

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

Written by Yale Student Academic Competitions (Stephen Eltinge, Adam Fine, Isaac Kirk-Davidoff, Hasna Karim, Michael Kearney, Moses Kitakule, Jacob Reed, James Wedgwood, Sid Carlson White, and Bo You), Clare Keenan, and Eddie Kim  
Edited by Jacob Reed, with Stephen Eltinge and Eddie Kim

**Packet 11 Tossups**

1. *Description acceptable.* **Bryan Fogel’s documentary *Icarus* describes his meeting with a major figure in *this* scandal. Samuel Schmid was the chair of a group that looked into this controversy, which was also investigated by the Oswald Commission. A person involved in this scandal described how materials were passed from Room 125 to Room 124 through a hole in the wall; that person was the doctor (\*) Grigory Rodchenkov, and the materials were urine samples. This controversy led to an important December 2017 decision by the IOC. For 10 points, identify this scandal that led to a certain country’s exclusion from the 2018 Winter Olympics.**

ANSWER: **Russian doping** scandal [accept any equivalent description; prompt if **Russia** isn’t mentioned] <JW>

2. **The consul Gaius Popillius Laenas supposedly ended an invasion of this region by drawing a circle around the enemy commander, ordering him not to move out of it. Juvenal was banished to this region, and an earlier author, Cornelius Gallus, served as its first prefect. Many citizens in this region were tax exempt, likely because it served as the Roman empire’s largest (\*) grain provider. Following his defeat at Pharsalus, Pompey fled to this region, where his pickled head was presented to Caesar. This region became a Roman province after the defeat of Antony at Actium. For 10 points, name this region where Ptolemy XV and Cleopatra were the last pharaohs.**

ANSWER: Roman **Egypt** [or **Aegyptus**] <SPQR>

3. **One soccer player from this country was arrested during a sex tape scandal after blackmailing a teammate from the national team. This country is the birthplace of an Atlético Madrid forward known for a celebration inspired by “Hotline Bling.” Edinson Cavani is the current all-time leading scorer of one of this country’s clubs, where he plays with teenage sensation Kylian (\*) Mbappé and a Brazilian who’s the current most-expensive player in the world. A player for this country retired after an infamous headbutt in the 2006 World Cup final. Neymar left Barcelona for a club from—for 10 points—what home of Real Madrid manager Zinedine Zidane and the club Paris Saint-Germain.**

ANSWER: **France** [or **French Republic**; or **République Française**] <MK>

4. **In a play titled for one of these people, Bosola uses some apricots to uncover a widow’s pregnancy. The wife of John of Gaunt was commemorated in a poem titled for one of these people by Geoffrey Chaucer. One of these people is murdered by her brothers in a play by Richard Webster set in (\*) Malfi. A poem titled for one of these people ends by describing Claus of Innsbruck’s bronze sculpture of Neptune. In that poem, one of these women has a “spot of joy,” was “painted on the wall” by Fra Pandolf, and had “a heart too soon made glad.” Robert Browning had a Ferrarese nobleman reminisce about his “Last” one of—for 10 points—what kind of noblewoman?**

ANSWER: **duchess** [accept *The Duchess of Malfi*, *The Book of the Duchess*, or “**My Last Duchess**”] <MK>

5. **The linearization of the Lotka-Volterra equation near these points is called the community matrix. This is the term for a constant solution to a differential equation, which can be classified by the second derivatives at that point. Gradualism is contrasted with an evolutionary theory emphasizing (\*) long periods of a condition with this name, that was developed by Eldridge and Gould. If, in a two player game, neither player can improve their payoff without the other person changing their decision, then they are in a type of this condition. If the net force on a system is 0, it is in the “static” form of this condition. John Nash names a type of—for 10 points—what state in which a system does not change?**

ANSWER: **equilibrium** [accept punctuated **equilibrium**; accept Nash **equilibrium**; accept **equilibrium** point; accept mechanical **equilibrium**; accept static **equilibrium**; accept word forms] <AF>

6. *Description acceptable.* **Artworks of this kind were the specialty of the so-called “Little Masters” of the early 16th century. A Rembrandt work of this kind depicting Christ healing the sick is nicknamed for its price of 100 guilders. A work of this kind includes a skull above a sleeping dog next to a lion. Another work of this kind depicts a winged figure, an (\*) hourglass, an odd polyhedron, and a magic square. They can be made with intaglio techniques like etching and engraving. A trio of works of this kind—*Saint Jerome in His Study*; *Melencolia I*; and *Knight, Death, and the Devil*—were made by Albrecht Dürer. For 10 points, name these artworks made by pressing an inked-up plate or block against paper.**

ANSWER: **prints** [until they're mentioned, accept **etchings**, **engravings**, **woodblocks**, or **woodcuts**; accept ***Hundred Guilder Print***] <JR>

7. **This character, whose name derives from the word for “schism,” begins the novel in rags, having not eaten for two days. This character writes an article about people who have the ability to speak a “new word.” In Chapter I, this protagonist walks “in hesitation” towards K. bridge, having succeeded in his attempt to evade his (\*) landlady. This student, who considers himself an “extraordinary man” like Napoleon, disapproves of his sister Dunia’s betrothal to the lawyer Luzhin, and first confesses to the prostitute Sonya. For 10 points, name this murderer of the pawnbroker Alyona, the protagonist of Dostoyevsky’s *Crime and Punishment*.**

ANSWER: **Rodion** (Romanovich) **Raskolnikov** [accept either underlined portion] <MK>

8. **This quantity is held constant in all three canonical ensembles. Reactions in which the change in this quantity is zero are known as isochoric. The “*b*” parameter in the Van der Waals equation reflects a reduction in the effective value for this quantity. In reactions where the change in this quantity is zero, the change in internal energy equals the heat. This quantity is held constant in an ideal (\*) bomb calorimeter. Boyle’s law describes an inverse relationship between this quantity and pressure. For 10 points, name this quantity that equals “*n-R-T over P*,” which represents how much space a substance occupies.**

ANSWER: **volume** [prompt on V] <AF>

9. **The original set for one of this composer’s ballets included two minimalist steps leading up to a platform with a sculpture inspired by a rocking chair. Eugene Loring choreographed a ballet by this man that ends with the title character’s death, followed by a return to the “open” fifths of the beginning. This composer excerpted *Four Dance Episodes* from a collaboration with (\*) Agnes de Mille. That ballet by him includes a “Saturday Night Waltz.” Isamu Noguchi designed the set for a Martha Graham-choreographed ballet by this man that ends with variations on “Simple Gifts.” For 10 points, name this American composer of *Billy the Kid* and *Appalachian Spring*.**

ANSWER: Aaron **Copland** <JR>

10. **This man inspired Thomas Malthus with his *Observations Concerning the Increase of Mankind*. This man recounted how he held “three great puffy rolls” while meeting his future wife, Deborah Reade, as recounted in his *Autobiography*. This man drew up the plan adopted at the Albany Congress. This first (\*) Postmaster**

General wore a coonskin cap to enhance his image as a “rustic” while serving as the first ambassador to France. This publisher of the *Pennsylvania Gazette* wrote the best-selling *Poor Richard’s Almanack*. The cartoon *Join or Die* was drawn by—for 10 points—what Founding Father who invented bifocals and the lightning rod?

ANSWER: Benjamin Franklin <JW/JR>

11. **The title figure of this poem was inspired by the character Grip from *The Mystery of Edwin Drood*. This poem’s author recounted its creation in his essay “The Philosophy of Composition.” This poem describes the “silken, sad, uncertain rustling” of some purple curtains. This poem’s speaker explains away a sound as “some visitor...(\*) only this and nothing more.” Its speaker asks “is there balm in Gilead?” and tells the title figure to return to “the Night’s Plutonian shore.” This poem, which features a “bust of Pallas,” is set on a “midnight dreary” as the narrator mourns the death of Lenore. For 10 points, name this Edgar Allan Poe poem, whose title bird repeats the word “Nevermore.”**

ANSWER: “The Raven” <MK>

12. **In an 1808 symphony, this note is quietly repeated by the timpani during the mysterious transition from the Scherzo to the triumphant Finale. This note’s minor key was used for the *Choral Fantasy* and *Coriolan Overture*. Beethoven used this note’s minor key for his last piano sonata, and his first symphony is in its major key. Chopin used this note’s (\*) major key for his first Prélude and Étude, which were both inspired by Bach’s prelude in this key, the first in the *Well-Tempered Clavier*. Beethoven’s Fifth begins in its minor key, which has a key signature of three flats, and ends in its major key, which has no sharps or flats. For 10 points, name this note found at the “middle” of the piano.**

ANSWER: C [accept C Major or C minor; accept middle C; accept do] <JR>

13. **One ruler with this name conquered the kingdoms of Anglia and Mercia and destroyed the Northumbrians at the Battle of Tettenhall. The state of England under a king of this name is supposedly recorded by the Domesday Book. That king with this name brought the Godwins back from exile. Alfred the Great’s son and successor was dubbed the (\*) “Elder” king of this name. The funeral of a ruler with this name forms the opening scene of the Bayeux tapestry, as his death and succession by Harold precipitated the Norman invasion. For 10 points, give this name of the English king who began construction of Westminster Abbey and was known as “The Confessor.”**

ANSWER: Edward [accept Edward the Elder or Edward the Confessor] <SPQR>

14. **This book’s protagonist builds a mansion with wings for each of the seasons and directions, which house his four most important lovers. This novel’s author appears in it as a preteen who is raped by the title character. At the end of chapter 1, its protagonist marries the Minister of the Left’s daughter, who, like his second wife, dies of being (\*) possessed by a jealous spirit. It ends with 10 chapters about the protagonist’s grandson and the son of his “Third Princess” after the death of the title “Shining Prince” in the blank chapter “Vanished into the Clouds.” The title womanizer marries Lady Aoi in—for 10 points—what novel from around the year 1000 by Lady Murasaki Shikibu?**

ANSWER: *The Tale of Genji* [or *Genji Monogatari*] <MK>

15. **The secondary form of this structure is substantially larger in sclereid cells. After auxins decrease the pH, these structures are loosened by expansins in acid growth. They are separated from each other by the middle lamella, which is mostly made of pectin. Connections through these structures are made via (\*) plasmodesmata. This structure derives from the “plate” formed during cytokinesis. These structures can include lignin. The rigidity of these structures depends on a cell’s turgor pressure. They’re made of chitin [“KITE”-in] in fungi and cellulose in plants. For 10 points, name this tough structure that surrounds the cell membrane.**

ANSWER: cell walls [prompt on just wall; do not accept or prompt on “cell membrane”] <JR>

16. After one of these events, the practices of *tahara* are typically overseen by a local *hevra kadisha*. This kind of event is followed by the *shloshim*, and *yizkor* prayers are said following them. After one of these events, some people make a *keriah* by ripping their shirt, and they do not wear leather, shower, or shave for seven days. Traditionally, the *Sh'ma* is supposed to be the last thing recited before this kind of event. These events are annually (\*) commemorated using a *yahrzeit* candle. After one of these events, relatives “sit *shiva*” and say the *Kaddish* for 11 months. For 10 points, name this kind of event immediately followed by a Jewish funeral.

ANSWER: deaths [accept reasonable equivalents] <JR>

17. Evidence for ancient dentistry has been found near this river in the form of the earliest bow drills. It's not in Mexico, but the earliest traces of cotton cultivation have been found near this river. People near this river made thousands of square seals decorated with animals and a still-undeciphered writing system. A city on this river sported a huge Great Bath and had the oldest known (\*) flush toilets. This river was home to major cities by 3000 BC, or around the same time as at Norte Chico, the Nile, the Yellow River, and Mesopotamia. The cities of Mohenjo-Daro and Harappa were centers of a Bronze Age civilization in the valley of—for 10 points—what river of modern Pakistan?

ANSWER: Indus River [accept Indus Valley Civilization] <JR>

18. One type of this quantity is equal to the product of electron mobility and the applied electric field. That type of this quantity, which is multiplied by number density and charge to give the current density, is its “drift” type. A particle's cyclotron radius is proportional to the perpendicular component of this quantity. For a wave, one can define both a “phase” and a “group” type of this quantity. Magnetic fields only act on charged particles with a (\*) nonzero value for this quantity, since the cross product of this quantity with the magnetic field appears in the Lorentz force law. For 10 points, name this vector quantity equal to the rate of change of position.

ANSWER: velocity [prompt on speed] <SE>

19. During a duel, this character grabs his opponent's helmet and drags him along the ground, until Aphro-dite suddenly whisks his opponent away. The epithet *xan-thos* [ZAAAN-thohss] used to describe this character is frequently taken to mean “red-haired”. This successor to Tyn-dareus fathers Mega-penthes [“MEGA”-PEN-theez] to express his great sorrow from being away from people such as his daughter (\*) Hermione. While this man is away at his grandfather's funeral, his wife is kidnapped by Paris, and “a thousand ships” are launched to rescue her. For 10 points, name this king of Sparta and husband of Helen of Troy.

ANSWER: Menelaus <SPQR>

20. The sections of a three-part book by this man usually begin with a three-part series of difficulties, described by a phrase meaning “it seems not.” This man argued that a good deed with an intended good effect is morally OK, even if it has a negative consequence like killing someone. This philosopher, who invented the principle of (\*) double effect, elaborated on an idea from Augustine's *City of God* to outline the conditions for a just war. In his major work, he uses the phrase “*sed contra*” to begin counterarguments to over 500 questions. For 10 points, name this saint and scholastic philosopher who gave five arguments for the existence of God in the *Summa Theologica*.

ANSWER: Thomas Aquinas <JR>

*Tiebreaker*

21. After the battle of Trafalgar, Horatio Nelson's body was supposedly sent back to England in this substance. The New South Wales Corps gained its nickname due to its stranglehold on distribution of this product. The Captain during the Mutiny on the *Bounty*, William Bligh, was deposed as governor of New

**South Wales in an 1808 (\*)** Rebellion named after this substance. In the triangle trade, this was the Caribbean's main export to Africa, since sugar was sent to Europe and its colonies. Pirates consumed this product as bumbo, while the Royal Navy mixed it with water to make grog. For 10 points, name this alcoholic drink made from molasses.

ANSWER: rum [accept Rum Corps or Rum Rebellion] <SPQR>

## Bonuses

1. Psychologists working in this paradigm formulated a series of grouping principles that account for the effects of proximity, similarity, symmetry, and continuity. For 10 points each:

[10] Name this early 20th-century brand of psychology that focused on how perceptions of wholes influence perceptions of parts, and vice versa.

ANSWER: **Gestalt** psychology

[10] Gestalt studies often employed *these* images, including the Rubin “vase” that looks like a pair of faces if you perceptually reverse the figure and the ground. These images often “trick” the eye about lengths or colors.

ANSWER: optical **illusions** [prompt on ambiguous images]

[10] This Polish-American Gestalt psychologist advertised his most famous study as a vision test, when in reality it was actually an experiment in social psychology.

ANSWER: Solomon (Eliot) **Asch** (The experiment actually studied social conformity.) <BY>

2. During the Gigantomachy, Athena hurls Mount Etna onto this island, where it crushes the terrible giant Enceladus. For 10 points each:

[10] Name this large Italian island where the city-state of Syracuse was the site of a festival commemorating the abduction of Persephone.

ANSWER: **Sicily** [or Sicilia; accept Thrinacia]

[10] This god’s cattle graze the marvellous grass on Sicily...until they are butchered by the foolish men of Odysseus during their journey home. This god was sometimes identified with one aspect of Apollo.

ANSWER: **Helios**

[10] A year after this character’s death, he is buried on the shores of Sicily and honoured with funeral games. Soon afterwards, he appears in the underworld to introduce his son to gates of horn and ivory.

ANSWER: **Anchises** <SPQR>

3. For 10 points each—answer the following questions about farads:

[10] Farads are the SI unit used to measure the strength of what circuit components? They store electrical energy by placing opposite charges on a pair of separated plates.

ANSWER: **capacitors** [or condensers; accept capacitance]

[10] The farad is far too large a unit for practical use. The strength of most everyday capacitors is instead reported in terms of what smaller unit, which is denoted “mu-F”?

ANSWER: **microfarads** [prompt on millionth of a farad]

[10] Capacitors are often combined with resistors in RC circuits, in which the product of capacitance and resistance plays an important role. What SI unit is equal to one farad of capacitance times one ohm of resistance?

ANSWER: one **second** [prompt on time] (The quantity  $R$  times  $C$  gives the “time constant” for exponential decay in an RC circuit.) <SE>

4. For 10 points each—answer the following about colonial Canada:

[10] The basis of Canada’s colonial economy was the trade in *this* good, from which luxury garments could be made. It was often made by killing, or “trapping,” beavers.

ANSWER: **furs** [accept pelts]

[10] This Breton explorer conducted some of the earliest fur trading in what is now Canada. Like Samuel Champlain, this explorer mapped the Gulf of Saint Lawrence and claimed Canada for France.

ANSWER: Jacques **Cartier**

[10] The French and Indian War was preceded by this war of the 1740s that included the Duc d’Anville’s expedition. In this war, Americans took Louisbourg; it was ended along with its parent conflict by the Treaty of Aix-La-Chapelle [“X” la shah-PELL].

ANSWER: **King George’s** War [prompt on War of the Austrian Succession] <SPQR>

5. This man was the first of Jesus' twelve disciples to be martyred. For 10 points each:

[10] Name this disciple known as the "Greater" in order to distinguish himself from two other Biblical men with the same name. According to the Acts of the Apostles, Herod had him executed by the sword.

ANSWER: **James** the Greater [or **James**, son of Zebedee; do not accept or prompt on "James the Just" (Jesus's brother) or "James, the son of Alphaeus"]

[10] James is the patron saint of this country. In this country, pilgrims often visit St. James's supposed remains after travelling a namesake "way."

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

[10] James the Greater's brother had *this* name and wrote the Book of Revelation while exiled on the island of Patmos. A man with this name wrote the Gospel following Matthew, Mark, and Luke.

ANSWER: **John** the Apostle [or **Ioannes**; or **Yohanan**; accept **John** the Evangelist or **John** of Patmos] <MK>

6. This technique can yield an "indeterminate" result, especially for organisms like the tuberculosis bacterium. For 10 points each:

[10] Name this technique named for a Danish scientist, which classifies bacteria as "negative" or "positive" based on how well they retain crystal violet dye.

ANSWER: **Gram** staining [prompt on just staining]

[5+5] The cell walls of Gram-positive bacteria contain large amounts of peptidoglycan, which is made up of two compounds: a glucose derivative and an acid. For 5 points each, name both compounds.

ANSWER: *N*-**acetylglucosamine** [or **NAG** or **GlcNAc**]

*N*-**acetylmuramic** acid [or **NAM** or **MurNAc**]

[10] Many Gram-positive bacteria fall into this general category of roughly spherical bacteria. As its full name suggests, strep throat is caused by a bacterium of this shape.

ANSWER: **cocci** [or **coccus**; accept **coccal**; accept **Streptococcus**] <HK>

7. Aristotle said this genre was "a representation of inferior people." For 10 points each:

[10] Name this genre, whose "New" and "Old" varieties were practiced by Aristophanes and Menander. It often employs courtesans, parasites, and boastful soldiers as stock characters.

ANSWER: Ancient Greek **Comedy**

[10] In this comedy, Calonice and the title character hatch a plan to end the Peloponnesian War. Near its opening, the old women of Athens take the Acropolis.

ANSWER: **Lysistrata**

[10] In Attic comedies like *Lysistrata*, this term refers to the debate that develops between the actor and chorus. In the *Iliad*, this concept, which means "struggle" in Greek, is reflected by a contest of allegiance between the gods and goddesses.

ANSWER: **agon** <SPQR>

8. This man resigned his first term as foreign secretary in protest of Neville Chamberlain's appeasement policy. For 10 points each:

[10] Name this Prime Minister who was Churchill's foreign secretary for most of World War II.

ANSWER: Sir Anthony **Eden**

[10] Anthony Eden was forced to resign as Prime Minister after a "crisis" involving control over *this* canal that connects the Mediterranean to the Red Sea.

ANSWER: **Suez** Canal

[10] Eden was a member of this political party of Harold MacMillan and Benjamin Disraeli.

ANSWER: **Conservative** Party [accept **Tories**] <SPQR>

9. This composer wrote most of his works for the girls and women of the Venice *Ospedale della Pietà*

[oh-spay-DAH-lay deh-lah pyay-TAH]. For 10 points each:

[10] Name this Italian Baroque composer of *The Four Seasons*.

ANSWER: Antonio (Lucio) **Vivaldi**

[10] Vivaldi's *Winter* begins by slowly building up a chord, with the soloist playing *this* kind of ornament on top. This ornament quickly alternates between adjacent notes, and is often written with a wavy line.

ANSWER: **trills** [or **shakes**]

[10] Vivaldi's best-known sacred piece is a setting of this text from the Latin Mass, his RV 589.

ANSWER: **Gloria in excelsis Deo** <JR>

10. Don accidentally sells a valuable one of these items at the beginning of a 1975 play. For 10 points each:

[10] Name these items that Teach and Bob try to steal in a play by David Mamet. The play is titled for a particularly valuable series of them.

ANSWER: **coins** [accept buffalo **nickels**] (The play is *American Buffalo*.)

[10] In this other Mamet play, Dave Moss schemes to betray his foulmouthed Chicago firm by giving up leads to a competitor.

ANSWER: **Glengarry Glen Ross**

[10] *Glengarry Glen Ross* won the Pulitzer Prize for Drama, but was only nominated for *this* other drama award. It's common nickname is short for "Antoinette" Perry.

ANSWER: **Tony** Award <MK>

11. This company was profiled in a 1904 *History* by Ida Tarbell. For 10 points each:

[10] Name this company founded by John D. Rockefeller. After being ruled an illegal monopoly under the Sherman Antitrust Act, it broke up into what are now ExxonMobil, Chevron, and other companies.

ANSWER: **Standard Oil** Company Incorporated

[10] Tarbell's history was a leading example of *this* kind of journalism of the Progressive Era. Its practitioners included Lincoln Steffens and Jacob Riis [reess].

ANSWER: **muckraking** [accept word forms like **muckrakers**]

[10] This man formed part of the Supreme Court majority that broke up Standard Oil. This man later succeeded William Howard Taft as Chief Justice.

ANSWER: Charles Evans **Hughes** <SPQR>

12. This man's first commission was a group of sculptures with Miltiades as its central figure. For 10 points each:

[10] Name this sculptor and architect of the statue of Zeus at Olympia.

ANSWER: **Phidias**

[10] Phidias supposedly made heavy use of proportions based on this irrational number, which is apparently the most aesthetically pleasing. This number is supposedly symbolized "phi" in honor of Phidias.

ANSWER: **Golden** Ratio [accept any answer involving "**golden**," e.g. **golden mean**, **golden section**]

[10] Phidias supervised the making of *these* sculptures, which were originally part of the Parthenon Frieze. They're now located in the British Museum.

ANSWER: **Elgin** Marbles <SPQR>



13. This analytical technique only determines a compound's empirical formula, not its molecular formula. For 10 points each:

[10] Name this type of analysis, which infers the chemical formula of a carbohydrate from the number of moles of carbon dioxide and water it produces upon reacting with excess oxygen. A description is fine.

ANSWER: **combustion** analysis [accept answers that describe **burning** the sample; do not accept or prompt on "flame test"]

[10] Since the oxygen in combustion analysis is provided in excess, the carbohydrate to be analyzed is this type of reagent, whose amount controls the total yield of the reaction.

ANSWER: **limiting** reagent [or **limiting** reactant]

[10] Limiting reagents are important in this basic subfield of chemistry, which makes use of balanced chemical equations to predict the total amount of products that will result from a particular reaction.

ANSWER: **stoichiometry** <SE>

14. Many of this collection's stories center on the hunter Yermolay. For 10 points each:

[10] Name this early Realist collection of short stories which ends with a kind of summation in "Forest and Steppe." The title of one of its stories compares an indecisive nobleman to Hamlet.

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

[10] The *Sportsman's Sketches* were written by this Russian Realist, who most popularized the term "nihilism" with his character of Yevgeny Bazarov.

ANSWER: Ivan **Turgenev** (The nihilist Bazarov stars in Turgenev's *Fathers and Sons*.)

[10] In a story from *A Sportsman's Sketches*, Trifon Ivanych is a member of this profession from the "District." Another member of this profession named Yuri Zhivago sidelines as a poet in a novel by Boris Pasternak.

ANSWER: **doctor** [or **physician**; accept "A **District Doctor**" or *Doctor Zhivago*] <MK>

15. In one painting, this figure is depicted twice, once with arms outstretched between the Sun and Moon, and once facing away from us with an arm reaching toward some vegetation. For 10 points each:

[10] Name this figure who, in another painting from the same work, is shown reaching out to his left, almost touching a man who sits reclining on a green rock.

ANSWER: **God** the Father

[10] Those paintings were all made by Michelangelo for the ceiling of this Chapel in the Vatican. Later, Michelangelo painted his *Last Judgment* for the altar wall of this chapel.

ANSWER: **Sistine** Chapel [or Cappella **Sistina**; or Sacellum **Sixtinum**]

[10] The central part of the ceiling is framed by massive depictions of two kinds of people. Name both kinds; one set is Biblical while the other is Classical.

ANSWER: **prophets** AND **sibyls** <JR>

16. For 10 points each—answer the following about anthropogenic, or human-induced climate change:

[10] A large portion of anthropogenic climate change is due to increasing concentrations of *this* common greenhouse gas in the atmosphere. This gas is released by the combustion of fossil fuels.

ANSWER: **carbon dioxide** [or **CO2**]

[10] This potential strategy for combating global warming involves removing carbon dioxide from the atmosphere by capturing it and storing it elsewhere.

ANSWER: carbon **sequestration** [prompt on **geoengineering**]

[10] Although anthropogenic climate change is more sudden, climate change also occurs naturally due to variation in the Earth's orbit, roughly following *these* very long-term cycles named for a Serbian geophysicist.

ANSWER: **Milankovitch** cycles <JW>

17. For 10 points each—answer the following about quotes from Shakespeare’s *Romeo and Juliet*.

[10] The play’s prologue calls *these* two houses “alike in dignity.” Romeo and Juliet are members of these *two* feuding families; name both.

ANSWER: **Capulets** AND **Montagues**

[10] In Act 2, Scene 2, Juliet rebuffs Romeo’s attempt to swear a vow of love on this object, citing its “inconstant” nature, “lest that [Romeo’s] love prove likewise variable.”

ANSWER: the **moon**

[10] Later in the same scene, Juliet bids adieu to Romeo, saying “Good night, good night!” and then remarking that “parting” is *this*. Give the full, alliterative, three-word phrase.

ANSWER: parting is **such sweet sorrow** <JW>

18. Cheeses of this type include Gorgonzola, Stilton, and Roquefort. For 10 points each:

[10] Name this often smelly kind of cheese sporting “veins” of its namesake colorful mold.

ANSWER: **blue** cheese

[10] Roquefort, like feta and ricotta, is made from this kind of milk.

ANSWER: **sheep**’s milk [do **not** accept or prompt on “goat’s milk”]

[10] Roquefort has high levels of *this* compound, which gives both butter and vomit their smell. This compound is thought to be added to Hershey chocolate, which originally masked the initial stages of spoilage.

ANSWER: **butyric** acid [or **butyrate**; or **butanoic** acid; or **butanoate**] <JR>

19. For 10 points each—answer the following about the War of the Spanish Succession:

[10] The war was provoked by this French king’s attempt to seat his son on the Spanish throne. This “Sun King” ruled France for a whopping 72 years starting in 1643.

ANSWER: **Louis XIV** [or **Louis quatorze**; prompt on partial answers]

[10] Louis XIV’s Marshal Villars was wounded at this 1709 battle, a Pyrrhic victory for the Grand Alliance. This battle has been dubbed “The Bloodiest Battle of the Eighteenth Century.”

ANSWER: Battle of **Malplaquet**

[10] This general fought alongside the Duke of Marlborough at Malplaquet and also led troops at the Battle of Blenheim. This prince of Savoy led the armies of the Holy Roman Empire to victory against the Ottomans at Zenta.

ANSWER: Prince **Eugene** of Savoy <SPQR>

20. This is the only country in Central America with English as its official language. For 10 points each:

[10] Name that country, which was formerly known as British Honduras. In 1970, it moved its capital from a namesake city to Belmopan.

ANSWER: **Belize**

[10] Most of the population of Belize identifies with *this* term. This word refers to people with both European and Amerindian ancestry.

ANSWER: **mestizos**

[10] Belize is home to a relatively large number of colonies of *these* people, who speak a dialect of German called *Plautdietsch*. Along with a related group, these people are a major non-Lutheran group of the Pennsylvania Dutch.

ANSWER: **Mennonites** [prompt on **Anabaptists**; do **not** accept or prompt on “Amish”] <MK>

*Tiebreaker*

21. An extremely pale Jesus stands in a mirror-like river in this painter's highly geometrical *Baptism of Christ*. For 10 points each:

[10] Name this Early Renaissance painter of a tiny, mysterious depiction of *The Flagellation of Christ*. He also painted a double profile portrait of his employer Federico da Montefeltro facing his wife Battista Sforza.

ANSWER: **Piero** della Francesca

[10] Piero worked for the count of this Italian city, which is where Raphael was born. A painting named after this city features two maids rummaging through a chest of clothes, as well as a sleeping dog at the foot of a bed.

ANSWER: **Urbino** [accept *Venus of Urbino*]

[10] Like Masaccio and Donatello, Piero lived and worked in this century. The High Renaissance painters Leonardo, Michelangelo, and Raphael were all *born* during this century.

ANSWER: **15th** century [or **1400s**; or *quattrocento*] <JR>