he used to argue that we couldn’t possibly be a brain in a vat.

ANSWER: Hilary Whitehall **Putnam**

[10] Putnam’s machine-state functionalism was inspired in part by this computer scientist’s paper “Can Machines Think?”, in which he proposed an imitation game to test if a computer could fool judges into thinking it is human.

ANSWER: Alan Mathison **Turing**

4. This book began as a sous vide manual, and it includes cross-section photographs of kitchen equipment like woks, cast iron pots, and pressure cookers. For 10 points each:

[10] Name this cookbook by patent troll Nathan Myhrvold and two former chefs from The Fat Duck. It consists of a kitchen manual and five volumes that extol the virtues of things like homogenizers, dry ice, and liquid nitrogen.

ANSWER: **Modernist Cuisine**

[10] *Modernist Cuisine* is emblematic of this culinary field, which experiments with physical and chemical techniques to change the properties of food. elBulli owner Ferran Ádria is a prominent figure in this field, whose name was coined by Nicholas Kurti and Hervé This.

ANSWER: **molecular gastronomy**

[10] An infamous symbol of molecular gastronomy is Adam Melonas’s lollipop made from slices of this animal, bound with transglutaminase and dipped in an orange-saffron gel. In normal cooking, it is used to make calamari.

ANSWER: **octopuses** [or **squid**; accept **octopi** or **octopodes**]

5. This group's poetic muse was Thomas Rowley. For 10 points each:

[10] Name this group led by Ethan Allen which operated out of modern day Vermont. It played a key role in capturing Fort Ticonderoga and winning the Battle of Bennington during the Revolutionary War.

ANSWER: **Green Mountain Boys**

[10] The victory at Bennington contributed to British General John Burgoyne's loss to Horatio Gates at this 1777 battle in New York that is commonly cited as a turning point in the war, as it brought France into the conflict on the side of the Americans.

ANSWER: Battle of **Saratoga**

[10] After the capture of Ticonderoga, this officer supervised the transfer of cannons from the fort to Boston. He would later serve as a presidential Cabinet member.

ANSWER: Henry **Knox**

6. Louis Guglielmi, or "Louiguy", wrote the melody for this song, which is a recurring theme in the film *Sabrina*. For 10 points each:

[10] Name this 1945 song, written and famously performed by an artist whose other hits include "Milord" and "Non, je ne regrette rien". It describes what the speaker sees "When he takes me in his arms / and speaks softly to me".

ANSWER: "La **Vie en rose**" [accept translations like "**Life in Rosy Hues**" or "**Life Through Rose-Colored Glasses**" or "**Life in Pink**"; by Edith Piaf]

[10] The American mezzo-soprano Rose Bampton notably sang in the New York premiere of this composer's vocal pieces "Dover Beach" and "With Rue My Heart is Laden". He won a Pulitzer for his opera *Vanessa*.

ANSWER: Samuel **Barber** [or Samuel Osmond **Barber** II]

[10] British bass Peter Rose is apparently most famous for his performance in this Benjamin Britten opera based on a Shakespeare play. Rose sang the role of Bottom, who becomes the object of Titania's affections in a prank played by Puck.

ANSWER: A **Midsummer Night's Dream**

7. In one of this man's novels, Charles Gould owns the San Tome silver mine in Sulaco, the capital of Costaguana. For 10 points each:

[10] Name this Polish-born British author of *Nostromo*, who wrote about Charles Marlow's search for the ivory trader Mr. Kurtz in *Heart of Darkness*.

ANSWER: Joseph **Conrad** [or Josef Konrad **Korzeniowski**]

[10] In this short story by Conrad, Leggatt flees from the *Sephora* and becomes the title figure by revealing the fact that he murdered a crew mate to the story's protagonist, an unnamed captain of another ship.

ANSWER: "The **Secret Sharer**"

[10] This Conrad novel is commonly thought of as his response to *Crime and Punishment*. In it, Victor Haldin assassinates the cruel Minister of State Mr. de P-- and seeks shelter with the student Razumov.

ANSWER: **Under Western Eyes**

8. This type of seismic wave is produced by the interaction of P and S waves with the Earth. For 10 points each:

[10] Identify this type of seismic wave that includes Love and Rayleigh waves.

ANSWER: **surface** wave

[10] These phenomena release seismic waves, which manifest as a shaking of the ground.

ANSWER: earth**quakes** [or **tremor**; or **temblor**]

[10] Saturated soils can lose their strength or stiffness as a result of earthquakes, a phenomenon known by this term.

ANSWER: soil **liquefaction**

9. The namesake of this event bought the amusingly named "Nonsuch Palace." For 10 points each:

[10] Name this 1648 event that created the Rump Parliament. It targeted those who did not support the planned trial of Charles I.

ANSWER: Pride's Purge

[10] The Rump Parliament was eventually dismissed by this Puritan, who became the Lord Protector of England in 1653 as part of the short-lived Commonwealth of England.

ANSWER: Oliver Cromwell

[10] Cromwell eventually clashed with this military superior, who led the New Model Army at the Battle of Naseby and other engagements. He resigned his command because he could not support war against Scotland.

ANSWER: Thomas Fairfax [or 3rd Lord Fairfax of Cameron]

10. Domenico Scarlatti wrote 555 sonatas for this instrument, which along with the violin and the flute is part of the concertino group in Bach's *Brandenburg Concerto No. 5*. For 10 points each:

[10] Name this keyboard instrument, a predecessor to the piano whose family includes the spinet and the virginal. Its sound is produced from strings that are plucked when keys are pressed.

ANSWER: harpsichord

[10] This Baroque composer, the most eminent member of a French musical family, wrote the didactic treatise *The Art of Harpsichord Playing*. His four volumes of harpsichord pieces are divided into 27 *ordres* and include pieces like "The Mysterious Barricades."

ANSWER: François Couperin

[10] Couperin helped introduce this genre to France. His eight works in this genre include *Le Parnasse*, dedicated to Arcangelo Corelli, whose Opus 1 through 4 are in this genre. Bach's *Musical Offering* concludes with one for flute and violin.

ANSWER: trio sonatas

11. In *A General Theory of Magic*, Marcel Mauss and Henri Hubert argue this concept is universal using analogies with *orenda*, *hau*, and *manitou*, which were contested by people like Ian Hogbin and Mircea Eliade. For 10 points each:

[10] Name this concept in Pacific Island cultures, first described by Robert Codrington, denoting spiritual power accumulating in people, places, or things. Raymond Firth describes it as a bearer of prestige.

ANSWER: mana

[10] This French anthropologist used mana as an example of a "floating signifier" lacking a stable referent. He used the term "mytheme" to denote basic units of myth and distinguished the engineer from the primitive bricoleur.

ANSWER: Claude Lévi-Strauss

[10] In this Polynesian archipelago, there were two paths to mana, war and marriage, represented by the gods Ku and Lono. King Kamehameha II broke *kapu* codes of conduct on this chain, whose traditions include the hula dance.

ANSWER: Hawai'i [or the Hawai'ian Islands]

12. Identify the following about mostly-mythical bards and poets, for 10 points each.

[10] This Welsh bard was born Gwion Bach, a servant of the magician Ceridwen, but was given a new name meaning "shining brow" after he was adopted by Elphin.

ANSWER: Taliesin

[10] This man's mother Sadhbh ("sive") was turned into a deer, explaining the tuft of fur on his forehead. James MacPherson attributed a series of poems to this son of Finn MacCool.

ANSWER: Oisín [or Ossian; or Osheen]

[10] In his namesake epic poem, *Sundiata* was assisted by Balla Fasséké, one of these West African troubadors. They are sometimes referred to as "praise singers".

ANSWER: griots [or djeli]

13. This author's uncle Vasily wrote the comic masterpiece *A Dangerous Neighbor*, while his great-grandfather Abram Gannibal was the subject of his unfinished historical novel *Peter the Great's Negro*. For 10 points each:
[10] Name this Russian poet who, when he wasn't fighting any of the many duels in which he got involved, wrote the play *Boris Godunov* and the verse novel *Eugene Onegin*.

ANSWER: Alexander **Pushkin** [or Aleksandr Sergeyevich **Pushkin**]

[10] Evgeni dreams about his love for Parasha in this Pushkin poem, during the course of which a flood of the river Neva causes Evgeni to curse a statue of Peter the Great, which comes to life and chases Evgeni.

ANSWER: "The **Bronze Horseman**: A Petersburg Tale" [or "**Mednyi Vsadnik**"]

[10] A Pushkin poem with this title was adapted into an opera by Cesar Cui. Zhilin and Kostlin are kidnapped by Tartars in a Leo Tolstoy short story of this name.

ANSWER: "A **Prisoner in the Caucasus**" [or "The **Captive in the Caucasus**"; or "**Kavkazskii plennik**"; or really any combination of words that indicate a **prisoner** or **captive** in or of the **Caucasus**]

14. When molar terms are used, this quantity is known as molarity. For 10 points each:

[10] Name this term from chemistry that denotes the amount of a particular constituent per unit volume of a mixture.

ANSWER: **concentration**

[10] Dividing the molarity by the equivalence factor gives this quantity, another form of chemical concentration.

ANSWER: **normality**

[10] By rearranging a chemical law for ideal mixtures, one can find that this measure of concentration for a particular component, denoted x_{sub-i} , is equal to the partial pressure of the component divided by the vapor pressure of the pure component.

ANSWER: **mole fraction** [or **molar fraction**; or **amount**-of substance **fraction**; or **number fraction**]

15. In 2005, tests determined this man was not killed by a blow to the head, suggesting he was probably not assassinated as once was a popular theory. For 10 points each:

[10] Name this ruler, who during his short reign, most notably ended the religious practices started by his father, Akhenaten. He was served by the "lord of the land," Horemheb.

ANSWER: **Tutankhamun** [or **Tutankhaten**]

[10] Akhenaten is best known for more or less inaugurating this then-radical religious custom in Egypt.

ANSWER: **monotheism** [or worshipping **one god**; or worshipping **Aten**; or worshipping the **sun**; accept anything that suggests you're worshipping one thing more than others]

[10] This Egyptian historian may have conflated Tut with king Rathotis. He wrote the *Aegyptiaca* during the Ptolemaic era and among other claims, suggested the pharaoh Menes was killed by a hippopotamus.

ANSWER: **Manetho**

16. *Adoration*, one of Francois Boucher's few religious paintings, uses this medium over black chalk on paper. For 10 points each:

[10] Identify this type of paint that consists of large particles of pigment, water, gum arabic, and sometimes an inert white pigment, which dries to a much more opaque surface than standard watercolors.

ANSWER: **gouache** [or **guache**; or **guazzo**]

[10] This artist's series *Blue Nude II*, like many of his late-career cutouts, used gouache-painted paper. His earlier *Blue Nude (Souvenir de Biskra)* is more characteristic of Fauvism, a movement he co-founded with Andre Derain.

ANSWER: Henri **Matisse** [or Henri-Emile-Benoit **Matisse**]

[10] Matisse included a variation on the circle of figures from his painting *La Danse* in the background of this large 1906 painting, that also shows nudes embracing, laying on the yellow grass, and playing pipes.

ANSWER: *The* **Joy of Life** [or *Le* **bonheur de vivre**]

17. Christer Pettersen was convicted but later acquitted of this man's murder. For 10 points each:

[10] Name this politician from the Social Democratic Party, a prime minister of Sweden who was killed in 1986 while walking home from the cinema with his wife.

ANSWER: [Sven] Olof [Joachim] **Palme**

[10] While Palme's party was out of power, he served as a UN mediator during the 1980s war between Iran and this Middle Eastern country led at the time by Saddam Hussein.

ANSWER: Republic of **Iraq**

[10] Palme was a protégé of this longest-ruling Swedish prime minister, whose uninterrupted tenure lasted from 1948 to 1969. During his ministry, he established most of Sweden's welfare state.

ANSWER: Tage [Fritiof] **Erlander**

18. An important rite in this celebration is the ritual washing and dressing of a plantain tree, and it often includes a *dhunuchi* dance during *aarti*. For 10 points each:

[10] Name this celebration during the last five days of Navratri, perhaps the biggest yearly festival in eastern India, especially Bengal. Its namesake aspect of Parvati is the goddess of strength and victory of good over evil.

ANSWER: **Durga Puja** [or **Durgotsava**; or **Sharadotsava**]

[10] Along with Durga or Parvati, another member of the Hindu Tridevi is this consort of Brahma and goddess of knowledge and the arts. She is often portrayed playing a veena.

ANSWER: **Saraswati**

[10] The final member of the Tridevi is Lakshmi, who is worshipped on this holiday during which people light small earthenware lamps. This "Festival of Lights" also celebrates the return of Rama from exile.

ANSWER: **Diwali** [or **Deepavali**]

19. According to various apocryphal accounts, this author either choked to death on grapes, died of happiness after winning his last City Dionysia, or ran out of breath permanently while reciting from his play *Antigone*. For 10 points each:

[10] Identify this ancient Greek tragedian who is most famous for his Theban trilogy, which begins with *Oedipus Rex*.

ANSWER: **Sophocles**

[10] Aristotle's analysis of *Oedipus Rex* in his *Poetics* mentions the revelation of Oedipus's parentage as an example of this literary concept, which roughly means "a reversal of circumstances". It is often caused by anagnorisis.

ANSWER: **peripeteia** [or **peripety**]

[10] In this Sophocles play, jealousy over the captive Iole causes Deianeira send a poisoned shirt that she thought was a love charm to her husband Heracles. At its end, the dying Heracles orders their son Hyllus to marry Iole.

ANSWER: *The* **Women of Trachis** [or *The* **Trachiniae**]

20. One pathway to accomplish this task responds to modifications like oxidation, alkylation, and deamination, and begins when a DNA glycosylase creates an AP site. For 10 points each:

[10] Name this task, for which one mechanism in *E. coli* uses the UvrABC endonuclease. Problems with that nucleotide excision-based mechanism in humans may cause Cockayne's syndrome or xeroderma pigmentosum.

ANSWER: **repairing DNA** [accept obvious equivalents]

[10] This common mechanism for repairing double-stranded breaks begins when Ku recognizes the break site and recruits DNA-PKcs, after which terminal end processing and ligation can occur. This mechanism plays a role in V(D)J recombination.

ANSWER: **non-homologous end-joining** [or **NHEJ**]

[10] Errors in non-homologous end-joining may result in the fusion of these repetitive protective sequences at the ends of chromatids, which tend to shorten over time.

ANSWER: **telomeres**

Extra. This man is currently the President of Baylor University. For 10 points each:

[10] Name this lawyer who served as independent counsel to investigate the death of Vince Foster and the shady real estate Whitewater deals, although his ultimate report covered other scandals.

ANSWER: Kenneth **Starr**

[10] Starr's investigation into this President's affair with Monica Lewinsky ultimately led to his impeachment.

ANSWER: William Jefferson "Bill" **Clinton** [or William Jefferson **Blythe** III]

[10] This Arkansas state employee accused then-Governor Clinton of sexually harassing her. Clinton's statements in the investigation involving this woman led to the perjury charges and revelation of the Lewinsky affair. She is not to be confused with Gennifer Flowers or Juanita Broaddrick.

ANSWER: Paula **Jones** [or Paula **Corbin**]