

## Tossups

1. This poet claimed that “birth was a disease and Christopher and I invented the cure” in “O Ye Tongues”, a sequence of poems based on Christopher Smart’s “Jubilate Agno”. The line “I have gone out, a possessed witch” opens a poem by this author whose three stanzas end with the claim “I have been” the title thing. This student of W.D. Snodgrass wrote a poem which asks her daughter “how do you grow?” and tells her “you are too many to eat”, while the lines “Whether you are pretty or not, I outlive you, bend down my strange face to yours and forgive you” conclude a poem addressed to her father. This poet wrote (\*) “Her Kind”, “Little Girl, My String Bean, My Lovely Woman”, and “All My Pretty Ones”. For 10 points, name this author of *To Bedlam and Part Way Back* and *The Awful Rowing Toward God*, who, like her friend Sylvia Plath, was a suicidal female Confessional poet.

ANSWER: Anne Sexton <RC>

2. According to the Witten effect, any grand unified theory which does NOT show this phenomenon has dyons with only integer charges. The interaction of scalar fields with the instanton field causes this phenomenon as part of the Affleck-Dine mechanism. When this phenomenon does NOT occur, the areas of the unitarity triangles vanish. Along with thermal disequilibrium and violation of the baryon number, this phenomenon is one of the conditions required for (\*) baryogenesis according to the Sakharov conditions. Complex phases in the CKM matrix allow for this phenomenon. In local and Lorentz-invariant quantum field theories, this phenomenon necessitates a flipping of the time-reversal symmetry. The indirect form of this phenomenon was originally discovered in the decay of neutral kaons by James Cronin and Val Fitch. For 10 points, name this phenomenon in which the product of charge conjugation and parity symmetry are broken by some process.

ANSWER: CP violation [or charge conjugation and parity until "charge conjugation" is read] <EM>

3. This philosopher put forth eight principles for determining the international order in a book that envisages a world in which the evils of history no longer occur, called a “realistic utopia.” This philosopher called political theories that depend on compliant actors and favorable social conditions “ideal theory.” This philosopher describe a method by which, through adjusting one’s general principles so that they mutually support one another, one can arrive at a state of (\*) “reflective equilibrium.” The ideas of this author of *The Law of Peoples* prompted Robert Nozick to write *Anarchy, State, and Utopia*. He used a thought experiment in which parties design a society without knowing their status, due to a “veil of ignorance,” to argue that society should work to benefit the most disadvantaged. For 10 points, name this author of *A Theory of Justice*.

ANSWER: John Rawls <DF, ed.>

4. Since three of the four branches of the Austronesian language family are exclusive to this island, it is believed to be that family’s homeland. Mark Moskowitz studied the odd practice of stripping at funerals on this island. Apart from the Kavalan tribe, tribes of aboriginal plains-dwellers have not been recognized on this island, though they still typically support the Pan-Blue Coalition. Major fault lines caused the 1999 921 earthquake on this island, where the formerly Dutch fort Zeelandia is located. The (\*) Portuguese named this island for its beauty and named a group of islands to the west after their fisherman. The Pescadores are located west of this island, where a giant New Year’s fireworks show takes place at a tower with 101 floors. For 10 points, name this island formerly known as Formosa, which contains most of the Republic of China.

ANSWER: Taiwan [or Isla Formosa until "Formosa" is read] <WA>

5. John Chester Miller’s authoritative biography of this man called him a “Pioneer in Propaganda” and he took the alias “Candidus” in one publication. While a clerk, this man managed to get a hold of correspondence written to Thomas Whatley and publicized them in the Hutchinson Letters Affair. This man was blamed by Francis Bernard for the lynching of Andrew Oliver, though that act was actually performed by the Loyal Nine. This man, who was called the “last of the Puritans” by Edward Everett, drafted a circular letter that stated the (\*) Townshend Acts were illegitimate because of a separation by an “ocean of a thousand leagues”. A longtime ally of James Otis, this man famously stated “this meeting can do nothing further to save the country” to end a gathering at the Old South Meeting House, after which a group of men dressed as Mohawks boarded the *Dartmouth*. For 10 points, name this maltster and leader of the Sons of Liberty who organized the Boston Tea Party.

ANSWER: Samuel Adams [prompt on “Adams”] <EM>

6. In one film, this character wears a red t-shirt with a fake six pack-abs design and destroys a security camera before saying, “Now I am alone.” In a Frank Zeffirelli film, after this character pretends to nearly drop a sword, a shot reverse shot sequence shows him winking at his mother. A title filmic character of this name who visits a New York hotel-slash-corporate HQ is played by Ethan Hawke. In a fourth film, the camera slowly zooms out from this character in the snow as he gives a speech inspired by “the (\*) imminent death of twenty thousand men.” In that 1996 film, he taps a one-way mirror with a knife in an empty ballroom and dismisses a lover played by Kate Winslet. For 10 points, name this theatrical character filmed by Kenneth Branagh starring Kenneth Branagh, who, according to the preface of a 1948 Laurence Olivier filming, shows the “tragedy of a man who could not make up his mind.”  
ANSWER: Prince Hamlet of Denmark [do not accept “King Hamlet”] <PL>

7. A character in this play claims to have written a novel in which “the good ended happily, and the bad unhappily” because “that is what Fiction means”. In its penultimate line, a character is accused by his aunt of “displaying signs of triviality”. One character in this play claims that an aunt in Tunbridge Wells gave him a suspiciously-inscribed cigarette case, while another invents an (\*) invalid friend living in the country who he uses to get out of social engagements in a practice called “Bunburying”. At the end of this play, Dr. Chasuble pairs up with Miss Prism, who reveals that she had left a main character in a handbag in Victoria Station. For 10 points, name this play in which the unusual desires of Cecily Cardew and Gwendolen Fairfax are satisfied, an Oscar Wilde play in which Algernon Moncrieff and Jack Worthing both adopt the title name.  
ANSWER: *The Importance of Being Earnest* <RC>

8. The category of these entities contains a faithful functor to the category of sets that has no right adjoint, but whose left adjoint associates a “free” one of these entities to its basis set. If they contain no non-identity elements that have finite order, they are called torsion-free, and the sum of two homomorphisms between two of these entities is also a homomorphism. The fundamental theorem of these structures states that finitely-generated ones can be decomposed into a direct sum of (\*) cyclic groups with prime-power order. The centralizers of these entities are equivalent to these entities in their entirety, and the Cayley tables for these entities are symmetric. A ring whose nonzero elements form one of these entities under multiplication is a field. For 10 points, name these groups in which the order of the operation doesn’t matter.  
ANSWER: abelian groups [prompt on commutative groups; prompt on partial answers until "groups" is read] <EM>

9. One king of this name wrote the semi-autobiographical “King’s Book” about his eighteen-year foreign detainment during which he had led troops against his kingdom’s armies in France. One king of this name had a birthmark that led to his nickname “the fiery face” and was the owner of the massive bombard Mons Meg. The only two British kings of this name not to start their reign in regency include (\*) one whose premature retreat at his final defeat earned him the nickname “the shit”, and the fourth king of this name, who honoured the Auld Alliance and died at the Battle of Flodden Field. The sixth king of this name also became known as the first of his name in England after the death of Elizabeth I. For 10 points, name this common first name of the Stuart kings of Scotland.  
ANSWER: James [or Seamus] <PL>

10. Nikolai Malko’s 1932 performance of a piece by this composer in London helped revive the popularity of that piece’s original version. A rondo in the form A, B, A, B, C, A, D, A is used in the final movement of a suite by this composer, the first movement from which uses a pentatonic scale and alternates between 5/4 and 6/4 time. A movement from that suite by this composer evokes bells from a structure planned to be built by Viktor (\*) Hartmann. Leopold Stokowski removed a “fanfare” depicting a dark god in his 1940 arrangement one of this composer’s pieces; that piece depicts a witches’ sabbath on St. John’s Eve. Maurice Ravel orchestrated a suite by this composer which includes the movement “The Great Gate of Kiev.” For 10 points, name this composer of *Night on Bald Mountain* and *Pictures at an Exhibition*.  
ANSWER: Modest Mussorgsky <WA>

11. This process titles a discourse that defines a “stricken” civilization as one that closes its eyes to its problems and a “dying” one that uses principles for trickery and deceit. People perpetrating this process have a “Nero Complex” according to a book by Albert Memmi. In an essay that closes by examining *sati*, the social group which is outside of the hegemonic power structure resulting from this process is termed the Subaltern. The reversal of this process’ effects on the (\*) mind is the objective of an essay that argues for the use of the Gikuyu language instead of English and was written by Ngugi wa Thiong’o. Gayatri Spivak is a theorist about the aftermath of this process, the dehumanization and racism resulting from which are analysed in *Black Skin, White Masks* by Frantz Fanon. For 10 points, name this frequently imperialistic process by which people settle new land.

ANSWER: colonization [accept colonialism or anything involving colonies; prompt on “imperialism”] <WA>

12. An attempt to capture this creature is shown on the left of the Ardre VIII stone. An animal known as the “Sky-Bellowr” is killed before going on a trip to slay this creature. After slaying this creature, one character takes nine steps before falling dead. An enchanter makes his drinking-horn impossible to finish after using magic to turn this creature into a grey (\*) cat, which is why the cat was so heavy that one hero could barely lift it off the floor. An ox head is used to bait this creature by a hero who attempts to kill it with a hammer. This sibling of a giant wolf and the goddess Hel poisons the sea and sky at the end of the world. For 10 points, name this creature which is killed by and kills Thor at Ragnarok, a giant Norse snake that circles the world.

ANSWER: Jormungandr [or the Midgard Serpent; World Serpent; or obvious equivalents] <WA>

13. An author with this last name wrote a novel whose hyperpatriotic protagonist argues with the soldier Wolfgang Buck and makes a political alliance with his nemesis Napoleon Fischer. Another author of this surname spent sixteen years “transforming myth into flesh” in the form of a four-part novel about a man who is exiled to Egypt, where he serves as Akhenaten’s steward. The author of *Man of Straw* shares this surname with the creator of the doomed child Echo Nepomuk and a character who uses an (\*) “H, E, A, E, E-flat” motif to represent a woman called “Hetaera Esmeralda”. That author with this surname wrote *Joseph and his Brothers* and a novel narrated by Serenus Zeitblom in which the composer of *Apocalypsis cum Figuris* voluntarily contracts syphilis to increase his artistic output. For 10 points, give the surname shared by Heinrich and his brother, *Doktor Faustus* author Thomas.

ANSWER: the Mann family [or Heinrich Mann; or Thomas Mann] <RC>

14. It’s not pH, but a mineral redox buffer is used to constrain this quantity for oxygen in a rock system, and in such an analysis the log of this quantity is plotted against temperature for each component of the rock. It’s not heat, but in the McKay et al approach this quantity times its namesake capacity is equal to the concentration. In a high-pressure VLE, the equation for this quantity is modified with the Poynting correction factor. It doesn’t appear in Raoult’s law, but this quantity for a component is equal to its (\*) mole fraction times its total by the Lewis-Randall rule. This quantity is equal to its standard form times the exponential of the difference of the current and standard chemical potential over RT. At a given chemical potential, this quantity is equal to the pressure for an ideal gas. For 10 points, name this quantity which gives the tendency of a molecule to escape a particular phase.

ANSWER: fugacity <EM>

15. The *paiza* was a pass that certified that a holder of this title had granted the possessor tax exemption. A ruler with this title ordered the construction of a silver tree with four serpents as its roots for a fountain in a capital city visited by William of Rubruck. Decrees issued known as *yarligis* were issued by holders of this title, many of whom expanded the *yam* route system. John the Hungarian was an ambassador between one holder of this title and Louis IX. One of this title’s holders ordered the destruction of (\*) Alamut, the base of the Assassins. The *kurultai* elected holders of this position, one of whom created a secret law code called the Yassa. A ruler with this title supposedly turned a river black with ink when he sacked Baghdad in 1258. For 10 points, identify this title held by numerous Karakorum-based Mongolian rulers, such as Hulagu and Genghis.

ANSWER: khan of the Mongols [or qaghan; or khan or qaghan of any of the convoluted divisions of the Mongol empire, such as Khan of the Golden Horde, Great Khan, the il-Khan; prompt on anything like “leader of the Mongols”] <WA>

16. Police in this country banned an art show poster depicting a white nude on a pure orange background. Because an artist from this country disliked “sugary ballet and dancing on points,” he frequently painted crude scenes of nude dancers, including one showing a defiance of Moses. A saxophonist leans in to play his instrument as a woman with pink ostrich feathers raises her hand in a painting from this country that shows a veteran with two wooden legs begging at the left. The painters of the (\*) *Dance Around the Golden Calf* and the Metropolis Triptych were from this non-Swiss country, where a watercolor showing several birds connected to a hand-crank was declared “degenerate art.” For 10 points, name this home country of Otto Dix and Die Brücke, where the Nazis attempted to purge modern art.

ANSWER: Germany [or the Third Reich; or the German Empire; or the Weimar Republic] <WA>

17. A crisis that threatened these two countries' alliance began when a steamship was sent to overturn the provisions of the Peace of Westphalia governing the Scheldt. During the War of the Polish Succession, one of these two countries seized the duchy of the spouse of the other country's ruler; that spouse was compensated with Tuscany. These two countries allied in response to the Westminster Convention but lost at the Battle of (\*) Rossbach to Frederick the Great. These two countries became allied in the 1756 Diplomatic Revolution and fought as allies in the Seven Years' War. A bride in a diplomatic marriage between these two countries was Marie Antoinette. For 10 points, name these two countries ruled by the Habsburgs from the Schonbrunn Palace and the Bourbons from Versailles.

ANSWER: France and Austria [or Kingdom of France and the Holy Roman Empire; or France and the Habsburg Monarchy/Empire before "Habsburg" is read; do not accept or prompt on "Austria-Hungary" for Austria] <PL>

18. In 1 Kings 13, one of these creatures stands by the corpse of a nameless "disobedient prophet" to show God's displeasure during the reign of Jeroboam. According to the Gnostic text *Pistis Sophia*, the head of one is found on the archon Yaldabaoth, sometimes identified as the Demiurge. In the valley of Timnah, several bees nested in the corpse of one of these creatures, where they made edible honey, as told in the book of Judges. This animal is often shown under images of the 24th tirthankar meditating, as it (\*) symbolizes the Jain leader Mahavira. Saint Jerome removed a thorn from one of these creatures, and a winged one is the evangelical symbol of Saint Mark. Samson strangled one of these creatures, whose role as symbol for the tribe of Judah has led to its use by Rastafarians. For 10 points, name these carnivores which refused to harm the prophet Daniel after he was thrown in their den.

ANSWER: lions <MJ>

19. A character in this book loves verbena-mint-tea and tries to steal a typewriter, only to find that he cannot lift it. An industrialist mentioned in this novel develops a tic in which he tries to lick his own ear after his factory is bankrupted by his stupid son, who becomes a famous soccer referee. In this novel, Gumerindo Tello threatens to castrate himself in court to prove himself innocent of rape. The narrator of this novel drives with (\*) Javier and Pascual from town to town, trying to find a priest who will marry a minor. The stress of ten-hour days at Panamericana causes a character in this novel to mix up his creations and eventually kill them all off in a giant fire. For 10 points, name this novel about Pedro Camacho and the author's alter ego, who marries the title relative, a work by Mario Vargas Llosa.

ANSWER: Aunt Julia and the Scriptwriter [or *La Tía Julia y el Escribidor*] <JC, ed.>

20. Proteins can interact with these structures via TOG domains. A drug that prevents their formation cannot continue to be used in patients with foot drop and is 100% fatal if it gets into the spine; that drug is vincristine, which like vinblastine is a vinca alkaloid. A compound that prevents the growth of these structures is commonly used to treat gout, and that compound is also used to synchronize cells for karyotyping. Gamma ring complexes nucleate their growth, which alternate phases of (\*) assembly and catastrophe in a process called "dynamic instability". Their monomers bind and hydrolyze GTP. Their growth is inhibited by colchicine and stabilized by taxol, and they form the mitotic spindle by connecting chromosomes to the centrosome. These structures are made of tubulin. For 10 points, name these components of the cytoskeleton that are bigger than intermediate filaments.

ANSWER: microtubules <EM>

## Bonuses

1. Flows of this type have high momentum diffusion and low momentum convection, and reactors that use this type of flow are commonly used to study multi-step reaction mechanisms. For 10 points each:

[10] Name this type of flow which occurs at low Reynolds numbers, as opposed to turbulent flow.

ANSWER: laminar flow

[10] When the Reynolds number is less than one, a type of flow named for this man occurs. A formula derived by him states that the force of drag on a small sphere is equal to six pi times viscosity times radius times velocity.

ANSWER: George Gabriel Stokes

[10] This physicist names vortex streets that appear for Reynolds numbers between like 40 and 400 when a cylinder is in a flow; the vortices appear and shed alternately from each side of the cylinder.

ANSWER: Theodore von Kármán <EM>

2. This tale depicts a group of humans of feral descent who initially abduct other men's wives freely. For 10 points each:

[10] Name this part of a larger work, which depicts a society of men who live by desire who later form a society of men who live by virtue and attempt to construct a government.

ANSWER: fable of the Troglodytes [accept any answer describing a story, thought experiment, etc. about troglodytes; or fable de les Troglodytes]

[10] The Fable of the Troglodytes appears in this work, in which the travelers Usbek and Rica comment on the contemporary social and political institutions of France.

ANSWER: Persian Letters [or Lettres persanes]

[10] The *Persian Letters* was written by this Frenchman, who discussed the importance of the separation of powers in England in *The Spirit of the Laws*.

ANSWER: Charles-Louis de Secondat, Baron de Montesquieu [accept either] <WA>

3. John the Baptist is depicted at the left of this painting wearing red and pointing to the right. For 10 points each:

[10] Name this painting, in which Jesus holds a golden *globus cruciger* while staring at the viewer. Words are shown around the heads of each of the five people in this painting, the only one its artist created for public display.

ANSWER: *The* Braque Triptych [or *The* Braque Family Triptych]

[10] When folded, the left panel of the Braque Triptych shows a large one of these objects resting on a block of wood, representing a *vanitas* motif. Saint Jerome is often depicted with one of these non-book inanimate objects.

ANSWER: skulls

[10] This painting by Hans Holbein the Younger shows a large anamorphic skull at the bottom. Two men in this painting rest their arms on a table which contains a globe.

ANSWER: *The* Ambassadors <WA>

4. A character in this poem begins writing a history of the so-called "Battle of the Saints" while recuperating from a wound gained in North Africa working as a pig farmer with his wife Maud. For 10 points each:

[10] Major Plunkett appears alongside a blind man named Seven Seas in which twentieth-century epic poem, whose other major characters include the maid Helen and her suitors, the fishermen Achille and Hector?

ANSWER: Omeros

[10] This poet of "A Far Cry from Africa" and "Ruins of a Great House", a native of St. Lucia, wrote *Omeros*.

ANSWER: Derek Walcott [or Derek Alton Walcott]

[10] This book-length Walcott poem, which begins by describing people who "stroll on Sundays down Dronningens Street", relates the story of Camille Pissarro's move to Paris and includes 26 of Walcott's own paintings.

ANSWER: Tiepolo's Hound <RC>

5. This “paramount leader” shared powers with Bo Yibo and the other “Eight Elders”, and promulgated the “one country, two systems” ideology. For 10 points each:

[10] Name this world leader who once stated that it doesn’t matter if a cat is black or white, as long as it catches mice, as an analogy for his advocacy of a mixed economy.

ANSWER: **Deng Xiaoping**

[10] Deng Xiaoping was the paramount leader of this nation. It is currently headed by a member of the “princelings”, named Xi Jinping.

ANSWER: People’s Republic of **China** [or **PRC**; or **Zhonghua Renmin Gongheguo**; do not accept “Republic of China”]

[10] Deng Xiaoping was purged during the Cultural Revolution after being accused of being the “Number 2” one of these people. This term refers to anyone who attempts to subvert the communist goal by bowing to bourgeois forces.

ANSWER: **capitalist roader** [or **Zou zipai**; or **Zhouxiang ziben zhuyi de paibie**] <EM>

6. This action was motivated by a desire to avoid “an objective rehabilitation” which would come from taking sides in “the battle for [...] peaceful coexistence” between East and West. For 10 points each:

[10] Identify this action, justified by its performer in a 1964 essay that famously asserted “The writer must [...] refuse to let himself be transformed into an institution”.

ANSWER: Jean-Paul **Sartre declining** the 1964 **Nobel** Prize in Literature [accept equivalent phrasings; prompt on partial answers]

[10] Sartre’s most famous literary work is this play, in which Garcin’s frustration with Estelle and Ines forces him to conclude that “Hell is other people”.

ANSWER: **No Exit** [or **Huis Clos**; or **In Camera**; or **No Way Out**; or **Behind Closed Doors**]

[10] In this title story of a Sartre collection, Pablo Ibbieta accidentally reveals the true location of his comrade Ramon Gris, thus averting his execution at the title place.

ANSWER: “The **Wall**” [or **Le Mur**] <RC>

7. This island contains Havelock, the greenshell mussel capital of the world. For 10 points each:

[10] Name this island also home to the wine-producing Marlborough region. Other wine-producing regions on this island include the Central Otago region and the Canterbury Plains region near Christchurch.

ANSWER: **South** Island

[10] This country’s South Island-driven wine industry overtook its wool industry in exports in 2008. You can drink flat white here in Auckland or eat some kiwifruit, which was first commercially cultivated here.

ANSWER: **New Zealand** [or **Aotearoa**]

[10] The Marlborough Region and New Zealand in general is best known for this variety of white wine, which was introduced to the world by Cloudy Bay Vineyards.

ANSWER: **Sauvignon Blanc** <PL>

8. This protein’s subunits are produced in an imbalanced fashion in beta-thalassemia, and in acidic environments its binding curve moves in the Bohr effect. For 10 points each:

[10] Name this protein consisting of two alpha and two beta subunits. It’s prosthetic groups are porphyrins coordinated to iron, which are responsible for reversibly binding oxygen.

ANSWER: **hemoglobin**

[10] This breakdown product of hemoglobin is usually conjugated to glucuronate for excretion in bile. A condition in which there is an excess of this compound can first be seen by looking under the tongue.

ANSWER: **bilirubin**

[10] Hemolytic anemia can be assayed for by measuring levels of this protein, which binds to free hemoglobin in the blood and helps carry it to the spleen. This protein is encoded by the HP gene.

ANSWER: **haptoglobin** <EM>

9. This party attacked Carlist forces in the Begona incident. For 10 points each:

[10] Name this party that merged with the Monarchist factions after the Nationalist victory in its nation's Civil War. It was founded and initially led by Primo de Rivera.

ANSWER: **Falange** Espanola Tradicionalista y de las Juntas de Ofensiva Nacional-Sindicalista [prompt on "Phalanx" or "Traditionalist Spanish Phalanx of the Juntas of the National Syndicalist Offensive"]

[10] This general was the leader of the Nationalist side in the civil war and ruled until his death in 1975. He kept Spain neutral in the Second World War and is still dead.

ANSWER: Francisco **Franco** Bahamonde

[10] Franco was the uncontested Nationalist leader after Mola and this other co-conspirator died in separate plane crashes. He said "I need to wear proper clothes as the new caudillo" and then overburdened his plane and crashed.

ANSWER: Jose **Sanjurjo** y Sacanell <PL>

10. Odd ceremonial chipped artifacts from this culture are generically referred to as "eccentric flints" regardless of their material composition. For 10 points each:

[10] Name this culture, which names a unique dye of blue used prolifically in the Bonampak murals. This culture is credited with the invention of the triadic pyramid style.

ANSWER: **Mayan** civilization

[10] The Maya frequently employed this architectural technique to construct arches within temples. This technique uses a series of offsetting stones to support higher levels, and requires much more space than a true arch.

ANSWER: **corbelling** [or word forms, such as **corbeled** vault/arch, etc.]

[10] As with texts from many ancient cultures, this name is given to books produced by Maya, Aztecs, and other sufficiently old cultures. Bernardino de Sahagun produced a "Florentine" one that is a key source of Aztec mythology.

ANSWER: **codex** [or **codices**; or Florentine **Codex**] <WA>

11. Answer some things about Greek mythology and Phoenicia, for 10 points each.

[10] Some believe that Heracles is a reflection of this Phoenician god, whose name means "King of the City." This tutelary god of Tyre was faithfully worshipped by Hannibal Barca.

ANSWER: **Melqart** [or **Milk-qart**; or **Milqartu**]

[10] This Phoenician princess, after whom a continent is named, was kidnapped by Zeus in the form of a cow.

ANSWER: **Europa**

[10] This Phoenician prince and son of Agenor was credited with introducing his culture's alphabet to the Greeks, who adapted it for their own usage.

ANSWER: **Cadmus** [or **Kadmos**] <WA>

12. The original Globe Theater was set on fire by a cannon shot during a performance of this play, in which the Duke of Buckingham is executed on trumped-up treason charges brought by Thomas Wolsey. For 10 points each:

[10] Identify this play, a collaboration between William Shakespeare and John Fletcher, whose title king secures a divorce from Queen Katherine in order to marry Anne Bullen.

ANSWER: **Henry VIII** [or **All is True**; or *The Famous History of the Life of King **Henry the Eighth***]

[10] Another depiction of the court of Henry VIII that debuted at the Globe Theater was this Robert Bolt play, which uses a recurring narrator called The Common Man and focuses primarily on Thomas More, the title character.

ANSWER: A **Man for All Seasons**

[10] The story of Thomas Cromwell's time in Henry VIII's court is recounted by Hilary Mantel in a planned trilogy consisting of *Wolf Hall*, this second book, and the yet-to-be-released *The Mirror and the Light*.

ANSWER: **Bring Up the Bodies** [do not accept "*Bringing Up the Bodies*"] <RC>

13. The first bridge-tunnel in the world is named for this location, which was also the site of a battle in which a fleet commanded by Louis M. Goldsborough managed to wound Franklin Buchanan. For 10 points each:

[10] Name this site, also the namesake of a four-hour conference that took place between William Seward, Alexander Stephens, and a few other representatives aboard the *River Queen* near Fort Monroe.

ANSWER: **Hampton Roads** [prompt on "Hampton"; anti-prompt on "Sewell Point"]

[10] The Battle of Hampton Roads and the Hampton Roads conference both took place during this conflict. This conflict was ended by a meeting at Appomattox Court House.

ANSWER: The American **Civil War**

[10] The aforementioned Battle of Hampton Roads occurred after this Union Secretary of the Navy ordered the *Monitor* to destroy the *Merrimack* in drydock. Lincoln nicknamed him "Neptune".

ANSWER: Gideon **Welles** <EM>

14. EDTA is often used in the complexometric type of this procedure. For 10 points each:

[10] Name this procedure in which the concentration of an acid can be determined by dripping in small quantities of a base and monitoring the reaction using an indicator.

ANSWER: titration

[10] Titrations are commonly ended at this point, which is the inflection point of the pH vs reactant curve. It is not necessarily the same as the endpoint, and polyprotic acids have more than one.

ANSWER: equivalence point

[10] When doing ELISA, the word “titration” sometimes actually refers to this technique. In this technique, a fixed amount of sample is added to solvent, then the same portion of that solution is added to the next tube, repeatedly.

ANSWER: serial dilution <EM>

15. Answer the following about Frans de Waal, a leading primate psychologist at Emory University, for 10 points each.

[10] One of de Waal’s books juxtaposes this ape with “the Atheist.” These infrequently-observed members of genus *Pan* are often touted as less warlike, more matriarchal, and more sexually active than the closely-related chimpanzee.

ANSWER: bonobos [or *Pan paniscus*]

[10] Frans de Waal’s work at Emory draws on and updates this pioneering female primatologist, who studied of the factional split among chimps at Gombe Stream.

ANSWER: Jane Goodall

[10] de Waal put forth these neural circuits as a possible basis for morality in his 2009 book *The Age of Empathy*. They fire both when you move in a certain way and when you observe someone else move in that same way.

ANSWER: mirror neurons <MJ>

16. The composer of this set of four works, one incomplete, decided to also write a quintet for their dedicatee, because why not. For 10 points each:

[10] Name this set of works written for Joseph Leutgeb. The three complete ones all have a “galloping” 6/8 time final movement, recalling the “hunt”.

ANSWER: Wolfgang Amadeus Mozart’s Horn Concertos 1–4

[10] Mozart’s Horn Concertos are scored for natural horn, like this Brahms’s work purposefully written for natural horn. There are precious few other examples of works with similar instrumentation, György Ligeti’s definitely being the second-most popular and an homage to Brahms.

ANSWER: Johannes Brahms’s Horn Trio in E-flat major, Op. 40 [or Trio for Violin, Horn and Piano; accept instruments in any order]

[10] A natural horn can be made to play notes outside of its harmonic series by inserting this human appendage into the bell, said technique being called “stopping”. It’s also used for modern horns, like the French horn.

ANSWER: hands <CV>

17. This formation was frequently employed to advance to walls during sieges. For 10 points each:

[10] Name this Roman infantry formation, in which *scuta* were used to cover all sides and the heads of the infantry formation, thus deflecting most enemy missiles harmlessly.

ANSWER: testudo [prompt on “turtle”]

[10] These large Roman infantry units were subdivided into *cohortes* of 480 men after the Marian reforms. Most people call the iconic roman *miles* by a word derived from these units, to whom an equal number of auxiliaries were attached.

ANSWER: Roman Legion [or legio]

[10] At this battle during the Second Punic War, the legion was able to open up its maniples and let the Carthaginian elephants pass harmlessly through, allowing them to be defeated by light troops called *velites*.

ANSWER: Battle of Zama <PL>

18. The narrator survives a climactic event by clinging to a coffin originally built for this character, who worships an idol named Yojo and is the son of the king of Rokovoko. For 10 points each:

[10] Identify this character who attends Father Mapple’s sermon with the narrator before securing a berth working with Starbuck on the *Pequod*.

ANSWER: Queequeg

[10] Queequeg appears in this cetology-packed novel by Herman Melville, in which Ishmael relates Captain Ahab’s quest for revenge on the title white whale.

ANSWER: Moby-Dick; or, *The Whale*

[10] In Chapters 53 and 54, the *Pequod* encounters and exchanges crew members with this ship, on which a sailor named Steelkilt had led a mutiny against the mate Radney, who is later eaten by Moby-Dick.

ANSWER: the Town-Ho <RC>



19. This term is often applied erroneously to monks in general. For 10 points each:

[10] Give this title conferred upon teachers in a specific path of Vajrayana buddhism. The “Panchen” one and another official with this title bear responsibility for selecting each other as children.

ANSWER: **lamas**

[10] The Dalai lama is considered the spiritual leader of this region, located in southwestern China.

ANSWER: **Tibet**

[10] This name is given to several indigenous Tibetan religious traditions. Like Tibetan Buddhism, this tradition has teachings called *termas*, such as “The Cave of Treasures” which were hidden by early acolytes.

ANSWER: **Bon** [or **Bonpo**] <WA>

20. The B-modes of this thing are a marker of primordial gravitational waves. For 10 points each:

[10] Name this relic radiation whose anisotropies are studied by the COBE, Planck, and WMAP satellites. It was originally detected by Penzias and Wilson using an antenna.

ANSWER: **cosmic microwave background** radiation [or **CMBR**; prompt on “cosmic background radiation”]

[10] The CMB was created over three hundred thousand years after this event whose named was coined pejoratively by Fred Hoyle, the rapid expansion of a singularity into the known universe.

ANSWER: **Big Bang**

[10] This hypothetical construct is the surface from which CMB photons were originally emitted at the time of decoupling.

ANSWER: **surface of last scattering** [or **last scattering surface**] <EM>