

VCU Open '15 – Packet 10

Questions by Cody Voight, Will Nediger, Evan Adams, Kenji Golimlim, and Matt Bollinger

1. **When her uncle dies, the protagonist of this novel draws a picture of herself floating in space and tells God “I never want to see you again.” The protagonist of this novel listens to Kim Wilde’s song “Kids in America” as an act of rebellion. The first volume of this novel ends with its protagonist being sent to a boarding house in Vienna, where its second volume is set. At the end of this novel, its protagonist divorces (*) Reza and moves back to Europe, remarking “Freedom has a price” because she only gets to see her grandmother one last time. This novel follows Marji’s coming-of-age during the Iranian Revolution and the Iran-Iraq War. For 10 points, name this autobiographical graphic novel by Marjane Satrapi, named after an ancient Persian capital.**

ANSWER: Persepolis

2. **Entangled examples of these things are studied with the blob model of Pierre-Giles de Gennes. Self-avoiding walks were introduced to model these things. The wormlike model of Kratky and Porod can be used to model semiflexible examples of them. Modeling these things when the dihedral angle is limited to trans, gauche plus, or gauche minus can be done with the rotational isometric state model. The effective unit size for an ideal example of these models is the Kuhn length. When there’s no hydrodynamic interaction, as in a (*) melt, springs and beads can be used to model these things in the Rouse model; adding hydrodynamic interactions yields the Zimm-Bragg model. When in a theta solvent, these things can be modeled as Gaussian, or freely-jointed. For 10 points, name these molecules modeled as chains of monomers.**

ANSWER: polymers [until “chains” is read, accept: polymer chains, ideal chains, freely-jointed chains; prompt on: proteins]

3. **A Jan Asselijn painting of a dog threatening one of these animals conveniently labels the dog “enemy of the state” and this animal “the grand pensionary,” indicating that it represents Johan de Witt. In Lutheran art, Martin Luther is often depicted in front of one of these animals. A drafting tool and an egg float in the air below one of these animals in a painting in which Gala (*) Dalí is floating slightly above a pedestal. Leonardo and Michelangelo both made now-lost paintings of a mythological scene involving one of these animals; other famous versions of that scene include one by Correggio and two by Rubens. These animals merge with the trunks of trees in a Salvador Dalí painting showing their reflections. For 10 points, name these birds which are often depicted with Leda.**

ANSWER: swans [prompt on: birds]

4. **A group of philosophers at this university published the groundbreaking collection of animal rights essays *Animals, Men and Morals*. John Cook Wilson led the turn away from idealism towards realism at this university. A *Theory of Justice: The Musical!* premiered at this university. Richard Swineshead and Thomas Bradwardine were part of a school of mathematically-inclined philosophers named this university’s (*) “Calculators.” Ordinary language philosophy was primarily developed by philosophers at this university, including J. L. Austin. It was home to a school of Franciscan thought led by Robert Grosseteste, which also included William of Ockham and Roger Bacon. The Huxley-Wilberforce debate took place here. For 10 points, name this rival of Cambridge.**

ANSWER: Oxford University

5. **Recruits of this group talked to a man who appeared as a decapitated head, but was actually just buried from the head down. According to legend, a member of this group jumped off a castle to prove that they were stronger than Henry of Champagne's army. Marco Polo recounted a story about how an "Old Man of the Mountain" took prospective members of this group to (*) "paradise" after drugging them. This group operated from a fortress at Alamut, which was sacked by Hulagu Khan. This group allegedly received their name from a phrase meaning "users of hashish" and often placed a dagger and a written death threat next to their sleeping targets. For 10 points, name this secret Ismaili order active during the Crusades, who often used poisoned daggers during their attacks on powerful men.**

ANSWER: Assassins [or: Hashashin; prompt on: Nizari Ismailis, Fedayeen]

6. **Solutions to the GKZ system, which is described by this term, can be applied to study mirror symmetry of Calabi-Yau manifolds. Zeilberger's method relies on Gosper's landmark algorithm for the summation of this type of power series. Power series described by this term are series for which the ratio of consecutive terms is a rational function of the summation variable. A second-order linear ODE named for (*) Gauss and described by this term has only regular singularities at 0, 1, and infinity. The quintessential problem solved using a distribution described by this term involves drawing red or green balls from an urn. For 10 points, identify this term that describes a distribution similar to the binomial distribution, except that sampling occurs without replacement.**

ANSWER: hypergeometric

7. **A patch of red clay called "the Thunderbird" can be seen on the face of a mountain in this city. Anson Mills founded this U.S. city, which was the focus of the Chamizal Dispute that led to an assassination attempt on William Howard Taft. The largest urban park in the United States is found in this city's Franklin Mountains. A college campus in this city was built in a style inspired by *National Geographic* photos of (*) Bhutanese fortresses. This city began hosting the Sun Bowl in 1935. John J. Pershing took control of this city's Fort Bliss during an expedition to catch Pancho Villa, who briefly lived in this city. For 10 points, name this only major Texas city in the Mountain Time Zone, which is located across the Rio Grande from Ciudad Juárez.**

ANSWER: El Paso

8. **The foundational critical biography of this poet by Gay Wilson Allen began the practice of using an earlier draft of a poem which includes the line "Now Lucifer was not dead - or if he was, I am his sorrowful terrible heir." That poem includes episodes of Washington weeping over the death of his men, a mother recalling an encounter with a "red squaw" from her childhood, and a "gigantic swimmer" who is dashed against the rocks. That poem by this man opens with the line (*) "I wander all night in my vision, stepping with light feet, swiftly and noiselessly stepping and stopping." Another of his poems mentions the "Crowds of men and women attired in the usual costumes" and ends by claiming "you furnish your parts toward the soul." For 10 points, name this poet of "The Sleepers" who wrote "Flood-tide below me! I watch you face to face" in "Crossing Brooklyn Ferry."**

ANSWER: Walt Whitman

9. **This man allowed the Soviet Union to operate a submarine base on the island of Sazan. This leader was targeted by a group of four exiles named Alex, Billy, Dino, and Fred known as the Banda Mustafaj. This man had his defense minister, Koci Xoxe ("KO-chee DZAWD-ze"), executed. This man's attempts at modernization led to bans on the Code of Lekë and the (*) gjakmarrja ("gyak-MAR-ya") blood feud. Ramiz Alia succeeded this leader, who had over 700,000 hemispherical bunkers installed in his country. This leader, who made use of his Sigurimi secret police, became the first in the world to adopt state atheism and, for a while, favored China over the Soviet Union. For 10 points, name this crazy ruler of Communist Albania.**

ANSWER: Enver (Halil) Hoxha

10. **This orchestra premiered the symphony *Alternative Energy*, which is notable for incorporating electronica, and which was composed by Mason Bates, who is currently composer-in-residence for this orchestra along with Anna Clyne. A music director for this orchestra conducted 999 of its concerts and died in 1997, a month before he was scheduled to conduct his thousandth; that man studied under Béla Bartók. All but two of the recordings in *Fantasia 2000* were done by this orchestra. Its summer home is the (*) Ravinia Festival. Since 2010, Riccardo Muti has been this orchestra's music director, a post previously held by Daniel Barenboim and Georg Solti. For 10 points, name this member of the Big Five orchestras based in Illinois.**

ANSWER: Chicago Symphony Orchestra

11. **In advanced and retarded coordinates for this model, outgoing and ingoing null rays, respectively, are discontinuous. When represented on an embedding diagram, the spatial geometry of this model is the Flamm paraboloid. Analytically extending this model to cover the full spacetime manifold using Kruskal coordinates results in incoming and outgoing radial photon geodesics being continuous straight lines. This is a unique model for which a (*) Lorentz manifold admits the group $SO(3)$, whose orbits are the 2-spheres, as an isometry. As a consequence of Birkhoff's theorem, every rotationally symmetric solution to the vacuum Einstein equations is equivalent to some subset of this metric, which describes the spacetime around a spherically symmetric mass. For 10 points, name this metric that, in naive coordinates, has a singularity at its German namesake's radius.**

ANSWER: Schwarzschild metric [or: Schwarzschild model, Schwarzschild geometry; until "rotationally symmetric" is read, accept: spherically symmetric spacetime, spherically symmetric black hole]

12. **During this event, the king of the Gods sends down a Fury in the form of a screeching bird to scare away a water nymph whose virginity he took. One participant in this event picks up a giant boulder set down as a boundary stone and tries to throw it, but his knees collapse. The loser of this event had hastily left his father's sword at home and taken the more fragile sword of his charioteer Metiscus, whose shape is taken by that loser's sister, (*) Juturna. In the aftermath of this event, Juno secures a promise from Jupiter to let the Latins keep their ancestral names. At the end of this fight, the victor almost pardons his victim before spotting the slain Pallas' belt. For 10 points, name this climactic duel of an epic by Vergil, in which a Trojan prince kills the king of the Rutulians.**

ANSWER: Aeneas' fight with Turnus [or equivalents]

13. **After Wright Patman initiated impeachment proceedings against this man, he resigned and was immediately appointed Ambassador to the UK. His one year stint as ambassador was marred by allegations that he overzealously advocated for the interests of Gulf Oil in Kuwait. The IRS unearthed evidence that this man financially backed James Renshaw Cox's unemployed "army" when FDR pushed an investigation into his tax returns. His (*) art collection formed the core of the National Gallery of Art, which he helped establish. He pushed the repeal of the excess-profits tax and massively lowered the income tax in an effort to reduce the national debt after World War I during his time as Secretary of the Treasury during the 1920s. For 10 points, name this American financier who names a Pittsburgh university with Andrew Carnegie.**

ANSWER: Andrew Mellon

14. **A character named after this one adopts the alias of "Adam Selene" as a leader of the lunar independence movement; that character is a sentient supercomputer from Robert Heinlein's *The Moon Is a Harsh Mistress*. In this character's first appearance, his neighbor Mr. Melas discovers that Paul Kratides is being held captive by Harold Latimer when Latimer kidnaps him and forces him to translate (*) Greek. As a government worker, he hopes to track down some missing submarine plans in the story "The Bruce-Partington Plans." This co-founder of the Diogenes Club is extremely lazy and unambitious despite being more intelligent than his younger brother. For 10 points, name this brother of Sherlock Holmes.**

ANSWER: Mycroft Holmes [or: Mycroft Holmes]

15. **This athlete suplexed an opponent for holding up a sign reading “[this man] Needs a Hug,” then reversing it to show that its back read “j/k.” In a popular video, the fictitious organization “PETM” protests the activities of this man, who badly loses a staring contest against an opponent anatomically incapable of blinking. On Twitter, he exclaimed “I hope you all choke on that popcorn #ForAllTheEdMikans” in response to an Instagram photo of the delivery of a popcorn tin. After Hooper was tackled by this man’s brother, this man entered into a longstanding family feud in which he cyberbullied the (*) Moondog, blinded the Coyote, and stole G-Wiz’s Wizard hat. For 10 points, name this scourge of all NBA mascots, a curly-haired center for the Knicks with a twin brother named Brook.**

ANSWER: Robin Lopez [or RoLo]

16. **Peter Heather finds a possible cause for this war in the southern expansion of stone burial circles characteristic of the Wielbark culture. In the aftermath of this war, the newly established Second and Third Italian Legions settled new military camps in Raetia and Noricum. A column in memory of this non-Dacian War stands in the Piazza Colonna and depicts a sudden downpour saving the Legio XII Fulminata. Aquileia on the Adriatic was besieged during this war, whose most famous incident was the so-called “miracle of the (*) rain.” During these wars, barbarian tribes penetrated into Northern Italy for the first time since the Cimbrian War, presaging the Crisis of the Third Century. For 10 points, name these wars that lasted from 166 to 180 A.D., between Danubian tribes and Rome under Marcus Aurelius.**

ANSWER: Marcomannic Wars

17. **One musician provided a solo for this instrument and the vocals for Louis Armstrong’s “Stars Fell on Alabama.” A group of eight players of this instrument teamed up for the album *Jay & Kai* +6. An early New Orleans style of play for this instrument was named because the player would always sit in the back of a moving wagon. The Duke Ellington Orchestra unusually included three players of this instrument: one wrote the band’s hits “Caravan” and “Perdido” and another developed the band’s (*) “jungle sound” with his “yah-yah style.” This instrument played by Juan Tizol and Joe “Tricky Sam” Nanton had its “tailgate” style developed by Kid Ory. Contemporary players of this instrument include Troy Andrews, whose stage name consists of this instrument’s name followed by “Shorty.” For 10 points, name this brass instrument fittingly played by “Slide” Hampton.**

ANSWER: trombone

18. **Anticoagulants named for this disease can be detected using the kaolin clotting time or dRVTT. This disease is partially diagnosed by looking for a peripheral pattern on a FANA test. Nephritis due to this disease can be diagnosed by the presence of hematoxylin bodies, hyaline thrombi, or “wire loop” lesions. It can cause the growth of wart-like, verrucous vegetations on cardiac valves in (*) Libman-Sacks endocarditis. This disease causes type III hypersensitivity because it deposits immune complexes in the kidneys, skin, and joints, especially. Anti-Smith antibodies and antinuclear antibodies targeting double-stranded DNA are highly suggestive of it. For 10 points, name this autoimmune disease that often presents as a butterfly rash on the face.**

ANSWER: systemic lupus erythematosus [or: SLE]

19. **The Gospel of Luke tells the story of a Pharisee with this name who invites Jesus to eat in his house but is rebuked for his lack of hospitality. That character is sometimes conflated with a leper of this name who appears in Matthew and Mark as a homeowner in Bethany. The apostle with this name is generally depicted carrying a saw because tradition holds he was martyred by being sawed in half. That apostle was known as (*) “the Zealot.”** This name is attributed to the native of Cyrene who was forced by the Romans to carry the cross to the crucifixion. Another man with this name offered to buy the powers of the Holy Spirit from the apostles, lending his name to the practice of purchasing church offices. For 10 points, give this name of a “Magus,” which was also the original name of Saint Peter.

ANSWER: Simon

20. **In a poem about members of this profession, three consecutive stanzas begin by cursing “the god to whom we knelt,” “the king of the empire,” and “the cold, ruthless fatherland,” respectively. That poem is by Heinrich Heine. A manufacturer goes on a rant about the neglectfulness of members of this profession after a boy faints in his office. A member of this profession has his pet dog (*) butchered to provide food for his family, but he throws up when he tries to eat it. Another member of this profession, Old Hilse, is killed by a stray bullet. Dreissiger ignores the complaints of these people, leading Baecker and Moritz Jaeger to stir up a rebellion. For 10 points, name these people who lead an uprising in Silesia in a play by Gerhart Hauptmann.**

ANSWER: weavers

1. The Budapest String Quartet's recording of this piece's fifth-movement *Cavatina* is the last piece found on Voyager's "Golden Record." For 10 points each:

[10] Name this six-movement Beethoven string quartet which had its difficult final movement replaced by an Allegro at the insistence of publisher Matthias Artaria.

ANSWER: String Quartet No. **13** in B flat major [or: **opus 130**]

[10] That replaced final movement was published individual as this piece, which Igor Stravinsky claimed would be contemporary forever and which didn't enter the repertory until over one hundred years after Beethoven's death.

ANSWER: **Gross Fugue** [or: **Great Fugue, Grand Fugue**]

[10] This German Baroque composer collected a group of fugues and canons in his work *The Art of the Fugue*.

ANSWER: Johann Sebastian **Bach**

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

[10] The Zouaves were first trained in this country, which the French conquered after Hussein Dey hit diplomat Pierre Deval with a fly-whisk.

ANSWER: **Algeria**

[10] A Legion of Honor was bestowed upon the Zouaves for their actions at this battle during the Italian War of Independence. A then recently-discovered pinkish dye was renamed after this battle.

ANSWER: Battle of **Magenta**

[10] The so-called Zouaves of Death under François Rochebrune participated in this rebellion. Alexander II's remark "Gentlemen, let us have no more dreams" convinced many *szlachta* to join this rebellion.

ANSWER: **January** Uprising

3. Answer the following about the Bolshevik writer Larisa Reisner, for 10 points each.

[10] Reisner's husband, Fyodor Ilyin, used a pseudonym based on the name of this pawnbroker-murdering protagonist of *Crime and Punishment*.

ANSWER: **Rodion** Romanovich **Raskolnikov** [accept either name]

[10] This poet wrote an elegy for Reisner called "In Memory of Reisner." He told the reader to pick up their pen and weep in his poem "February," and published the collection *My Sister, Life*.

ANSWER: Boris Leonidovich **Pasternak**

[10] Reisner started a literary journal which shares its name with this Turgenev character, a nobleman who falls in love with Natasha. Though he chastises himself for inactivity, he later dies during the French Revolution of 1848.

ANSWER: **Dmitri** Nikolaevich **Rudin** [accept either name]

4. This quantum mechanical approach used in the Hartree-Fock and Ritz methods of quantum chemistry. For 10 points each:

[10] Name this method which finds parameters for a trial wavefunction that minimize the expectation value of the Hamiltonian, in order to find an approximation of the ground state. It requires "excellent physical intuition".

ANSWER: **variational** method [or: **variational** approach]

[10] The one-electron MO in the HF method is expanded as a linear combinations of these things. They can be occupied by at most two electrons and are often sectioned into s, p, d, and f.

ANSWER: **atomic orbitals** [or: **AO**; prompt on: "**orbitals**"]

[10] In the unrestricted HF method, the spatial part of spin orbitals aren't the same, which can introduce this error in which the wavefunction is no longer an eigenfunction of the total spin. It's detected by checking the expectation of the total spin against S times S plus one, where S is the eigen-number defining the spin multiplicity of the state.

ANSWER: spin **contamination**

5. Name some drugs that are involved in religious ceremonies, for 10 points each:

[10] Members of the Rastafari movement often use a pipe called a Chalice to smoke this plant, which is used as a meditation aid.

ANSWER: **marijuana** [or: **cannabis** indica, **ganja**, other street equivalents; if Nick Jensen is playing, require him to list every street name]

[10] Ancient Hindus extracted the juice of an identified plant, filtered it through sheep's wool, and mixed it with water and milk to create this offering to the gods which was also imbibed as a hallucinogen.

ANSWER: **soma**

[10] The FDA seized tens of thousands of doses of Dianazene, which contained large doses of this compound, from L. Ron Hubbard. The Scientologist "Purification Rundown" uses mainly large doses of this compound heal radiation sickness in adherents.

ANSWER: **niacin** [or: vitamin **B3**]

6. This event began when a surveillance team shot and killed a dog. For 10 points each:

[10] Name this standoff between the white supremacist Randy Weaver and Federal agents at a cabin in Idaho.

ANSWER: **Ruby Ridge** incident

[10] The Ruby Ridge incident is frequently compared to the siege of a Branch Davidian compound in this Texas city in 1993.

ANSWER: **Waco**

[10] This man served as the director of the FBI during both the Ruby Ridge and Waco incidents. After retiring from the FBI, he was named by Penn State University to head the internal investigation into the Sandusky scandal.

ANSWER: Louis **Freeh**

7. Although he is not from Italy, this politician is supported by an Italian party named The Other Europe. For 10 points each:

[10] Name this head of state, whose finance minister formerly worked for Valve and resigned in July 2015. He currently leads the SYRIZA Party.

ANSWER: Alexis **Tsipras**

[10] Yanis Varoufakis's resignation, as well as Antonis Samaras's resignation from the leadership of New Democracy, were both caused by this country rejecting the European Commission's bailout conditions in July 2015.

ANSWER: **Greece** [or: **Hellenic Republic**, **Hellas**]

[10] The first Greek bailout in 2010 was negotiated by George Papandreou, causing a drop in the popularity of this party and forcing it to enter a coalition government with its chief rival, New Democracy.

ANSWER: **PASOK** [or: **Panhellenic Socialist Movement**]

8. Hans Jenny built on the ideas of Vasily Dokuchaev to develop the functional-factorial model of this substance's formation, in which its properties are due to the five state factors of climate, organic activity, relief, parent material, and time. For 10 points each:

[10] Name this substance whose formation is treated as an evolution in more modern theories, such as the theory of Johnson and Watson-Stegner that Jonathan Phillips built on using deterministic chaos theory.

ANSWER: **soil** [do not accept: "dirt", "sediment", "regolith", "residuum"]

[10] Perhaps a more familiar topic from soil science is these layers parallel to the soil surface. You might say they're the "alphabet of soils", since soils can be delineated into a subsequence of their O, A, E, B, C, and D types.

ANSWER: soil **horizons**

[10] Low values in Munsell's color system, that is, a dark color, are usually a result of the presence of this substance, which is basically highly decomposed organic matter, i.e. organic carbon.

ANSWER: **humus**

9. After a performance of Beethoven's Fifth in this novel, Margaret and Helen argue about whether music is different from other arts. For 10 points each:

[10] Name this novel by E. M. Forster about the Wilcoxes, the Schlegels, and the Basts, which is named after Ruth Wilcox's family home.

ANSWER: **Howards End**

[10] During the aforementioned performance of Beethoven's Fifth, Helen imagines that it depicts these beings "walking quietly over the universe, from end to end."

ANSWER: **goblins**

[10] Forster's novel *Where Angels Fear to Tread* gets its title from this poem, whose other famous lines include "A little learning is a dangerous thing" and "To err is human, to forgive divine."

ANSWER: An **Essay on Criticism**

10. A bestselling book about this theory talks about interactions like "Why Don't You - Yes But" and "Now I've Got You, You Son of a Bitch." For 10 points each:

[10] Name this psychological theory, popularized by books like *Games People Play* and *I'm OK, You're OK*, which models behavior as the interaction of three ego-states: Parent, Adult, and Child.

ANSWER: **transactional analysis** [or: **TA**]

[10] Claude, a psychologist with this surname, is an expert on a form of TA called script analysis. Rudolf, another thinker with this surname, founded the philosophy of anthroposophy, which inspired the Waldorf education system.

ANSWER: **Steiner**

[10] Stephen Karpman created a transactional model of interaction represented by this shape. Other psychological theories represented by this shape include Sternberg's theory of love and Maslow's hierarchy of needs.

ANSWER: **triangle** [or: **pyramid**]

11. The title character of this story is beaten with a broom by his wife Sarah Ruth, who finds his actions idolatrous. For 10 points each:

[10] Name this story which is titled for the one part of its protagonist's skin that does not have a tattoo on it.

ANSWER: **"Parker's Back"**

[10] "Parker's Back" is a story by this Southern Gothic author of "A Good Man is Hard to Find."

ANSWER: Flannery **O'Connor**

[10] This O'Connor story concerns the Bible salesman Manley Pointer, who keeps liquor in a hollowed-out Bible and steals Joy Hopewell's prosthetic leg.

ANSWER: **"Good Country People"**

12. Answer the following about African cinema, for 10 points each.

[10] In Neill Blomkamp's *District 9*, aliens land in this country. The forced removal of the aliens from District 9 was inspired by events that took place in this country's District Six during Apartheid.

ANSWER: Republic of **South Africa**

[10] This Senegalese director dealt with female genital mutilation in his last film, *Moolaadé*. His other films include *Black Girl* and *Xala*, the latter of which is based on one of his own novels.

ANSWER: Ousmane **Sembène**

[10] This film by the Malian director Souleyman Cissé is about a magical struggle between Niankoro and his father Soma.

ANSWER: **Yeelen** [or: **Brightness**]

13. Paschen's law dictates that the the voltage necessary to create one of these things is the same when the product of gas pressure and electrode separation is the same. For 10 points each:

[10] Identify this phenomenon that occurs when a high electric field causes the electrical breakdown of a neutral gas, inducing a plasma discharge.

ANSWER: electric **arc** [or: **arc** discharge; *prompt on: electric **discharge***]

[10] At low pressures, one can induce the formation of a plasma using this frequency band, which is used in microfabrication to form inductively coupled plasmas. Electrical currents oscillating in this frequency band can be radiated by antennas.

ANSWER: **RF** [or: **radio** frequency; *do not accept: "microwave"*]

[10] Computer simulations of plasmas often use this scheme, in which particles can move freely but there is a grid; interpolations between particles and grid occur via "shape functions". Many of these simulations use b-splines of order 0, referred to as "clouds".

ANSWER: **PIC** simulations [or: **particle-in-cell** simulations]

14. The future Queen Elizabeth I was imprisoned at Woodstock Palace for opposing this act. For 10 points each:

[10] Name this decision that sparked a rebellion led by the anti-Spanish Thomas Wyatt the Younger.

ANSWER: the **marriage of Mary I and Philip II** [*in place of "Mary", accept: **Mary** Tudor; prompt on: answers that mention just "**Philip**" instead of "Philip II", other partial answers*]

[10] This woman was executed after Wyatt's Rebellion, even though she wasn't involved in it. She was denounced by Parliament as a usurper only nine days after she declared herself queen.

ANSWER: Lady Jane **Grey** [or: Lady Jane **Dudley**; *prompt on: "**Jane**"*]

[10] Later, the Duke of Buckingham attempted to organize the Spanish Match between the son of this "wisest fool in Christendom" and the daughter of Philip III of Spain. He planted the Stuart dynasty on the English throne after Elizabeth failed to produce an heir.

ANSWER: **James I** of England [or: **James VI** of Scotland; *prompt on: "**James**"*]

15. In some Indian traditions, Jambavan is known as the king of these animals. For 10 points each:

[10] Name this type of animal which Callisto was transformed into after being raped by Zeus.

ANSWER: **bears**

[10] In this myth system, the human race descends from a bear who turns into a woman after waiting in a cave for one hundred days.

ANSWER: **Korean**

[10] The cult of Artemis at this site hosted a festival called the Arkteia, which featured young girls dressed up as "arktoi" or she-bears.

ANSWER: **Brauron** [or **Brauronia**]

16. This artist co-wrote a manifesto of Cubism with Jean Metzinger. For 10 points each:

[10] Name this painter of a portrait of Jacques Nayral, the almost entirely grey *Woman with Phlox*, and a painting called *La Chasse*, or *The Hunt*.

ANSWER: Albert **Gleizes**

[10] Gleizes' painting *The Bathers* was exhibited at the 1912 edition of this *salon*, founded in 1884 in opposition to the government-sponsored Salon. In 1910, a painting by a donkey named Lolo was exhibited here.

ANSWER: Salon des **Indépendants** [or: Société des **Artistes Indépendants**, Salon/Society of **Independent** Artists]

[10] This artist's *Bathers at Asnières* was exhibited at the first Salon des Indépendants. This pointillist also painted *A Sunday Afternoon on the Island of La Grande Jatte*.

ANSWER: Georges-Pierre **Seurat**

17. This poet wrote about a girl who disappears in a storm in “Lucy Gray,” which is not one of his Lucy poems. For 10 points each:

[10] Name this poet, who wrote *Lyrical Ballads* with Samuel Taylor Coleridge.

ANSWER: William **Wordsworth**

[10] The speaker of this Wordsworth poem hears the title character “sing[ing] a melancholy strain” while working a field, but cannot hear what she is singing.

ANSWER: “The **Solitary Reaper**”

[10] Wordsworth’s poem “My Heart Leaps Up” ends with the speaker saying “And I could wish my days to be bound each to each by natural piety” after making this seven-word declaration.

ANSWER: the **Child is father of the Man**

18. Name some rulers who all performed a certain weird action, for 10 points each.

[10] After besieging the castles of Odani and Ichijodani, this man supposedly made some of his enemies’ skulls into cups for drinking sake. This man ended the Sengoku period by uniting Japan and was succeeded by Toyotomi Hideyoshi.

ANSWER: **Oda Nobunaga** [prompt on: **Nobunaga**]

[10] When not making Uzbek rulers’ skulls into goblets, this founder of the Safavid Dynasty wrote poetry in Azerbaijani.

ANSWER: **Ismail I** [or: **Shah Ismail**]

[10] Byzantine emperor Nicephorus I was this ruler’s unlucky victim after a failed attempt to capture Pliska. This king, known by the epithet “the Fearsome,” greatly expanded the territory of the 9th century Bulgarian Empire.

ANSWER: **Krum**

19. This athlete has been unanimously acclaimed the funniest person in *Trainwreck*. For 10 points each:

[10] Name this athlete who often randomly texts “Do you know Cleveland is great for the whole family?” to the Bill Hader-played Aaron Connors because he has free texting.

ANSWER: **LeBron James** [or: LeBron Raymone **James, King James**]

[10] This actor plays Amy’s confusingly not-homosexual boyfriend, Steven, who castigates Amy for annoying people in a movie theater because “Everybody wants to fight the big guy!”. In the greatest prank call of all time, *Z Morning Zoo* drives a woman insane by advertising a pay-per-view involving this “former decorated member of the United States Marine Corps”.

ANSWER: John **Cena**

[10] The first time Amy meets LeBron James, he’d driven forty minutes back to Aaron’s office to retrieve this item. LeBron emphatically states “I’m not giving [a store for these items] another thirty dollars!”.

ANSWER: **sunglasses**

20. The *Xenopus* animal cap assay was used to show that the essential factor for this process in ventral tissue is vegT mRNA, which activates nodal; for dorsal tissue, this process is regulated by a signal from the Nieuwkoop center.

For 10 points each:

[10] Name this process that occurs when factors secreted by vegetal cells—such as FGF, activin, Vg1, and derrière—are introduced to animal cap cells.

ANSWER: endo-**mesoderm induction** [or: **meso-endoderm induction**; prompt on: **induction, mesoderm** formation]

[10] Nodal, Vg1, and activin all bind to a type II serine/threonine kinase receptors, which phosphorylates a type I receptor, which phosphorylates Smad2 at the end containing what functional group? This moiety is attached to the end of proteins and polypeptides, the so-called C-terminus.

ANSWER: free **carboxyl** group [or: **carboxylic acid, COOH**]

[10] Mesoderm induction occurs while an embryo is undergoing the transformation to this stage of embryonic development. During the transformation to this stage, the three germ layers are formed.

ANSWER: **gastrula**