

**Bulldog High School Academic Tournament 2018 (XXVII): After such knowledge, what forgiveness?**

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Edited by Jacob Reed, with Stephen Eltinge and Eddie Kim

**Packet 1 Tossups**

1. **This man’s second symphony begins in “3-4” time with the cellos and basses playing quarter notes “D, C-sharp, D” then a long “A” as the horns enter. He published several sets of short piano pieces as his Opuses 116 through 119. This friend of Joseph Joachim [YAW-khim] waited until he was 43 to write his C-minor first symphony, which he followed with three more. Early on, he lived with Robert (\*) Schumann and probably fell in love with Schumann’s wife, Clara. This composer’s fans liked to contrast him with Richard Wagner [VAHG-nur]. His first symphony was dubbed “Beethoven’s Tenth.” For 10 points, name this composer of *A German Requiem* and *Hungarian Dances*.**

ANSWER: Johannes Brahms <JR>

2. **These elements are found at the center of compounds that come in “*fac*” and “*mer*” isomers. Ions consisting solely of these elements are ordered in one of the two spectrochemical series. A class of compounds including these elements was first accurately described by Alfred Werner. The formulas of some non-polymer compounds containing these elements are written within square brackets. (\*) Ligands attach to these elements to form brightly-colored coordination complexes. These elements include the vast majority of those with an incomplete *d* shell. For 10 points, name these metals in the middle of the periodic table, exemplified by iron and copper.**

ANSWER: transition metals [prompt on just metals] <JW>

3. **The protagonists of a novel set in this country learn to eat foods like mealie-meal and pap. It’s the setting of a play in which Zachariah has his brother Morris meet his pen-pal Ethel Lange in his place. This country is the setting of a play in which the servants (\*) Sam and Willie prepare for a ballroom dance competition and the teenager Hally demands to be called the title name. It’s home to the author of *Blood Knot* and *Master Harold...and the Boys*, Athol Fugard. In this country, the title servant of a novel helps load a bakkie in which Maureen and Bam Smales escape a riot. Nadine Gordimer’s *July’s People* protests the Apartheid system of—for 10 points—what country?**

ANSWER: Republic of South Africa [or Republiek van Suid-Afrika; or iRiphabhuliki yaseNingizimu Afrika; or iRiphabliki yomZantsi Afrika] <CK>

4. **This civilization was one of the earliest to use the *labrys* double-headed axe. The earliest “oxhide” ingots to be found were used by this civilization. This civilization utilized a *rhyton*, or conical drinking vessel, for its libation ceremonies. They often painted depictions of “bull-leaping” and worshipped a “snake goddess.” This civilization supposedly broke up following the (\*) eruption of Thera. The untranslated script “Linear A” was used by this civilization, whose ruins were excavated by Sir Arthur Evans at Knossos. For 10 points, name this Bronze-age civilization based on Crete and named for a mythical king with a labyrinth.**

ANSWER: Minoans <SPQR>

5. Neopagans celebrate this many seasonal festivals collectively known as “The Wheel of the Year.” A member of a group of *this* many people had a dream in which he became rich and famous then lost all of his wealth, all of which occurred when he fell asleep cooking yellow millet. A set of this number of blessings opens the Sermon on the Mount. A set of this many doctrines begins with (\*) “right view” and “right resolve.” This is the number of Beatitudes. Daoists revere a group of this many “Immortals.” A doctrine named for this number is the last of the Four Noble Truths. Nirvana can be achieved through a “Noble” path of—for 10 points—what number of parts?

ANSWER: **eight** [accept **Eight** Immortals or Noble **Eight**fold Path] <AF>

6. This country’s Fatherland and Liberty group organised the “tank putsch.” In 1960, this country was hit by the largest earthquake of the 20th century. The successor to this country’s president Eduardo Frei secured power with the Schneider Doctrine. A president of this country stabilized the economy with the help of the (\*) “Chicago Boys” after seizing control in a 1973 CIA-backed coup. In 1971, a socialist president of this country nationalized its copper mines. Salvador Allende and Augusto Pinochet were presidents of—for 10 points—what South American country that has disputed Patagonia with Argentina?

ANSWER: Republic of **Chile** <MK>

7. The formation of these objects is modelled by the “disk instability” and “core-accretion” theories. These objects are proposed to have “migrated” in the Nice model. The strong magnetic fields of these objects are likely due to the presence of metallic hydrogen. One of these objects created the Kirkwood gaps; that object shares an orbit with (\*) Trojans thanks to its Lagrange points. The distinction between these objects and low-mass brown dwarfs is still debated. These astronomical objects are now contrasted with heavier, icy planets like Uranus and Neptune. Terrestrial planets are contrasted with—for 10 points—what large planets exemplified by Jupiter and Saturn?

ANSWER: **gas giants** [prompt on partial answer or planet; prompt on outer planets; prompt on Jovian planet; do not accept or prompt on “ice giants”] <JW>

8. A feminist activist in this country, who became famous after attacking a Diego Velázquez painting with a meat cleaver, later joined a fascist party here that used a lightning-bolt logo referred to as the “flash and circle.” The Soviet Union was accused of interfering in a 1924 election in this country after the publication of the forged (\*) Zinoviev letter. The architect of this country’s 1909 “People’s Budget” represented it at the Versailles Peace Conference. This country’s king abdicated in 1936 to marry the American divorcee Wallis Simpson. For 10 points, name this country that was ruled through World War II by George VI, who was succeeded by Elizabeth II.

ANSWER: **United Kingdom** [or **U.K.**; or Great **Britain**; prompt on England] <SE>

9. Pyotr Kapitsa proposed an unusual type of this object that can be held in an unstable equilibrium using a driving force. The moon’s interference supposedly causes these objects to move strangely during solar eclipses in the Allais effect. An enormous one of these objects inside Taipei 101 acts as a tuned mass damper. These objects are described by the equation (\*) “theta-double-prime plus  $g$  over  $L$  times theta equals zero” after applying the small-angle approximation. Their period is independent of mass and oscillation amplitude. A bob on a massless string describes—for 10 points—what example of a harmonic oscillator found in grandfather clocks?

ANSWER: **pendulums** [or **pendula**; prompt on simple harmonic oscillators] <SE>

10. Variations in this material’s “headers” and “stretchers” form different kinds of “bonds.” At the University of Virginia, Thomas Jefferson used this material in a “serpentine” pattern. Christopher Wren inserted a cone of this material between the inner and outer domes of St. Paul’s Cathedral. This is the most prominent material in the Federal-style (\*) Georgian architecture of Harvard University. Skyscrapers in this material include the Chrysler and Wainwright buildings. This material, along with stone and concrete blocks, is a typical component of masonry. For 10 points, name this material usually consisting of rectangular blocks of fired clay laid in mortar.

ANSWER: bricks [accept brickwork; prompt on masonry] <JW>

11. In this play, the audience hears a string break before a homeless man enters and the central woman gives him a valuable gold coin. A character in this play is addicted to billiards and gives an ode to a hundred-year-old bookcase. Its central woman rips up several unread telegrams from Paris, where she fled after the drowning of her son (\*) Grisha. It ends in the fourth act with an old servant lying on a couch in an abandoned house. Anya, the daughter of this play’s protagonist and the lover of the “eternal student” Trofimov, rebukes Lopakhin for developing over the title property. Lyubov Ranevskaya loses her estate at the end of—for 10 points—what play by Anton Chekhov?

ANSWER: *The Cherry Orchard* [or *Vishnevyyi sad*] <MK/JR>

12. A salt of this element gives proteins a uniform negative charge and denatures them in a common modification of PAGE. ANP and aldosterone have exactly opposite effects on concentrations of this element. The poison in poison dart frogs acts by increasing permeability to this element, causing massive cell depolarization. Deficiency of this ion is the most common (\*) electrolyte imbalance and is called hyponatremia. Three ions of this element are moved out of the cell in the most common transmembrane ATPase. The flavor *umami* is created by a compound containing this ion and glutamate. The kidneys excrete—for 10 points—what ion exchanged in a “pump” with potassium?

ANSWER: sodium [accept Na-plus] <AF>

13. This poet promised to “write my story for my better self” in a long poem that begins “Of writing many books there is no end.” This poet warned “God only, who made us rich, can make us poor” in a poem that opens “Let the world’s sharpness, like a clasp knife.” This poet claimed to do one action “with my childhood’s faith,” “purely, as they turn from Praise,” (\*) “freely, as men strive for Right,” and hopefully “but . . . better after death.” In that sonnet, this poet answered the opening question with “to the depth and breadth and height my soul can reach.” For 10 points, name this Englishwoman whose *Sonnets from the Portuguese* include “How do I love thee? Let me count the ways.”

ANSWER: Elizabeth Barrett Browning [prompt on just Browning; accept Elizabeth Barrett] <MK>

14. A splinter party named for this commodity was founded by Fred Dubois and Henry Teller. The Panic of 1893 led to the repeal of an act named for this good, and the Panic of 1873 was partly sparked by a reversal in policy toward this good. The government purchased it under the Bland–Allison and Sherman Acts. The first major source of this resource in the U.S. was discovered in (\*) what’s now Nevada in 1859. It was found at the Comstock Lode. The Populists advocated the monetization of this commodity, known as bimetallism. William Jennings Bryan’s “Cross of Gold” speech advocated the monetization of—for 10 points—what other precious metal?

ANSWER: silver [accept Ag; prompt on bullion; accept Sherman Silver Purchase Act] <MK>

15. **On this show, a man throws a vase at his wife in a drunken argument over a pregnancy, after which she puts a Z-Eye block on him. This show often features the song “Anyone Who Knows What Love Is.” A character on this show mocks another’s Labour Party platform as the animated bear (\*) Waldo. In one of its episodes, people ride exercise bikes to earn “Merits.” Everyone is rated from 1 to 5 in its episode “Nosedive.” On this show, Kelly falls in love with Yorkie, who turns out to be a locked-in old woman “living” in the simulated town of San Junipero. Technology’s impact on society is examined in—for 10 points—what *Twilight Zone*-like British sci-fi show on Netflix?**

ANSWER: ***Black Mirror*** <MK>

16. **This leader introduced the “June 28th” and “May 30th” measures in order to increase agricultural production in his nation. In May 2017, it was alleged that a “lumberjack” had been paid \$40,000 to assassinate this leader with “biochemical substances.” In February 2017, this leader’s half-brother was (\*) poisoned in Malaysia, likely at this leader’s orders. This leader, who befriended Dennis Rodman in 2013, claimed in his 2018 New Years speech that “a nuclear button is always on my desk,” prompting a Twitter retaliation from Donald Trump. For 10 points, name the current supreme leader of North Korea.**

ANSWER: **Kim Jong-un** [prompt on Kim] <JW>

17. **A philosophical survey by A.C. Graham is titled for *Disputers of this concept*. This concept was the first to be discussed in terms of a word meaning “natural” or “self-so.” The first line of a text states that the “this concept” that can be “this concept-ed” is not the eternal “this concept.” An “enigmatic female” is repeatedly discussed in a text that calls this concept the mother of the “ten (\*) thousand things.” An 81-section, 5,000 character text claims that harmony with this concept can be achieved through inaction or *wu wei*. “Virtue” or “De” is discussed alongside—for 10 points—what title concept of a text attributed to Laozi?**

ANSWER: the **Dao** [prompt on answers like “The Way” or “The Path”]; accept mispronunciations that sound like “Tao”; accept **Daodejing** or **Tao Te Ching**; accept **Disputers of the Tao** <JW>

18. **In this state, a woman fends off her romantic rival by telling Percy Gryce about the protagonist’s flaws, which include smoking and gambling on borrowed money. Judy Trenor hosts Lily Bart in its town of Bellomont in *The House of Mirth*. A narrator moves to this state from Minnesota to “learn the bond business” and recalls his father’s advice about people who “haven’t had the (\*) advantages that you’ve had.” In this state, that narrator is told about Goddard’s book *The Rise of the Colored Empires*, and meets Owl-Eyes and Meyer Wolfsheim at a party hosted by a millionaire who pines for Daisy Buchanan. *The Great Gatsby*’s West Egg is located in—for 10 points—what state?**

ANSWER: **New York** [or **NY**] <MK>

19. **A cross in this work’s central scene has Hebrew and Latin text on its head, while the scene above features a red robe with pearls on the hem spelling out Greek text. The middle three sections of its upper register are all topped by triple golden arches with Latin inscriptions. A woman with hands crossed over her white robe speaks a phrase that’s written (\*) backwards and upside down in this work’s “closed” view. Imitation-statue depictions of Cain and Abel sit above the nude Adam and Eve that flank the top half of this work. In the central panel of this work, a crowd kneels before the Lamb of God, who is bleeding into a chalice. For 10 points, name this altarpiece by Hubert and Jan Van Eyck.**

ANSWER: **Ghent** Altarpiece [prompt on answers that describe the *Adoration of the Lamb*] <JR>

20. According to Book 11 of the *Aeneid*, this group may include a member of the Volsci named Camilla; at various other times, the leader of this group is named as Myrina. During the nightmarish last days of the Trojan War, a leader of this group is killed by Achilles, who weeps over the corpse. During a great battle against Heracles and Theseus, many of their members are killed, including, according to some sources, (\*) Pen-the-silea [pen-theh-zih-LAY-uh]. For his ninth labour, Heracles retrieves the belt of one of these people named Hippolyta. These people are said to cut off their right breasts to shoot arrows better. For 10 points, name this tribe of warrior women in Greek mythology.

ANSWER: the Amazons [or the Amazones] <SPQR>

*Tiebreaker*

21. Five of these things at various distances appear in the background of Caspar David Friedrich's *The Stages of Life*. 30 years after painting *Hannibal*, J.M.W. Turner supposedly asked to be tied to one of these things during a snowstorm. One of these objects lies buried in the right middleground of an (\*) icy painting by Friedrich. One of these things titles a stormy painting that shows some shackled men being attacked by sea monsters. Survivors from one of these vessels are shown in the most famous painting by Théodore Géricault. *The Fighting Temeraire* was—for 10 points—what kind of vehicle that Turner painted being used by slavers?

ANSWER: ships [accept reasonable equivalents like boats; accept more specific answers like *The Slave Ship*; accept masts] (The Géricault painting is *The Raft of the Medusa*.) <JR>

## Bonuses

1. During his tenth labour, Heracles fights a two-headed variety of this animal named Orthrus. For 10 points each:

[10] Name this animal, another example of which is the enormous, three-headed Cerberus.

ANSWER: **dog** [accept *C. familiaris* or *Canis familiaris*; or obvious equivalents]

[10] This mythical hero is fatally weakened when he fulfills a curse by eating dog meat. Soon after, he is ambushed by Lugaid [LsOO-gahd], and ties himself to a tall stone so that he can die standing.

ANSWER: **Cú Chulainn** [or **Sétanta**]

[10] This hero's dog Cavall appears in a number of early Welsh myths. After the Battle of Camlann, this hero laments to Bedivere that he could save others around him, but failed to save himself.

ANSWER: King **Arthur** [or **Arthur** Pendragon] <SPQR>

2. This man's wife Elaine was known for large-brushstroke portraits of sitters like Fairfield Porter and John F. Kennedy. For 10 points each:

[10] Name this Abstract Expressionist artist of the violently abstracted *Woman* series.

ANSWER: Willem **de Kooning**

[10] De Kooning often copied images from the often grotesque work of this earlier artist. This man depicted a bagpiper, a man pouring wine into a jug, and two men holding a plank of pies in a painting of a recurring theme.

ANSWER: Pieter **Bruegel** the Elder (The painting is his *Peasant Wedding* of the 1560s.)

[10] Many of Elaine de Kooning's late paintings were inspired by Paleolithic paintings found in *these* locations. These places include Lascaux and Altamira, which feature hand-painted depictions of animals.

ANSWER: **caves** [accept **cave paintings**] <JW>

3. This man wrote the novel *Cabbages and Kings* while on the run from the law. For 10 points each:

[10] Name this American author, who coined the term "banana republic" in that work. He's best-known for short stories with twist endings like "The Last Leaf."

ANSWER: **O. Henry** [or William Sydney **Porter**]

[10] At the beginning of O. Henry's "A Retrieved Reformation," Jimmy Valentine has just left *this* kind of place. In *The Count of Monte Cristo*, Edmond Dantès is wrongfully sent to this kind of place in the Château d'If.

ANSWER: **prisons** [or **jails**; accept clear equivalents]

[10] In O. Henry's story "The Gift of the Magi", Della and Jim buy each other ironic Christmas presents after selling these *two* things; name the item that each person sells.

ANSWER: Della's **hair** AND Jim's **watch** (The presents are a comb and a watch chain) <MK>

4. In the short run, this process tends to reduce unemployment, since wages are sticky. For 10 points each:

[10] Name this process in which prices rise across the board.

ANSWER: **inflation**

[10] Quantities that have *not* been adjusted for inflation are described using this adjective. This kind of value is opposed to something's "real" value.

ANSWER: **nominal**

[10] While inflation is often measured using the Consumer Price Index, the Fed usually monitors inflation using *this* other consumption-based measure, which is "chain-based" and grows a bit slower.

ANSWER: **PCEPI** [or **personal consumption expenditure** price index] <JR>

5. The UN condemned atrocities suffered by these people in 2017 as “a textbook example of ethnic cleansing.” For 10 points each:

[10] Name this persecuted group of Muslims who live in Myanmar’s Rakhine State.

ANSWER: **Rohingya** [roh-WIN-juh]

[10] Rohingya refugees from Burma have poured into this Muslim-majority neighbor of Myanmar, where refugee camps in Cox’s Bazaar have been filled to capacity and then some.

ANSWER: People’s Republic of **Bangladesh**

[10] This Prime Minister of Bangladesh recently announced that she’s “firm” in her resolve to send nearly a million Rohingya back to Myanmar. She’s the sole surviving daughter of the country’s first PM, Sheikh Mujibur Rahman.

ANSWER: **Sheikh Hasina** Wazed [prompt on just Hasina] <HK>

6. This genre was first popularized in the U.S. by N.O.R.E.’s song “Oye Mi Canto.” For 10 points each:

[10] Name this genre that originated in 90s Puerto Rico. This soca-influenced genre uses the “3+3+2” rhythm in a manner similar to dembow, and this usually Spanish-language genre shares part of its name with an older genre.

ANSWER: **reggaeton** [do not accept or prompt on “reggae”]

[10] A recent reggaeton hit is this song by Luis Fonsi, whose music video is the most-viewed YouTube video of all time. Justin Bieber recorded a remix of this song, which takes its name from Fonsi’s desire to do things “slowly.”

ANSWER: “**Despacito**”

[10] The original version of “Despacito” featured this Puerto Rican rapper known as the “King of Reggaeton.” His other hits include “Gasolina,” a track on his third album, *Barrio Fino*.

ANSWER: **Daddy Yankee** [or Ramón Luis **Ayala** Rodríguez] <AF>

7. In the Great Plains, aggressive plowing and extended drought produced a series of dust storms that worsened the effects of this period. For 10 points each:

[10] Name this worldwide period of severe economic hardship, which was combated in the U.S. by Franklin Roosevelt’s New Deal.

ANSWER: **Great Depression**

[10] This New Deal agency, created in 1933, tried to curtail surpluses and raise commodity prices by paying farmers a subsidy *not* to plant crops like corn and wheat.

ANSWER: **Agricultural Adjustment Administration** [or **AAA**; accept **Agricultural Adjustment Act**]

[10] The advisors who devised the AAA included this newspaper editor from Iowa. He became Roosevelt’s first Secretary of Agriculture, then went on to succeed John Nance Garner as Vice President in 1941.

ANSWER: **Henry Wallace** [or **Henry Agard Wallace**; prompt on just Wallace] <SE>

8. A poem about this condition complains that the speaker’s “one talent” is “lodg’d with me useless.” For 10 points each:

[10] Name this condition lamented in a poem that ends by noting “They also serve who only stand and wait.”

ANSWER: **blindness** [accept “On His **Blindness**”]

[10] John Milton’s “On His Blindness” is a work in this 14-line poetic genre developed by Petrarch.

ANSWER: **sonnets**

[10] An epidemic of blindness is described in a novel by this author of *The Gospel According to Jesus Christ*. He died in 2010.

ANSWER: José (de Sousa) **Saramago** <MK>

9. This kind of scan is often used over MRI because it's faster and quieter. For 10 points each:

[10] Name this kind of tissue scan that's often combined with PET imaging. Many patients elect not to undergo this kind of scan due to its use of ionizing radiation and heavy metal-based contrast agents.

ANSWER: **CT** scan [or **computerized tomography**; accept **CAT** or **computerized axial tomography**]

[10] CT scans are produced using this kind of radiation, which is less energetic than gamma rays but more so than UV radiation. This kind of radiation is good for imaging hard tissue like bone.

ANSWER: **X-rays**

[10] To conduct a PET scan, you need to inject one of these radioactive labelling compounds, which emit the scan's namesake positrons. The concentration of this kind of substance shows the metabolic rates of various tissues.

ANSWER: **tracers** <JR>

10. This author wrote several plays starring Bérenger, including *Stroll in the Air* and *The Killer*. For 10 points each:

[10] Name this absurdist author who mostly wrote in French. In his most famous play, a group of people including Bérenger's love interest Daisy undergo a mysterious transformation.

ANSWER: Eugène **Ionesco** (The play is *Rhinoceros*.)

[10] Ionesco's *The Bald Soprano* doesn't actually feature a singer, but instead gets its name from a phrase spoken by man of *this* profession. Guy Montag ironically has this job title in *Fahrenheit 451*; a description is fine.

ANSWER: **fireman** [or **fire chief**; accept **firefighter** or *capitaine des pompiers*]

[10] Around the time Ionesco was writing *Rhinoceros*, a fellow Absurdist author was writing *this* play, originally in French. This play's set includes a periscope and two trash cans.

ANSWER: **Endgame** [or **Fin de partie**] <MK/JR>

11. This man wrote a Christmas song usually translated as "O Holy Night." For 10 points each:

[10] Name this French composer who included ghosts called "Wilis" in his ballet *Giselle*. He also wrote *Le Corsaire*.

ANSWER: Adolphe (Charles) **Adam**

[10] The best-known choreographies of *Giselle* and *Le Corsaire* were made by Marius Petipa, a choreographer from this country. Petipa also choreographed the original production of *The Nutcracker*, a ballet from this country.

ANSWER: **Russia** [or **Rossiya**]

[10] Later Russian choreographer Michel Fokine choreographed a solo dance for Anna Pavlova depicting this animal "dying." The ballet was set to this animal's number in *Carnival of the Animals*, which is for cello and pianos.

ANSWER: "The **Swan**" [or "Le **Cygne**"; accept *The Dying Swan*] <JR>

12. In an ideal plasma, these objects are "frozen in" and move along with the plasma. For 10 points each:

[10] Name these visual aids that are drawn looping around electric currents, but never actually touching them.

ANSWER: **magnetic field lines** [prompt on partial answer]

[10] Field lines are useful because they depict both the direction and strength of electric and magnetic fields. The direction is indicated by drawing arrows on the lines; what property indicates field strength? A description is fine.

ANSWER: **density** of lines [accept answers describing **how close together** they are or **how many of them** there are]

[10] The *electric* field lines of a point charge draw together near the charge, illustrating this law named for a Frenchman, by which the electrostatic force between charged particles varies with the inverse square of the distance.

ANSWER: **Coulomb**'s law <SE>

13. An agreement between these two countries was followed within a few decades by the Treaty of Zaragoza. For 10 points each:

[10] Name these two Iberian countries who divided up the New World in the Treaty of Tordesillas.

ANSWER: Kingdom of **Spain** [or Reino de **España**] AND Kingdom of **Portugal** [or Reino de **Portugal**]

[10] This pope, whose son Cesare inspired Machiavelli's *The Prince*, authored the Treaty of Tordesillas. This pope also promulgated the bull *Inter Caetera* in 1493.

ANSWER: **Alexander VI** [or **Rodrigo Borgia**; or **Rodrigo de Borja y Doms**; prompt on partial answers]

[10] Alexander VI also excommunicated this political rival of his. This Dominican friar inspired a cult of followers called the "Piagnoni," [pyah-NYOH-nee] or "Wailers."

ANSWER: Girolamo **Savonarola** <SPQR>

14. These events jettison tephra into the air, and they form rocks called tuff. For 10 points:

[10] Name these events that violently expel lava and ash. On a namesake index, their strength is labeled as "Hawaiian," "Strombolian," "Vulcanian," "Peléan," or "Plinian."

ANSWER: volcanic **eruptions** [accept **Volcanic Explosivity** Index]

[10] This kind of basaltic lava flow occurs when lava flows rapidly, causing rapid heat loss and increased viscosity. It has a sharp-edged, brittle, "bubbly" appearance.

ANSWER: **'a'a** [ah-ah]

[10] An explosive volcanic eruption can form one of *these* sinkhole-like features at the top of the mountain.

ANSWER: **calderas** [prompt on **craters**] <HK>

15. During the so-called "Iranian Intermezzo," this state lost real power in Persia to the Turkic Buyids, Samanids, and Saffarids. For 10 points each:

[10] Name this state that was finally destroyed with the 1258 sack of Baghdad.

ANSWER: **Abbasid** Caliphate

[10] Baghdad was sacked by the empire of these people, which was by then ruled by Genghis Khan's grandson, Möngke.

ANSWER: **Mongols**

[10] The rise of the Turkic powers began when caliph Al-Mu'tasim moved the Abbasid capital from Baghdad to this other city in modern Iraq, which he built. This city's mosque has a spiral minaret.

ANSWER: **Samarra** <JR>

16. Surah al-Takvir explicitly bans this practice, noting that its victim will bear witness on the Day of Judgment against the perpetrators. For 10 points:

[10] Name this sexist practice that was common in the Arabian peninsula before the advent of Islam. This practice is still widespread in China.

ANSWER: **female infanticide** [accept reasonable equivalents like "**killling female infants**"; prompt on partial answer]

[10] Married Muslim women also have the right to demand this action, which in the Qur'an is called either *intifada* or *talaq* depending on which party in the marriage chooses to request it.

ANSWER: **divorce**

[10] The Qur'an enumerates a number of property rights for women, perhaps inspired by the success of *this* older business woman that Muhammad married when he was 25 and she was 40.

ANSWER: **Khadija** bint Khuwaylid <HK>

17. St. Mark's Basilica was once this elected ruler's private chapel. For 10 points each:

[10] Name this elected Italian ruler who was addressed by the style "Your Serenity." The holder of this title annually rode the bucentaur to drop a ring into the ocean in a symbolic "Marriage of the Sea."

ANSWER: **Doge** [DOH-jay] [prompt on **Duke**]

[10] The Doges ruled over this Italian city, which was built on wooden foundations in a lagoon of the Adriatic.

ANSWER: Most Serene Republic of **Venice**

[10] To counter Venice's huge power, almost all of Europe joined Pope Julius II's "League" named for *this* French city. The Peace that ended the Italian Wars was signed in a town called Le Cateau named for being near this city.

ANSWER: **Cambrai** [accept League of **Cambrai**; accept Peace of Cateau-**Cambrésis**] <SPQR>

18. Tarapada successfully escapes his impending marriage to a zamindar's daughter in this author's short story "Atithi." For 10 points each:

[10] Name this man who depicted an ideological battle between the pacifist Nikhil and the revolutionary Sandip in *The Home and the World*.

ANSWER: Rabindranath **Tagore** [accept "**Takhoor**" or "**Gurudev**"]

[10] Tagore was the first Nobel laureate to come from this country. This is also the home of Arundhati Roy and the Sanskrit poet Kalidasa.

ANSWER: Republic of **India**

[10] This Tagore poem is addressed to a "dispenser" of destiny with a name that "echoes" in the hills of the Himalayas. The title figure of this Indian national anthem is the "ruler of the minds of all people".

ANSWER: "**Jana Gana Mana**" <MK>

19. Hammond's postulate states that this entity's structure depends on its relative energy difference with respect to nearby species on a reaction coordinate. For 10 points each:

[10] Name these temporary configurations, which require a reaction's activation energy to form.

ANSWER: **transition states** [or **activated complexes**]

[10] Transition state theory can be used to derive Eyring's formula for a constant describing *this* property of a reaction, which depends on temperature and reactant concentration. This value quantifies how fast a reaction occurs.

ANSWER: reaction **rate** [prompt on **k**]

[10] An integrated rate law is expressed in terms of reactant concentrations and *this* quantity. For a first order equation, the difference of the logarithms of the reactant concentrations equals negative *this* term.

ANSWER: minus **k-t** [or **rate constant** times **time**] <AF>

20. This man wrote "September Song" with Maxwell Anderson, and he wrote "Alabama Song" for a play about the city of Mahagonny. For 10 points each:

[10] Name this composer who wrote "Mack the Knife" and "Pirate Jenny" for *The Threepenny Opera*, which he wrote with Bertolt Brecht.

ANSWER: Kurt (Julian) **Weill**

[10] This trumpeter made the first major hit recording of "Mack the Knife," where he showed off his signature gravelly voice. He pioneered scat with his song "Heebie Jeebies," and later recorded "What a Wonderful World."

ANSWER: Louis **Armstrong** [prompt on **Satchmo** or **Pops**]

[10] This jazz singer included a politically-charged recording of "Pirate Jenny" on the album that introduced her protest song "Mississippi Goddam."

ANSWER: Nina **Simone** [or Eunice Kathleen **Waymon**] <JR>

*Tiebreaker*

21. For 10 points each—identify the following about our understanding of atomic nuclei:

[10] Atomic nuclei were shown to be tiny masses at the center of atoms in an experiment in which students of Ernest Rutherford fired alpha particles at a thin foil of *this* precious metal.

ANSWER: **gold** [accept Rutherford's **gold** foil experiment]

[10] Just like electrons, nuclear protons and neutrons are organized into shells. Those shells arise because, as identical fermions, protons and neutrons are subject to this rule that restricts their possible quantum states.

ANSWER: Pauli **exclusion** principle [accept **Pauli** principle]

[10] The residual strong force that binds nuclei together is mediated by *this* set of three very light mesons. Predicted by Hideki Yukawa, these particles were discovered in 1947 by Cecil Powell.

ANSWER: **pions** <SE>