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## TOSSUPS

1. A man in this book witnesses a vision in which he is ordered to eat a variety of animals on a large sheet. Later in this book, an angel comes at night to rescue that man from prison. In this book, a group of men begin speaking in other languages when wisps of fire land on their tongues during Pentecost. This book recalls how Stephen is (\*) stoned to death under the orders of Saul, who undergoes a miraculous conversion on his way to Damascus and changes his name to Paul. For 10 points, name this New Testament book that follows the Gospels and describes the actions of the apostles of Jesus.

ANSWER: Acts [or Acts of the Apostles]

2. This composer used a difficult four-against-three rhythm in the opening section of a piano piece in C-sharp minor. He included a solemn funeral march in his Piano Sonata No. 2 in B-flat minor, and composed both the *Fantaisie-Improptu* and a Nocturne in E-flat major. This composer's etudes have nicknames such as "Winter Wind" and (\*) "Black Key." The failed 1830 November Uprising in his native country inspired this composer to write the "Revolutionary" Etude. He wrote a waltz inspired by the sight of a dog chasing its own tail. For 10 points, name this Polish-born composer of the "Minute Waltz."

ANSWER: Frédéric Chopin [or Frédéric François Chopin; or Fryderyk Franciszek Chopin]

3. Description acceptable. *Gonzales* ("gone"-ZAH-less) *v. Raich* cited this constitutional power to criminalize the production of home-grown marijuana. The Supreme Court refused to use this power found in Article I of the Constitution to limit firearms near schools in *U.S. v. Lopez*. In *Heart of Atlanta Motel v. U.S.*, the Warren Court ruled that this constitutional clause could force (\*) private business owners to follow the Civil Rights Act. *Gibbons v. Ogden* expanded this clause to cover navigation of rivers and travel. For 10 points, name this clause of the Constitution which allows Congress to regulate trade between states.

ANSWER: interstate commerce clause [accept descriptions such as the power to regulate interstate commerce; accept Article I, Section 8, Clause 3 of the U.S. Constitution; prompt on answers mentioning "trade" or "business"]

4. This painting's composition may have inspired John Singer Sargent's *The Daughters of Edward Darley Boit*. A portrait of Jacqueline Roque is included in a Pablo Picasso series of 58 versions of this painting. This painting alludes to the Order of St. James through the posthumously-added red cross on a self portrait of its artist. In this painting, Don José Nieto appears in the (\*) open doorway at the top-center, and a young boy places his foot on a drowsy mastiff in the bottom-left. Located in the Alcazar Palace of King Philip IV ("the 4th"), it depicts the Infanta Margarita Teresa. For 10 points, name this Spanish court painting by Diego Velazquez.

ANSWER: *Las Meninas* [accept *The Maids of Honor*]

5. This compound can be stored at low pressures by entering the atomic lattice of palladium, and the steam reformation of methane produces this compound and carbon monoxide. Generation of this compound is used to define the standard reference electrode, and it is formed when a strong acid is reacted with a metal. This compound is found in a (\*) fuel cell that generates energy from merging it with oxygen. A distinct popping is produced when exposing a burning splint to this compound, which is used to distinguish it during the electrolysis of water. For 10 points, name this lightest gas, formed from the first element.

ANSWER: molecular hydrogen gas [or H2; prompt on H]

6. This country has exercised *de facto* control over the disputed territory of Aksai Chin ever since it won a 1962 border war. Currently, this country claims 80% of the territory in a nearby sea via a ridiculous U-shaped map boundary known as the "nine-dotted line," which includes the Spratly Islands and Paracel Islands within its limits. In 1969 it fought an undeclared border war with the Soviet Union along the (\*) Amur River. Many of the majority-Muslim Uyghur (oo-EE-gur) people still oppose this country's government in its northwestern region of Xinjiang (SHIN-jee-ahng). For 10 points, name this country that currently controls Tibet.

ANSWER: China [or the People's Republic of China; or PRC; or Zhōngguó; or Zhōnghuá Rénmín Gònghéguó; do not accept "Republic of China"]

7. This mythical figure prophesies that Io will bear a son named Epaphus. This figure's son lands on Mount Parnassus after surviving a flood with his wife Pyrrha. This father of Deucalion tricks Zeus by offering him a choice between a stomach with beef hidden inside and a pile of bones covered in glistening fat. In the Platonic dialogue *Protagoras*, the brother of this (\*) Titan gives gifts to every animal but forgets to reserve one for humans. Heracles rescues this Titan from being chained to a rock in the Caucasus and having an eagle peck out his liver every day. For 10 points, name this Titan who steals fire from the gods and gives it to mankind.

ANSWER: Prometheus

8. A man sporting a death mask named Merlin insists that a character in this novel must whip himself 3300 times. A Countess whose name means "three skirts" asks the protagonist of this novel to defeat the giant Malabrino, who had earlier transformed a princess into a brass monkey. The protagonist of this novel assaults a barber in order to win the mythical (\*) Helmet of Mambrino. This novel's protagonist begins his journey accompanied by his squire Sancho Panza and his steed Rocinante, with whom he charges at some giants disguised as windmills. For 10 points, name this Spanish novel by Miguel Cervantes about a man of La Mancha who reads too many chivalric novels and becomes the title knight.

ANSWER: Don Quixote [or Don Quijote; or *The Ingenious Gentleman Don Quixote of La Mancha*; or *El ingenioso hidalgo don Quijote de la Mancha*]

9. An equestrian statue by this man was modified to look like the Roman hero Marcus Curtius after it displeased its patron, Louis XIV ("the 14th"). One of this man's sculptures depicts a figure digging his fingers into a goddess's thigh. In another of this man's pieces, a harp lays at the feet of a man shown using a slingshot. In addition to that version of (\*) *David*, this man created a sculpture for the Santa Maria della Vittoria that lies beneath several rays of light. That piece by this man shows the title nun lying on a cloud, while an angel holds an arrow. For 10 points, name this Baroque sculptor of *The Ecstasy of Saint Theresa*.

ANSWER: Gian Lorenzo Bernini (ber-NEE-nee) [or Giovanni Lorenzo Bernini]

10. This person died in Gravesend, Kent, after traveling with the holy man Tomocomo to meet King James I. Captain Samuel Argall held this person hostage for a year in order to ransom prisoners and weapons from her father. This woman was christened Rebecca upon her conversion to Christianity and her marriage to (\*) tobacco planter John Rolfe. A letter sent to Queen Anne claims that this woman prevented the execution of an English prisoner by laying her body on top of his. For 10 points, name this daughter of Chief Powhatan (poh-HAH-tun) who allegedly saved the life of John Smith.

ANSWER: Pocahontas [or Matoaka; or Amonute; accept Rebecca Rolfe before mention; prompt on "Rebecca" before mention]

HALFTIME

11. An author from this country gave a TED Talk that was sampled in Beyoncé's song "Flawless." This country is home to the author of the collection *The Thing Around Your Neck*. While working in this country's scholarship board, Obi breaks down and begins accepting bribes. An author from this country wrote about a man who breaks the (\*) Week of Peace by killing Ezuelo's son. The fictional village of Umuofia is set in this country, which is also the setting of *No Longer at Ease*. Okonkwo eventually kills himself in the face of rising colonialism in a novel from this country. For 10 points, name this setting of Chinua Achebe's *Things Fall Apart*.

ANSWER: Federal Republic of Nigeria

12. Tantalum anodes are used in the electrolytic type of these devices, which can be found in most modern electronics. The isolated spherical type of these devices has a strength proportional to their radius over Coulomb's constant. A circuit with one of these devices and an inductor will have oscillating current. When these devices are in parallel, their strength is additive. Charge equals voltage times the (\*) strength of these devices, which is proportional to area over distance in their simplest form. A dielectric can be placed between two parallel plates to increase their namesake quantity, measured in farads. For 10 points, name these circuit elements that store charge.

ANSWER: capacitors

13. A rebel leader in this modern-day country was captured by U.S. forces after Frederick Funston disguised himself as a prisoner of the rebels. It's not Cuba, but Leonard Wood brutally suppressed a Muslim uprising in this country known as the Moro Rebellion. William Howard Taft served as Governor-General of this country from 1901 to 1904. The command "You may (\*) fire when ready, Gridley" was given by George Dewey during an 1898 naval battle that ended Spanish rule in this country. Emilio Aguinaldo (uh-MEE-lee-oh AH-gwee-NAL-doh) was an independence leader in, for 10 points, what country that witnessed the Battle of Manila Bay?

ANSWER: Philippines [Republic of the Philippines or Republika ng Pilipinas]

14. Alfred Tarski analyzed whether sentences in a formal language had this property in the deflationary theory of this concept. Ludwig Wittgenstein is credited with inventing a schemata for analyzing this concept in section 4.3.1 of his *Tractatus*. Statements that match with the world around them have this property according to the correspondence theory of this. Along with justification and belief, this concept leads to (\*) knowledge, according to Plato. If statement P has this property, the contrapositive of P will also have this property. For 10 points, name this concept, the opposite of falsity.

ANSWER: truth [accept true or other word forms; prompt on "false" or word forms before "falsity" is read]

15. These structures can be covered in namesake rakers, rigid structures which can assist in feeding. Haeckel stated that the pharyngeal (fuh-RIN-jee-ul) arches found in all developing vertebrates were analogous to these structures in his "ontology recapitulates phylogeny (fye-LAH-juh-nee)" argument. These structures are covered in an operculum in Osteichthyes (oss-tee-ICK-thees), while they are exposed in a series of namesake (\*) slits in Chondrichthyes (con-DRICK-thees). They use counter-current exchange to improve efficiency of gas transfer, allowing them to capture greater amounts of dissolved oxygen. For 10 points, name these structures that allow fish to breathe underwater.

ANSWER: gills [accept pharyngeal gills or gill slits]

16. A court case regarding this class of people laid out the concept of "irrational animus". The opinion for that case did not address an earlier case referring to the actions of this group as a "crime not fit to be named". *Bowers v. Hardwick* was finally overturned in 2003 in a case concerning the arrest of John Lawrence in Texas. A 2015 case criticized a "wait and see" approach regarding the rights of these people. (\*) *U.S. v. Windsor* struck down Section 3 of a federal law by reasoning that it violated the Equal Protection Clause for this class of people. For 10 points, name this class of people, whom the Supreme Court recognized possesses the fundamental right to marry in *Obergefell v. Hodges*.

ANSWER: homosexual people [or gay people; accept "lesbian"; accept "same-sex couples"; accept equivalents along the lines of "homosexuals"; prompt generously on "people who practice sodomy"]

17. In this novel, a governess affectionately nicknames her ward "Ladybird." Miss Pross goes deaf in this novel after a gun goes off and kills the last survivor of a family that had been tormented by the Evrémondes ("EVER"-mons). This novel ends with a contemplation of a "far, far (\*) better thing that I do than I have ever done." While imprisoned in the Bastille, a doctor in this novel writes an account that the Defarges (duh-far-jez) later use to convict the husband of Lucie Manette. In this novel, Sydney Carton saves Charles Darnay from execution during the French Revolution. For 10 points, name this Charles Dickens novel set in "the best of times" and "the worst of times."  
ANSWER: *A Tale of Two Cities*

18. Late in this war, France won the Battle of Rocroi, ending the dominance of the Spanish *tercio* (TAIR-see-oh) formation. During this war, a ruler attempted to protect Church lands from secularization with the short-lived Edict of Restitution. Early in this war, the Elector Palatine Frederick V ("the 5th") lost the Battle of White Mountain to the (\*) Catholic League, ending his extremely short reign over Bohemia (bo-HEE-mee-ah). The Protestants gained renewed momentum in this war thanks to the intervention of the Swedish king Gustavus Adolphus (goos-TAH-vuss uh-DOL-fuss). The Peace of Westphalia ended, for 10 points, what 1618 to 1648 war mostly fought in the Holy Roman Empire?  
ANSWER: Thirty Years' War

19. This entity has provided evidence for dark energy in the form of the late-time integrated Sachs-Wolfe effect, which experiences anomalous gravitational redshifting. The BICEP2 ("bicep two") experiment found evidence of gravitational waves in this phenomenon, which was found to have a blackbody temperature of 2.7 Kelvin by the COBE (KOH-bee) satellite. The discovery of this phenomenon was delayed because of bird poop, but was later confirmed at (\*) Bell Laboratories by Arno Wilson and Robert Penzias using the Holmdel Horn radio telescope. For 10 points, name this ever-present radiation found throughout the universe that was created just after the Big Bang.  
ANSWER: cosmic microwave background radiation [accept CMBR; prompt on partial answers]

20. In the first stanza of a poem by this author, the consonant words "tinkle," "twinkle," and "oversprinkle" are repeated to evoke its title objects. That poem by this author repeats a "Runic rhyme" motif with increasing frequency as it progresses. One of this poet's speakers throws open the door only to see "darkness there and nothing more." This author wrote a poem whose speaker asks (\*) "is there balm in Gilead?" and is caught between forgetting and remembering Lenore. In that poem, the title creature that sits on a "pallid bust of Pallas" and answers every question with "nevermore." For 10 points, name this poet of "The Bells" and "The Raven."  
ANSWER: Edgar Allan Poe

**END OF REGULATION, PROCEED ONLY IF TIED**

21. This poet wrote about a phenomenon that comes "from the depth of some divine despair" and mourns "so sad, so fresh, the days that are no more." This author of "Tears, Idle Tears" wrote about a man who sings "Tirra lirra!" in a poem which tells the story of a cursed woman who dies because she stops weaving in order to look at Sir (\*) Lancelot. This author described an event at the Battle of Balaclava where "six hundred" men rode "half a league, half a league, half a league onward" into "the Valley of Death." For 10 points, name this Victorian poet of "The Lady of Shalott" and "The Charge of the Light Brigade."

ANSWER: Alfred, Lord Tennyson [or Alfred Tennyson]

22. This man was wounded in his left leg during his failed invasion of Quebec. A year later, this man was again wounded in the left leg after he led the American attack on Bemis Heights and Freeman's Farm, defying the orders of his superior officer Horatio (hor-"RAY"-sho) Gates. In 1775 this man helped Ethan Allen capture Fort Ticonderoga. Despite leading the Americans to victory at the Battle of (\*) Saratoga, he failed to receive a promotion, so he instead began negotiating with the spy John Andre (ahn-dray) to hand over West Point to the British. For 10 points, name this traitor of the American Revolution.

ANSWER: Benedict Arnold

## BONUSES

1. During this campaign, the defending commander told his men, "I am not ordering you to attack. I am ordering you to die."  
For 10 points each:

[10] Identify this unsuccessful 1915 to 1916 military campaign, in which the Allies failed to seize a Turkish peninsula.

ANSWER: Gallipoli Campaign [or Dardanelles Campaign; accept Battle of Gallipoli]

[10] The defending Ottoman commander in the Gallipoli campaign was this future founder of modern-day Turkey.

ANSWER: Mustafa Kemal Atatürk [accept either underlined name]

[10] Gallipoli is often remembered as the birthplace of Australia and New Zealand's national consciousness because the campaign inflicted such heavy casualties on this combined Australian and New Zealander fighting force.

ANSWER: ANZAC [or Australia and New Zealand Army Corps]

2. This character declares "I AM GOD'S INSTRUMENT" after he accidentally kills his best friend's mother by hitting a foul ball during a Little League game. For 10 points each:

[10] Name this midget who sacrifices his life to deflect a grenade, thereby saving a room full of Vietnamese orphans and inspiring his friend John Wheelwright to believe in God.

ANSWER: Owen Meany [accept either underlined portion]

[10] The novel *A Prayer for Owen Meany* was written by this modern American author, who also wrote *The World According to Garp*.

ANSWER: John Irving [or John Winslow Irving; or John Wallace Blunt, Jr.]

[10] Both *Owen Meany* and *Garp* are based off Irving's experiences attending Phillips Exeter Academy, which was also the alma mater of this novelist who wrote about the secret children of Jesus in *The Da Vinci Code*.

ANSWER: Dan Brown

3. For 10 points each, name these environmental disaster sites in the United States:

[10] In 1979 a partial core meltdown occurred at a nuclear power plant on this Pennsylvania island, causing the most serious nuclear accident in U.S. history.

ANSWER: Three Mile island

[10] In 1969 this state's Cuyahoga River became so polluted that it actually set on fire, partly motivating the federal government to create the Environmental Protection Agency a year later.

ANSWER: Ohio

[10] In 1980 the federal government passed the Superfund Act for cleaning up polluted sites largely due to the fiasco surrounding this Niagara Falls neighborhood, which was shortsightedly built on top of a toxic waste dump.

ANSWER: Love Canal

4. This element can be found in high-quality electronics due to its absolute resistance to corrosion. For 10 points each:

[10] Name this metal, known for being very ductile and malleable. It is used extensively in jewelry because it is one of two pure metals with a color that isn't some kind of grey.

ANSWER: gold [accept Au]

[10] This metal is commonly used as a catalyst of chemical reactions along with other members of its namesake "group," such as rhodium and palladium. It is also found in super expensive lab equipment, because it is very chemically inert.

ANSWER: platinum [accept Pt]

[10] Both platinum and gold are only soluble in this acid, formed from a solution of nitric and hydrochloric acid.

ANSWER: aqua regia

5. For 10 points each, answer the following about animals being used as American political symbols:

[10] During the 1912 presidential election, the Progressive Party received its most famous nickname when its candidate Theodore Roosevelt compared himself to one of these animals.

ANSWER: bull moose [or Bull Moose Party]

[10] The Republican Party was first depicted as an elephant by this 19th-century political cartoonist, who worked with *Harper's Weekly*.

ANSWER: Thomas Nast

[10] In an 1807 political cartoon criticizing the Embargo Act, one of these animals bites the trousers of a smuggler, who declares "Oh! This cursed Ograbme. ("oh grab me")"

ANSWER: snapping turtle [accept tortoise because it sort of looks like one in the comic]

6. The law of demand says that as the price of a good goes up, the quantity demanded goes down, and vice versa. For 10 points each:

[10] Goods that follow the law of demand have a negative value for this metric, which measures the percent change in quantity demanded in response to a one percent change in price.

ANSWER: price elasticity of demand [prompt on "PED" or "E sub D" or just "E"]

[10] When a market is in equilibrium, the quantity is set where demand meets this contrasting quantity, which represents the amount of a good that people sell.

ANSWER: supply

[10] Two goods have this relationship if they have a positive cross elasticity of demand. In a classic example of this relationship, when the price of butter rises, the demand for margarine goes up instead.

ANSWER: they are substitute goods [or other word forms]

7. Answer the following about denominational splits in world religions, for 10 points each:

[10] Tibetan Buddhism is traditionally led by these spiritual leaders, the fourteenth and current of whom is the exiled Tenzin Gyatso.

ANSWER: Dalai Lama (prompt on "Lama")

[10] The Conservative denomination of this faith is somewhat more liberal than its Orthodox branch, but more traditional than its Reform school.

ANSWER: Judaism [or word forms]

[10] The majority of Saudi Arabia follows this branch of Sunni Islam, which was developed by its namesake founder in the 18th century. It is based on a stricter, more conservative interpretation of the Qur'an.

ANSWER: Wahhabism [or Wahhabi; or Salafism; or Salafi; or word forms]

8. In *Democracy in America*, Alexis de Tocqueville said this practice "teaches men to practice equity" and "impresses him with the manly confidence without which no political virtue could exist." For 10 points each:

[10] Identify this practice in which American citizens are called to examine the facticity of a trial. In California, citizens are selected for this practice from voter rolls and driver's license registrations.

ANSWER: jury duty [or obvious equivalents]

[10] Tocqueville wrote that "there is scarcely an undertaking so small that Americans do not unite" into these entities.

*NAACP v. Alabama* strengthened the First Amendment's protection of the freedom to participate in these entities.

ANSWER: associations

[10] *Democracy in America* also examined the separate sphere of influence of this class of people. Kimberle Crenshaw coined the term "intersectionality" to describe the identity politics of African-Americans who also hold this identifier.

ANSWER: women [or obvious equivalents]

9. The title of Nikolai Leskov's *Lady Macbeth of the Mtsensk District* may have been derived from one story in this collection. For 10 points each:

[10] Name this short story collection whose narrator appears as an observer in stories like "Lgov" (**leh-GOHV**) and "Hamlet of the Shchigrovsky (**shih-GROHV-skee**) District".

ANSWER: *A Sportsman's Sketches* [or *The Hunting Sketches*; or *Sketches from a Hunter's Album*; or *Zapiski okhotnika*]

[10] This author wrote a book in which Arkady Kirsanov and Bazarov represent the nihilist ideals of one of the two title generations. He also wrote *A Sportsman's Sketches*.

ANSWER: Ivan **Turgenev** (**tur-GEN-yev**) [or Ivan Sergeyevich **Turgenev**]

[10] *Lady Macbeth of the Mtsensk District* was originally published in *Epoch*, a literary magazine published by this author and his brother. This author wrote of Raskolnikov (**rass-KOHL-nee-kov**) in *Crime and Punishment*.

ANSWER: Fyodor **Dostoyevsky** [or Fyodor Mikhailovich **Dostoyevsky**]

10. The Seattle Center Monorail runs through this largely exposed building, which is covered in three thousand panels that appear different depending on the light. For 10 points each:

[10] Name this Seattle building inspired by the imagery of a smashed guitar that houses artifacts from artists like Jimi Hendrix.

ANSWER: **Experience Music Project** Museum [or **EMP** Museum; or **Experience Music Project** and Science Fiction Museum and Hall of Fame; or **EMP|SFM**]

[10] The architect who designed the Experience Music Project also designed the titanium-covered Guggenheim museum in this Spanish city.

ANSWER: **Bilbao** [or **Bilbo**; accept Guggenheim **Bilbao** or Guggenheim Museum **Bilbao** or Museo Guggenheim **Bilbao** or Guggenheim **Bilbao** Museoa or other clear equivalents; prompt on "Guggenheim"; prompt on "Abando"]

[10] This architect of the Experience Music Project and the Guggenheim Bilbao also designed the Walt Disney Concert Hall.

ANSWER: Frank **Gehry** [or Frank Owen **Gehry**; or Frank Owen **Goldberg**]

11. This leader declared that every elderly person, woman and child could "lie by the roadside in safety" in his Law of the Splintered Paddle. For 10 points each:

[10] Name this Pacific ruler who conquered the island of Oahu and peacefully annexed Kauai in the early 19th century.

ANSWER: **Kamehameha** (**kah-MAY-hah-MAY-hah**) I [or **Kamehameha** the Great or **Paiea**]

[10] Kamehameha I was the first ruler to unify this archipelago, which later became the 50th U.S. state.

ANSWER: **Hawaiian** archipelago [accept **Sandwich** Islands]

[10] The power of the native monarchy on Hawaii was curtailed in 1887, when American businessmen forced King Kalakaua (**kah-LAH-KAH-uh-ah**) to sign this constitution under the threat of military intervention.

ANSWER: **Bayonet** Constitution

12. These constructs can be used to predict the genotypes of offspring given the genotypes of their parents, which are usually expressed using upper and lower-case letters. For 10 points each:

[10] Name these geometric objects which typically have four boxes, but can be expanded to incorporate multi-hybrid crosses. They assume Mendelian inheritance.

ANSWER: **Punnett squares**

[10] If two heterozygous dominant individuals mate, this fraction of their offspring will express the dominant phenotype.

ANSWER: **3/4** [or equivalents]

[10] This form of non-Mendelian inheritance is a mixing of two alleles (**UH-leelz**); for example, a red and white flower making a pink flower.

ANSWER: **partial dominance** [or **incomplete dominance**; accept word forms of either]



13. Arthur Scargill led a large strike of British workers who produced this substance in the 1980s. For 10 points each:

[10] Name this substance that was paired with "steel" in a namesake Community established by the Schumann Declaration.

ANSWER: coal [accept European Coal and Steel Community]

[10] The European Coal and Steel Community was a predecessor to this supranational organization, many of whose members now use a common currency.

ANSWER: EU [or European Union]

[10] This first chancellor of post-reunification Germany oversaw the passage of the Maastricht (**MAH-strict**) Treaty and the creation of the European Union.

ANSWER: Helmut Kohl [or Helmut Josef Michael Kohl]

14. This composer wrote a one-movement chamber piece based on a poem in which a woman tells her lover that she is pregnant with another man's child. For 10 points each:

[10] Name this composer who set Albert Giraud's poetry to music in *Pierrot Lunaire*.

ANSWER: Arnold Schoenberg

[10] Schoenberg pioneered this technique of composition in which each note in the chromatic scale is used once before any are repeated.

ANSWER: twelve-tone technique [or dodecaphony; prompt on serialism]

[10] Schoenberg's *Transfigured Night* is a string sextet scored for two of each string instrument except this lowest-pitched one.

ANSWER: bass [or double bass]

15. When this play's *anagnorisis* (**ah-nahg-NOR-uh-siss**) arrives, the chorus sings about how no one can escape fate. For 10 points each:

[10] Name this play that Aristotle called the greatest of Greek tragedies. This play's *peripeteia*, or reversal of fate, comes when its title king of Thebes learns that he had unwittingly murdered his father Laius and married his mother Jocasta.

ANSWER: Oedipus Rex [or Oedipus the King]

[10] This treatise by Aristotle identifies the plot elements of *peripeteia* and *anagnorisis*, or recognition. This oldest extant work of literary theory spends the bulk of its discussion on tragedy, which it views as the superior art form.

ANSWER: Poetics

[10] In *Poetics*, Aristotle theorizes that every great tragic hero has one of these traits, although it's unclear exactly what Oedipus' is. Most literary critics agree that Hamlet's version of this trait is his indecisiveness.

ANSWER: fatal flaw [or hamartia; accept tragic flaw; prompt on "flaws" or other reasonable equivalents]

16. The current in a wire can create an opposing voltage, this phenomenon's "self" form. For 10 points each:

[10] Name this phenomenon, where a change in current can create a corresponding change in magnetic field; it can also work in reverse.

ANSWER: induction [accept self-induction]

[10] This law named for a British scientist relates the emf (**e m f**) generated in a loop of wire to the magnetic flux through it. Its differential form involves the curl of the electric field.

ANSWER: Faraday's law of induction

[10] These devices can change the voltage of an alternating current with the help of induction. The change in voltage is inversely proportional to the number of turns of the wire.

ANSWER: transformers

17. Born from the intersection of the worlds of fire and ice, this inhabitant of Ginnungagap drinks milk from the udder of the cow Audhumla. For 10 points each:

[10] Name this ancestor of the jötnar (**YOH-toon**), whose body parts are used to forge the world. For example, Midgard is made from his eyebrows.

ANSWER: **Ymir** (**eeh-MEER**) [or **Aurgelmir**; or **Brimir**; or **Bláinn**]

[10] This chief god of the Norse pantheon teams up with his brothers Vili and Vé to slay Ymir and create the nine worlds.

ANSWER: **Odin** [or **Wotan**]

[10] In order to gain the knowledge to interpret the runes, Odin spends nine anguishing nights hanging from this enormous world tree.

ANSWER: **Yggdrasil** (**IGG-druh-sill**)

18. After this character attacks her cousin John Reed, she is sent to the Red Room, where she hallucinates the ghost of her dead uncle. For 10 points each:

[10] Name this governess who attends Lowood School and befriends Helen Burns, who dies from tuberculosis. This woman eventually tutors Adèle Varens, the adopted daughter of Mr. Rochester.

ANSWER: **Jane Eyre** [accept either first or last name; prompt on "Jane Elliot"; prompt on "Mrs. Rochester"]

[10] This cousin of Jane lives with his sisters Diana and Mary at Moor House. This man asks Jane to marry him and work as a missionary in India, but she refuses and flees back to Thornfield Hall.

ANSWER: **St. John** (**SIN-jin**) Eyre Rivers

[10] *Jane Eyre* was written and published by this author under the name Currer Bell.

ANSWER: **Charlotte Brontë** [prompt on "Brontë"]

19. These constructs can be formed from the intersection of two non-identical planes. For 10 points each:

[10] Name these straight objects, which in two dimensions can be defined as sets of points with coordinates  $x$  and  $y$  that satisfy the equation  $ax + by = c$ , for some real coefficients  $a$ ,  $b$ , and  $c$ .

ANSWER: **lines**

[10] The cross product of two vectors gives a third vector with this property with respect to both of the first. If two intersecting lines in the  $x$ - $y$  plane have this relationship and have nonzero slopes, the product of their slopes is negative one.

ANSWER: **perpendicularity** [or **orthogonality**; or other word forms]

[10] These sets contain linearly independent vectors that span a vector space.

ANSWER: **basis** [or **bases**]

20. An artist from this movement painted an *Annunciation* showing a kneeling Mary, in blue and red, with her right hand on her head. For 10 points each:

[10] Name this movement that included artists such as John William Waterhouse and Dante Gabriel Rossetti.

ANSWER: **Pre-Raphaelite** Brotherhood [or **Pre-Raphaelites**; accept **PRB**]

[10] This Dutch artist painted another *Annunciation* in which Gabriel has multicolored wings. This artist is probably more famous for creating the *Ghent Altarpiece* with his brother Hubert.

ANSWER: Jan **van Eyck**

[10] An artist from this Italian city, Fra Angelico, painted an *Annunciation* scene set at San Marco. The Medici family patronized many artists from this city where the Renaissance was centered.

ANSWER: **Florence** [or **Firenze**]

21. The two most common variants of this compound have peaks at 680 and 700 nanometers, which give the two photosystems their alternate names. For 10 points each:

[10] Name this green pigment which plays a key role in photosynthesis.

ANSWER: chlorophyll

[10] This process uses NADPH generated by the light-dependent reactions of photosynthesis to create molecules of G3P. In CAM plants, the main source of carbon for this process comes from malic acid generated at night.

ANSWER: Calvin-Benson cycle

[10] This incredibly abundant protein is used to incorporate carbon dioxide into the Calvin cycle. It is notoriously inefficient, with a low turnover number and a tendency to use oxygen in a process termed photorespiration.

ANSWER: RuBisCO [or ribulose-1,5-bisphosphate carboxylase/oxygenase]