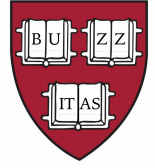


Harvard Fall Tournament X

Edited by Raynor Kuang and Robert Chu

Questions by Raynor Kuang, Robert Chu, Jason Park, Sriram Pendyala, Roger Jin, Erik Owen, Harrison Li, Mark Arildsen, Vimal Konduri, Adam Frim, and Jonah Phillion

And with thanks to Will Holub-Moorman, MIT Quiz Bowl, and various playtesters



Round 5

Tossups

1. **A character in this book writes an ode for a melted fountain pen and has several guilty dreams about her friend Hanneli. This book ends with the narrator wondering about what it would be like if there were “no other people in the world,” and the narrator earlier declares that “in spite of everything,” (*) “I believe [...] people are truly good at heart.”** The narrator of this book shares a kiss with Peter van Daan and is assisted by Miep Gies. The author’s father Otto helped publish this book written primarily during a two year stay in the Secret Annex. For 10 points, name this manuscript written by a young Jewish girl while hiding from the Nazis.

ANSWER: Diary of Anne Frank (or Diary of a Young Girl; accept basically anything mentioning “diary” and “Anne Frank”)

2. **The root-mean-square speed for particles in an ideal gas is equal to the square root of this number times R T over M. The electric field strength due to an electric dipole decays at this power of distance, and this constant is in the denominator of the moment of inertia of (*)** a rod rotated about one end. The semi-major axis is raised to this power in one of Kepler’s laws, and jerk is this derivative of position with respect to time. A “law” states that as the surface area grows by the second power, the volume instead grows by this power. For 10 points, give this number, the number of spatial dimensions.

ANSWER: three (accept third or cube)

3. **Several works by this composer end with a quarter note, two eighth notes, and another quarter note, considered this composer’s musical signature. Eight bell-like chords open one of this composer’s piano concertos, while the possibly inebriated conducting of Alexander Glazunov contributed to a disastrous premiere of his first (*)** symphony. This composer was inspired by an Arthur Bocklin painting when composing *Isle of the Dead*, and he composed 24 variations on a caprice by another composer. For 10 points, name this Russian composer of *Rhapsody on a Theme of Paganini*, who was also a pianist known for his very large hands.

ANSWER: Sergei Rachmaninoff

4. **Texts written by holders of this office include the Book of Homilies and the Thirty-Nine Articles, which was written by Matthew Parker. The current holder of this office is Justin Welby, while its first holder was named Augustine. One holder of this office was exiled after opposing the (*)** Constitutions of Clarendon, while another man with this title was burned at the stake for supporting Lady Jane Grey and was an advisor to Henry VIII. Four knights killed a holder of this office after misinterpreting an exclamation by Henry II. For 10 points, name this religious office held by Thomas Cranmer and Saint Thomas Becket, the head of the Church of England.

ANSWER: Archbishop of Canterbury (prompt on partial answer)

5. **Members of the 38th Street gang were arrested after Jose Diaz was murdered in this city, and Chief of Police William Parker coined the term “Thin Blue Line” while serving in this city. Soon Ja Du’s trial was held in this city, and Reverend Bennie Newton and Bobby Green Jr. were praised for (*) heroic actions in this city. The Sleepy Lagoon murder occurred in this city, leading to a series of riots named after the clothes of Mexican immigrants. This was the site of the Zoot Suit Riots, and Marquette Frye was arrested in this city’s neighborhood of Watts. For 10 points, name this city where policemen were acquitted in 1992 after severely beating Rodney King.**

ANSWER: Los Angeles

6. **The anti-Markovnikov regioselectivity of alkene hydrobromination suggests that it occurs via this type of mechanism. In the halogenation of alkanes, these intermediates are formed in the initiation step, which gives the reaction a fractional-order rate law. The tri-phenyl-methyl example of these species is (*) “persistent,” and they are denoted with “fish hooks” in mechanisms. Vitamin E is responsible for scavenging these compounds, and the use of UV light on peroxides can form these compounds. The overproduction of these species can lead to cellular damage. For 10 points, name these extremely reactive species that have unpaired electrons.**

ANSWER: free radicals

7. **Imagery in this poem include “[a] ghastly statue with one gray toe” and a “cleft in your chin instead of your foot.” The speaker of this poem thinks “I may well be a Jew” and remembers “barely daring to breathe or Achoo.” This poem mentions a vampire who drank the speaker’s blood for seven years, a reference to the author’s marriage to (*) Ted Hughes. This poem opens “you do not do, you do not do,” and it describes a “man in black with a Meinkampf look.” The speaker of this poem tells the title figure “you bastard, I’m through” after comparing him to a Nazi. For 10 points, name this poem by Sylvia Plath.**

ANSWER: “Daddy”

8. **This country was the recipient of military aid in Operation Nickel Grass. In 1967, forces from this country attacked the *USS Liberty*. The brother of this country’s current leader was killed leading a raid on a hijacked airliner, and a Moroccan waiter was accidentally killed in Norway by this country during Operation (*) Wrath of God. This country carried out the Entebbe raid, and Black September killed seven athletes from this country at the 1972 Olympics. Its intelligence agency is known as the Mossad. For 10 points, name this country which seized the Golan Heights after the Six Day War, the world’s only Jewish state.**

ANSWER: State of Israel (accept Medinat Yisra’el; accept Dawlat Isra’il)

9. **After one character in this play stuffs chocolates into another’s mouth, he eats half to prove they aren’t poisoned. One character in this play is required to lecture for the Wannafeller Moral Reform World League after being called an “original moralist” as a joke. After being asked about a walk in the park in this play, a woman responds (*) “Not bloody likely!”; that same woman later threatens to marry Freddy Hills. Colonel Pickering makes a bet with a phonetics professor in this play that he can reform a flower girl’s accent. For 10 points, name this play about Eliza Doolittle’s mentorship by Henry Higgins, a work of George Bernard Shaw.**

ANSWER: Pygmalion

10. **In a short story, one of these characters rescues Gloria despite Mrs. Weston’s disapproval. One of these characters kills Moxon in an Ambrose Bierce short story, while Nathanael meets one of these characters named Olympia in E.T.A. Hoffman’s story “The Sandman.” Rick Deckard is responsible for (*) “retiring” these characters in a novel by Philip K. Dick whose title asks if they “dream of electric sheep.” Using protoplasm, the scientist Rossom creates these figures in a play by Karel Čapek [“chaw-peck”]. For 10 points, Isaac Asimov proposed “Three Laws” concerning what human-like but mechanical characters?**

ANSWER: robots (or cyborgs; or androids; or automatons; or replicants; do not accept “clones”; prompt on other reasonable synonyms of mechanical humans; *Ed’s note: accept Matt Jackson*)

11. Naegele's rule is used to estimate the duration of this condition, whose symptoms include Chadwick's sign and the linea nigra. Elevated hCG levels are a distinguishing feature of this condition, and one possible complication of this condition is Rhesus incompatibility. The (*) ectopic form of this condition results when the embryo implants outside its expected region, and this condition also called gestation can lead to nausea due to increased estrogen production during the first trimester. For 10 points, name this condition that lasts about 38 weeks and results in childbirth.

ANSWER: pregnancy (accept variants such as carrying a child; accept gestation before read; prompt on "giving birth" and variants)

12. Jack Antonoff co-wrote a song on this album using his iPhone, and it's the most recent album the artist collaborated on with Max Martin and Shellback. A bonus track on this album mentions building a castle "out of all the bricks they threw at me" and discusses the title "New Romantics." A single from this album mentions a (*) "long list of ex-lovers" and the potential to "write your name," while another single opens "that's what people say" and proclaims "haters gonna hate, hate, hate." The songs "Blank Space" and "Shake It Off" appear on, for 10 points, what most recently released album by Taylor Swift?

ANSWER: 1989

13. This religious branch places special importance on the verse of purification. Practitioners of this branch observe the Mourning of Muharram, which climaxes at the Day of Ashura. Compared to another branch, this branch places special emphasis on *Ismah*, or infallibility, as well as "The People of the House." The largest sect in this branch believes in the (*) Occultation of the Mahdi and in a line of Twelve Imams. The Twelvers and the Ismailis are sects within this branch that believes that Ali rather than Abu Bakr succeeded Muhammad. For 10 points, name this second largest sect in Islam that is contrasted with Sunni.

ANSWER: Shi'a Islam (or Shi'ites; prompt on just "Islam")

14. This man collaborated with the Greek composer Iannis Xenakis to construct a Dominican monastery at Sainte Marie de la Tourette. Harvard's Carpenter Center is the only example of this man's work in the United States. This man created the (*) Open Hand Monument in Chandigarh, India. Functional roofs, a lack of load-bearing walls, and pilotis are among this man's "five points of architecture," which can be seen in a house he designed in the Paris suburbs supported by 16 thin white beams. For 10 points, name this pseudonymous Swiss-French architect who wrote *Towards a New Architecture* and designed the Villa Savoye.

ANSWER: Le Corbusier (accept Le Corb; accept Charles-Édouard Jeanneret-Gris)

15. The Lemon technique is used to detect and measure the severity of these events. Capping inversions selectively cause very strong versions of these events to form, and the outflow boundary separates these events from the surrounding air. An overshooting top can appear above the (*) anvil-like structure of these phenomena, and when they contain a mesocyclone they are classified as supercells. Collections of these phenomena occur in a squall line, and in the United States, these events occur particularly frequently in the South and on summer afternoons. For 10 points, name these weather phenomena known for producing violent lightning.

ANSWER: thunderstorms (prompt on "storm"; accept electrical storm or lightning storm; anti-prompt (ask for less specific) on "supercell"; do not accept synonyms like cyclone or rain)

16. A triangular colon can be applied to these entities, and they may be r-colored. Combining the first and second formants produce these entities, and they form the majority of nuclei. These entities have properties of frontedness, height, tensity, and roundedness, and (*) glides are similar in nature to them. I-P-A symbols that represent these entities include the “ash,” and the schwa. The raising of these entities in English occurred during a “Great Shift” of these entities, and diphthongs are formed from the combination of these entities. For 10 points, name these sounds that are contrasted with consonants.

ANSWER: vowels (prompt on “phones” or “sounds”; prompt on “IPA symbols” or “letters” before the second sentence is read)

17. **One theatre of this war was a miserably failed invasion of Portugal known as the Fantastic War. The land phase of this war began at the Battle of Lobositz, and another theatre of this conflict was the Pomeranian War. This war was preceded by a shift in alliances termed the Diplomatic Revolution. The British were led in this war by (*) William Pitt the Elder and the Prussians by Frederick the Great.** After this war, France surrendered vast amounts of her colonial territory in the Treaty of Paris, and its North American theatre was known as the French and Indian War. For 10 points, give this worldwide 18th-century conflict named for its duration.

ANSWER: Seven Years’ War (anti-prompt [ask for less specific] on “French and Indian War”)

18. **In this city, a guild of linen merchants rejected a statue they commissioned because it looked strange from street level, though it was designed to be viewed from below in the niche of a church. In addition to that depiction of St. Mark, another sculpture in this city consists of 10 gilded panels showing Biblical scenes and served as the doors of (*) this city’s baptistery.** The Orsanmichele and Lorenzo Ghiberti’s *The Gates of Paradise* are in this city, where the Galleria dell’Accademia contains a sculpture of a man standing in *contrapposto* position holding a sling. For 10 points, name this city home to the Uffizi Gallery and Michelangelo’s *David*.

ANSWER: Florence (or Firenze; the statue of St. Mark in the Orsanmichele is by Donatello)

19. **The suovetaurilia was a triple sacrifice typically made to this god, and the ancilia were sacred shields kept in the temple of this god. The Salii were leaping priests of this god, and the spear of this god is often used as the symbol of the (*) male sex.** The three major “flamen,” or priests, served Quirinus, Jupiter, and this god, and a temple dedicated to the “Ultor,” or “Avenger,” aspect of this god was erected in the Forum of Augustus. With the Vestal Virgin Rhea Silvia, this god fathered the twins Romulus and Remus. For 10 points, name this Roman god of war, the Roman equivalent of Ares.

ANSWER: Mars (do not accept or prompt on “Ares” since all the clues refer to his Roman counterpart)

20. **The source of this river is commonly held to be Lake Tear of the Clouds, but Henderson Lake is its cartographic beginning. The Walkway over this river has been the world’s longest footbridge since 2010. Springwood is an estate in Hyde Park, a town on the east bank of this river. The (*) Mohawk is the longest tributary of this river, which forms the Tappan Zee west of Sleepy Hollow.** This river is actually a tidal estuary below the Federal Dam at Troy, which is often incorrectly referred to as the first lock of the Erie Canal. For 10 points, name this river, which flows west of Manhattan before emptying into New York Harbor.

ANSWER: Hudson River

21. **A description of a character’s vertebrae being visible through her forehead apocryphally led Andre Gide to reject this book for publication. This book opens with nearly 30 pages of the narrator describing his difficulty in falling asleep, and it gained its original title from a translation by C. K. Scott Moncrieff. The narrator of this novel meets the composer (*) Vinteuil and falls in love with Albertine.** In this novel’s first volume, *Swann’s Way*, the narrator recalls his time in Combray during an episode of involuntary memory caused by dipping a madeleine in tea. For 10 points, name this massive novel written by Marcel Proust.

ANSWER: In Search of Lost Time (accept Remembrance of Things Past)

Bonuses

1. Is this heaven? No, it's Iowa. While you're here, though, answer the following about the history of the Hawkeye State, for 10 points each:

[10] The territory of Iowa was involved in a border dispute known as the Honey War with this other state. A compromise named for this state restricted slavery in new territories to those south of this state's southern border.

ANSWER: **Missouri** (accept **Missouri Compromise**)

[10] This Sauk chief participated in the siege of Fort Madison, Iowa during the War of 1812, and named a brief war that Abraham Lincoln participated in. Some helicopters with the same name were shot down many years later at the Battle of Mogadishu.

ANSWER: **Black Hawk** (accept **Ma-ka-tai-me-she-kia-kiak**; accept **Black Hawk's War**)

[10] This scientist was born in Cresco, Iowa. He developed high-yield strains of wheat, saving millions from starvation and kickstarting the "Green Revolution."

ANSWER: Norman (Ernest) **Borlaug**

2. The "big knot" was the last component of the eight-legged essay, a crucial part of this system. For 10 points each:

[10] Name this system which required knowledge of Confucian texts like the Four Books and Five Classics. It was the most important tool for selecting government officials in imperial China.

ANSWER: imperial civil service **examinations** (accept **keju**; accept anything about people having to take **tests**)

[10] Civil service examinations began during this dynasty, which gives its name to the majority ethnic group in China today.

ANSWER: **Han** dynasty (accept **Hanchao**)

[10] Zhang Xiu ["jahng shiu"] led this group in rebelling against the Han dynasty in 184. It was named for the entrance fee members had to pay to join.

ANSWER: Way of the **Five Pecks of Rice** (or Way of the **Celestial Master**; accept **Five Pecks of Rice Rebellion**; accept **Wudoumi** dao)

3. The richest natural source of this compound is the Kakadu plum, found in Australia. For 10 points each:

[10] Name this compound responsible for scavenging reactive oxygen species. The chemical name of this compound is ascorbic acid.

ANSWER: vitamin **C**

[10] Perhaps pirates should've eaten more Kakadu plums, since they often suffered this disease whose symptoms include bleeding gums, joint pain, and easy bruising. James Lind proved in 1747 that eating citrus fruits could cure this disease.

ANSWER: **scurvy** (accept **Barlow's disease**, **Moeller's disease**, or **Cheadle's disease**)

[10] Vitamin C is also required for the post-translational modification of collagen, which involves the hydroxylation ["hy-drocks-ee-lay-shun"] of this amino acid. This amino acid's unusual cyclic side chain often disrupts alpha helices and beta sheets.

ANSWER: **proline** (do not accept hydroxyproline, lysine, or hydroxylysine)

4. This movie features a baptism scene which is spliced with the killings of a number of mafia bosses. For 10 points each:

[10] Name this 1972 film, starring Al Pacino as Michael Corleone, a war veteran turned Mafia kingpin. Other actors in this film include Marlon Brando as Vito Corleone.

ANSWER: *The **Godfather***

[10] *The Godfather* and its subsequent sequels were directed by a man with this surname who won the Palme d'Or for the psychological thriller *The Conversation*. A woman with this surname directed Bill Murray and Scarlett Johansson in *Lost in Translation*.

ANSWER: **Coppola** (accept Francis Ford **Coppola** or Sofia **Coppola**)

[10] This nephew of Francis Ford Coppola played Herbert McDunnough in the Coen brothers' *Raising Arizona* and won an Academy Award for playing suicidal alcoholic Ben Sanderson in *Leaving Las Vegas*.

ANSWER: Nic(olas) **Cage** (or Nicolas Kim **Coppola**; prompt on just "Coppola"; *Ed's note: NOT THE BEEEEEEEEEEEESSSSSSSSS*)

5. Name some patron saints from Christianity, for 10 points each:

[10] A children's cancer research center in Memphis is named after this apostle, which might seem a bit strange considering that he is the patron saint of lost causes.

ANSWER: Saint **Jude** (or Saint **Thaddeus**)

[10] This man's extensive writings earned him the title of patron saint of librarians. He is also the patron saint of translators, owing to his creation of the Latin version of the Bible known as the Vulgate.

ANSWER: Saint **Jerome**

[10] This woman is often depicted carrying around a tiny tower. Her father Dioscorus was struck by lightning after killing this woman, leading her to become the patron saint of people working with explosives.

ANSWER: Saint **Barbara**

6. This composer may have intentionally misspelled the name of one of his operas to prevent it from being thirteen letters long. For 10 points each:

[10] Name this composer of *Moses und Aron* and the string sextet *Transfigured Night*. He developed a composition style using all the notes of the chromatic scale known as the twelve-tone technique.

ANSWER: Arnold **Schoenberg**

[10] Schoenberg was the leader of a group of composers named for this city, the capital of Austria.

ANSWER: **Vienna** (accept **Wien**; accept Second **Viennese** School)

[10] Schoenberg also composed this work, in which a narrator recites poems by Albert Giraud ["ZHEE-row"] over an instrumental accompaniment. It is named in part for a stock character in *commedia dell'arte* plays.

ANSWER: *Three times seven poems from Albert Giraud's "**Pierrot Lunaire**"* (or *Dreimal sieben Gedichte aus Albert Girauds "**Pierrot Lunaire**"*)

7. This man's tombstone is engraved with the phrase "Proletarians of all countries, unite!" For 10 points each:

[10] Name this German philosopher who co-authored the *Communist Manifesto* with Friedrich Engels.

ANSWER: Karl **Marx**

[10] Marx wrote a number of notes titled "Theses on [this man]." This thinker wrote *The Essence of Christianity* and developed a theory of alienation which Marx later adopted into his own work.

ANSWER: Ludwig **Feuerbach**

[10] Alienation, along with commodity fetishism, are among the many ideas analyzed in this work, a collaboration with Friedrich Engels. In Part III of this work, Marx noted the tendency of the rate of profit to fall.

ANSWER: **Das Kapital**: *Kritik der politischen Ökonomie* (or **Capital**: *Critique of Political Economy*)

8. This law contains within itself Charles' Law, Gay-Lussac's Law, and Avogadro's Law. For 10 points each:

[10] Name this law that relates several properties of the namesake substance. It's most frequently stated as "pivnert" or $P V \text{ equals } n R T$.

ANSWER: **ideal gas law** (do not accept or prompt on partial)

[10] This equation of state is a modification of the ideal gas law. This equation accounts for the nonzero volume of gas molecules and intermolecular forces between them.

ANSWER: **Van der Waals** equation

[10] Rearranging the parameters of the Van der Waals equation gives this temperature named after the author of *The Sceptical Chymist*. It describes the temperature at which a real gas behaves most like an ideal gas.

ANSWER: **Boyle** temperature

9. Name the following things related to war photography, for 10 points each:

[10] This man produced a series of portraits known as *The Gallery of Illustrious Americans*. He is most famous for his many photographs of soldiers during the Civil War, for which he is arguably the father of photojournalism.

ANSWER: Mathew **Brady**

[10] Joe Rosenthal won a Pulitzer for his photograph of American soldiers raising a flag on Mt. Suribachi during this World War II battle, though it was actually the second flag raised.

ANSWER: Battle of **Iwo Jima**

[10] Robert Capa, his wife Gerda Taro, and David Seymour photographed this conflict. Capa's photograph "Loyalist Militiaman at the Moment of Death" depicts the moment of a soldier falling after being shot in this conflict.

ANSWER: **Spanish Civil War**

10. Malaysia Airlines Flight 17 was shot down as a casualty of a conflict that began some months after the invasion of this region. For 10 points each:

[10] Name this region. Armed "little green men" took over major government buildings in this region's city of Simferopol in February 2015.

ANSWER: **Crimea**

[10] This current President of Russia directed the invasion of Crimea. His United Russia party has won recent elections by a landslide.

ANSWER: Vladimir **Putin**

[10] Putin's latest military actions have been against ISIS in Syria, where this other port west of Homs serves as Russia's main Mediterranean naval base.

ANSWER: **Tartus**

11. Length contraction and time dilation are two predictions of this theory. For 10 points each:

[10] Name this theory proposed by Albert Einstein that assumes the speed of light in a vacuum is a universal for all observers.

ANSWER: **special relativity** (prompt on "relativity")

[10] The theory of special relativity was supported by the outcome of the Michelson-Morley experiment, which "failed" to discover this medium by which it was theorized that light propagated throughout the universe.

ANSWER: luminiferous **aether**

[10] In special relativity, this 4-by-4 tensor is diagonal in its matrix representation and has values -1, 1, 1, and 1 under the East-Coast convention. Generally, it can be used to compute the spacetime interval between two points.

ANSWER: **metric** tensor (accept **Minkowski** tensor)

12. One painting by this man features five nudes, holding hands in a circle against a blue and green backdrop. For 10 points each:

[10] Name this French artist known for works like *The Dance* and *Woman with the Hat*.

ANSWER: Henri **Matisse**

[10] Matisse, along with Andre Derain, was a founder of this art movement, characterized by its bright, unusual coloration and strong brushwork. Its name comes from the French word for wild beasts.

ANSWER: **Fauvism** (accept word forms)

[10] Fauvism is often compared to this Dresden based German expressionist art movement. Members of this art movement include Ernst Heckel and Ernst Ludwig Kirchner.

ANSWER: Die **Brücke** (accept The **Bridge**)

13. In this story, the protagonist makes a deal with a group of Bashkirs, leading to a downfall that was earlier prophesied in a conversation with Satan. For 10 points each:

[10] Name this story about the greedy peasant Pahom, who dies of exhaustion after trying to enclose a gigantic property on foot. The answer to the title question is, ironically, the six feet that comprise Pahom's grave.

ANSWER: **"How Much Land Does a Man Need?"** (accept **"Mnogo li cheloveku zemli nuzhno?"**)

[10] This novel by the same author as "How Much Land Does a Man Need" ends with the title character committing suicide under a train after an affair with Count Vronsky goes awry.

ANSWER: ***Anna Karenina***

[10] This Russian wrote both "How Much Land Does a Man Need?" and *Anna Karenina*. He expounded his ideas on nonviolent resistance in *The Kingdom of God is Within You*.

ANSWER: Leo (or Lev) (Nikolayevich) **Tolstoy**

14. The spider god Iktomi is an example of this kind of figure. For 10 points each:

[10] Name these mischievous figures from Native American folklore, who can vary from helpful to downright annoying. Raven and Crow are examples of these figures.

ANSWER: **trickster gods**

[10] This trickster was responsible for creating people from a ball of mud. Sometimes known as "Old Man," this animal showed his more heroic side by defeating the Thunderbird in one story.

ANSWER: **Coyote**

[10] In another story, the Thunderbird drops one of these animals from the sky to the earth. In an Inuit tale, Raven discovers a lost girl by finding one of these animals.

ANSWER: **whale** (accept specific varieties; Raven discovers the girl inside the whale's belly)

15. After one character with this condition is sent to an insane asylum, his roommate, who also has this trait, moves in with the Kelly family. For 10 points each:

[10] Name this condition that afflicts both John Singer and Spiros Antonapoulos in Carson McCullers' *The Heart is a Lonely Hunter*. In another story, Lucynell is a girl with this condition who marries a one-armed man named Shiftlet.

ANSWER: **deaf-muteness** (accept either underlined part; accept word forms; prompt on descriptions like "they can't hear" or "they can't talk")

[10] Shiftlet abandons Lucynell at a diner in this author's story "The Life You Save May Be Your Own." Julian takes a bus ride with his racist mother in this author's "Everything That Rises Must Converge."

ANSWER: (Mary) Flannery **O'Connor**

[10] Both McCullers and O'Connor wrote in a style known as this American region's "Gothic." Margaret Mitchell examined antebellum society in this region in *Gone with the Wind*.

ANSWER: the American **South** (accept **Southern Gothic**)

16. Answer the following questions related to polynomial approximation, for 10 points each:

[10] This theorem states that every continuous function on an interval of the real numbers can be locally approximated as closely as desired by a polynomial.

ANSWER: Stone-**Weierstrass** theorem (accept **Weierstrass** approximation theorem)

[10] A linear approximation of a smooth function is an underestimate if this quantity for the function is positive. Inflection points have a value of zero for this property of a function, since this property determines a function's concavity.

ANSWER: **second derivative** (do not prompt or accept "derivative")

[10] In Taylor's formula for polynomial approximation, the n -th order term has a coefficient given by the reciprocal of this operation applied to n . This operation on a positive integer n gives the product of all the integers from 1 to n .

ANSWER: **factorial**

17. This character appears in a 14th-century romance written by the Pearl Poet. For 10 points each:

[10] Name this character who discovers that the Green Knight has been his host Sir Bertilak all along.

ANSWER: Sir **Gawain**

[10] Sir Gawain is a knight in the court of King Arthur, a setting employed by this poet in his *The Idylls of the King*. This poet described a disastrous military maneuver in "The Charge of the Light Brigade."

ANSWER: Alfred, Lord **Tennyson**

[10] *The Idylls of the King* was based on this 1485 compilation of Arthurian tales by Thomas Mallory, which also provided the title of T.H. White's other Arthurian novel *The Once and Future King*.

ANSWER: *Le **Mort d'Arthur*** (or *The **Death of Arthur***; accept exact title only)

18. The 2014 Booker Prize winner centers on the Australian doctor Dorrigo Evans and shares the title of this book. For 10 points each:

[10] Name this Japanese poetic travelogue that chronicles its author's journeys from Edo to the northern region of Oku. It opens, "The months and days are the travellers of eternity."

ANSWER: *The **Narrow Road to the Deep North*** (or *The **Narrow Road to the Interior***; accept ***Oku no Hosomichi***)

[10] *The Narrow Road to the Deep North* is a work of this Japanese poet, who in one poem described the sound of a frog jumping into a pond. This poet frequently used a 17-syllable poetic form.

ANSWER: Matsuo **Bashō**

[10] The aforementioned poetic form is this one, which uses a 5-7-5 format. This poetic form uses themes of nature and a "cutting word" that divides images.

ANSWER: **haiku**

19. The leader of this journey traveled under the pseudonymous surname Mikhailov. For 10 points each:

[10] Name this trip, nominally undertaken to strengthen the Holy League against the Ottomans. It also gave the traveling party the opportunity to study Western European industry and shipyards.

ANSWER: **Grand Embassy**

[10] The Grand Embassy was cut short by the rebellion of the *streltsy* against this tsar. His modernizations included the Table of Ranks, a tax on beards, and the founding of a namesake city on the River Neva.

ANSWER: **Peter the Great** (accept **Peter I**; prompt on "Peter")

[10] Peter's other diplomatic missions included one to this island. This island withstood an Ottoman siege while it was under the control of the Knights Hospitaller.

ANSWER: **Malta**

20. Fish out of water! Answer the following about Marco Polo, for 10 points each:

[10] Marco Polo visited the court of this Yuan Dynasty emperor, who had two invasions of Japan turned back due to “divine winds.”

ANSWER: **Kublai Khan**

[10] Marco Polo traveled along this route, which served as the major land conduit for trade between Asia and Europe. Major hubs along this route included Samarkand, in present-day Uzbekistan.

ANSWER: **Silk Road**

[10] Marco Polo may have stayed in one of these buildings on the Silk Road. Known as *khan* in Mongolian, this is the name commonly given to inns situated along the Silk Road where travelers could rest.

ANSWER: **caravanserai**

21. Emmeline Pankhurst fought for this right in Britain. For 10 points each:

[10] Name this right whose American proponents held the Seneca Falls convention. Meanwhile, New Zealand would give this right in 1893, making it the first in the world to do so.

ANSWER: **woman’s suffrage** (prompt on partial answer; accept “right to vote” in place of “suffrage”)

[10] Forces from New Zealand fought alongside those of Australia as part of the “Anzacs” during this disastrous 1916 British campaign in modern-day Turkey in World War I.

ANSWER: **Gallipoli** Campaign (accept clear-knowledge equivalents)

[10] This man would lead the 19th Division of the Ottoman Fifth Army at Gallipoli, but he is perhaps better known as the founder of the Republic of Turkey, which he led as President from 1923 until his death in 1938.

ANSWER: Mustafa **Kemal Atatürk** (accept either underlined part)

