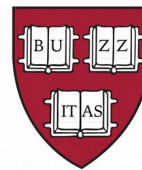


Harvard Fall Tournament XII

Edited by Raynor Kuang

Questions by Raynor Kuang, Jiho Park, Robert Chu, Alex Cohen, Michael Yue, Erik Owen, Jonathan Suh, Roger Jin, Michael Horton, Sriram Pendyala, and Josh Xiong



Finals 1

Tossups

1. These structures have angular wavefunctions that are proportional to “cosine theta”, where theta is the polar angle from the z-axis; thus, these orbitals all have a single nodal plane. These orbitals can have a value of “*m-sub-l*” between negative one and positive one, and they have a value of one for the azimuthal quantum number, or (*) *l*. These orbitals come in triplets labeled x, y, and z, and the highest energy electron in the element arsenic sits in one of these orbitals. These orbitals are usually shown in the shape of dumbbells. For 10 points, name these orbitals that come after the s subshell.

ANSWER: **p-orbitals** (prompt on “atomic orbitals” or “molecular orbitals”, accept **pi-orbitals** before “cosine theta” is read and prompt on it afterwards) <Pendyala>{SciE-nce,Chemistr.y}

2. An ad apparently sponsored by the “American Fact-Finding Committee” was published on the day of this event. Orville Nix was present at this event, and figures associated with it include the “umbrella man,” and the “three tramps.” Police officer J.D. Tippit was killed shortly after this event, and both James Tague and Governor (*) Connally were also injured in it. Despite theories that the Zapruder film showed involvement from a figure on the grassy knoll, the Warren Commission resolved that a single bullet was involved in this event. For 10 points, name this event on November 22, 1963 in which the sitting president was killed.

ANSWER: **assassination** of John F. **Kennedy** (accept any equivalent answer that indicates the **death of Kennedy**) <Kuang>{History}

3. Description acceptable. It wasn’t in the 40s, but the 1943 short film *Don’t Be a Sucker* became popular after this event that also led to the arrest of Christopher Cantwell. A failed attempt to remove Wes Bellamy from office led up to this event, during which DeAndre Harris was severely beaten. Jason Kessler organized this event that took place in (*) Emancipation Park, and Heather Heyer was killed at it after an action involving a 2010 Dodge Challenger. Images of it showed the use of a “backyard gathering” lighting implement, and it was formally named the “Unite the Right” rally. For 10 points, name this 2017 far-right rally in a Virginia college town.

ANSWER: **Charlottesville** rally (or **Unite the Right** rally before it’s mentioned; *Ed’s note*: “backyard gathering” comes from the official Tiki Torches company response, not the writers) <Pendyala>{New category, new subcategory}

4. A puppet in this film used wrinkles from Albert Einstein to add the effect of intelligence; that puppet was performed by Frank Oz. This is the best known film directed by Irvin Kershner, and it was the first notable screenplay for Lawrence Kasdan. An actor in this movie improvised a response to a declaration of love with the phrase (*) “I know,” and it notably ends in a cliffhanger after an escape from Cloud City. This movie begins with a battle on the snowy planet of Hoth, and in an all-time film twist at the end of this film, Darth Vader reveals he’s Luke Skywalker’s father. For 10 points, name this Star Wars movie, the second ever made.

ANSWER: **Star Wars: Episode V - The Empire Strikes Back** (accept any combination that either gives the subtitle or indicates this is “fifth” Star Wars movie; prompt on just **Star Wars**) <Kuang>{Literature, Star Wars!}

5. A polypeptide chain named for this letter is a linker-component of antibodies IgA and IgM. In NMR spectroscopy, this letter is used to denote the value of spin-spin couplings and encodes information about bond geometry. In electromagnetism, this letter symbolizes the current density field, and it’s the first letter of

a SI unit equivalent to a (*) newton-meter. The “hat” form of this letter usually denotes the unit vector pointing in the y-direction, in contrast with the x-vector symbolized as *i*-hat. For 10 points, give this letter whose capital form stands for the SI unit for energy, the Joule.

ANSWER: **j** (accept either lowercase **j** or uppercase **J**, should they specify) <Pendyala>

6. Handwriting analysis of agreements signed with the codename “Bolek” were published in 2017 indicating a leader of this group was a paid informant for the secret police. This group published a poster using an image from the film *High Noon* and this group’s distinctive logo in a thick (*) red font with a flag. This group helped remove Secretary Kania and Wojciech Jaruzelski [“voy-CHEK yuh-roo-ZEL-ski”] from power, and the Gdansk Agreement and the Roundtable Talks eventually led to a leader of this group being elected as Prime Minister in 1989. This group was led by a shipyard electrician named Lech Wałęsa [“vah-WEN-suh”]. For 10 points, name this anti-communist trade union that formed in Poland.

ANSWER: **Solidarity** (or **Solidarność**; or Independent Self-governing Trade Union “**Solidarity**”) <Kuang>

7. Composer and genre required. A movement from one of these works by this composer has a movement alternating between F-lydian and 3/8 D-major sections and is titled “Heiliger Dankgesang,” and two of these works from the composer’s “middle period” are titled “Harp” and “Serioso.” Three of these works by this composer were commissioned by the Count (*) Razumovsky, and the B-flat finale of one of these works was spun off into a separate work of this type known as the “Grosse Fuge.” For 10 points, name these works for two violins, viola, and cello that were written by the composer of the “Moonlight Sonata.”

ANSWER: **string quartets** by Ludwig van **Beethoven** (prompt on partial answer) <Yue>

8. In British mythology, Merlin tells a story about this deity killing Faunus, after which this goddess was slain by Felix and her body thrown into the Lake of Nemi. The *Rex Nemorensis* was a priest of “the grove” who served this goddess as described in the book *The Golden Bough*. This figure was one of the three (*) maiden goddesses along with Minerva and Vesta, and her mother Latona gave birth to her on the island of Delos. This goddess became popular in modern Wicca due to her associations with childbirth, nature, and the moon. For 10 points, name this Roman goddess of the hunt who was roughly equivalent to the Greek Artemis.

ANSWER: **Diana** (accept **Artemis** until “Minerva” is read) <Owen>

9. One character in this novel has a “dog tooth” and stumps on her hands where her sixth fingers were removed. One character in this book sleeps naked and is married to a woman with a foot deformed from stepping on a nail. Maureen Peel and the protagonist’s mother Polly appear in this book. The pedophile (*) Soaphead Church tricks this book’s protagonist into poisoning a dog in exchange for fulfilling a wish to be more like Shirley Temple. After being raped by her father Cholly Breedlove in this book, Pecola goes insane hoping for the title symbol of white beauty. For 10 points, name this novel by Toni Morrison.

ANSWER: *The **Bluest Eye*** <Cohen>

10. In a story by this author, a cellist falls in love with his older American tutor, only to find that rather than being a virtuoso, she can’t even play the cello. This man wrote a book in which Masuji Ono comes to terms with his role in making propaganda for Imperial Japan, and he wrote both the collection *Nocturnes* and the book (*) *An Artist of the Floating World*. This author wrote a novel in which the narrator takes his employer’s car on a “motoring trip” to see Mrs. Benn, and one in which Kathy, Tommy, and Ruth are revealed as clones created for organ donation. For 10 points, name this British author of *The Remains of the Day* and *Never Let Me Go*.

ANSWER: Kazuo **Ishiguro** <Cohen>

11. An artist from this country frequently uses a character with large mouse ears called Mr. DOB and was the author of the “Superflat Manifesto.” An artist from this country made a work showing a rainstorm falling on travellers across a bridge that was part of a series showing the (*) “stations” of a certain road. The work *Fine Wind, Clear Morning* from this country shows a certain red mountain in the background and was made in the *ukiyo-*

e style. A woodblock print from this country shows a *Great Wave off Kanagawa* about to crash down on some tiny boats. For 10 points, name this home country of Takashi Murakami, Hiroshige, and Hokusai.

ANSWER: Japan (or Nippon) <Kuang>

12. During this century, Valerian the Elder was captured at the Battle of Edessa. Severus Alexander was assassinated during this century, and some of the emperors during it included the co-ruling Pupienus and Balbinus as well as the Gordians. A (*) “Crisis” of this century ended with the rise of an emperor who issued the Edict of Maximum Prices and split the empire into a tetrarchy; that emperor near the end of this century was Diocletian. This century *began* a little under 200 years after the death of Augustus, and it *began* 276 years before the canonical Fall of Rome. For 10 points, give this century that began about 200 years after the birth of Christ.

ANSWER: Third Century (accept 200s CE to 300 CE, but be *very careful* in figuring out which the player is referring to; accept Crisis of the Third Century) <Kuang>

13. Sangamo Therapeutics accomplished this technique by modifying a protein found in *Flavobacterium*, and Collectis accomplished this technique by engineering “transcription activator-like effectors,” or TALEs. David Liu’s lab used fusions of APOBEC1 and a dead endonuclease while modifying this technique to correct (*) point mutations. Emmanuelle Charpentier and Jennifer Doudna revolutionized this technique by developing the CRISPR/Cas9 platform, and it can be visualized as using “molecular scissors.” For 10 points, describe this technique that inserts, deletes, or replaces genetic material in living organisms.

ANSWER: gene editing (accept word forms as long as they mention genes and editing them; accept genome in place of gene; prompt on genetic engineering and word forms; anti-prompt [ask for less specific] on “CRISPR” before read) <Park>

14. Two answers required. These two characters travel to East Asia to purchase exotic animals in a satire of the Catholic Church. Six pilgrims nearly die while one of these characters is eating a salad, and the younger of these characters journeys to the Oracle of the Holy Bottle with the prankster (*) Panurge. These characters befriend Friar John and the Abbey of Thélème, whose motto is “Do What Thou Wilt,” and the older of these characters drowns the city of Paris by urinating on it. For 10 points, name this giant and his son whose trials and travails are detailed in a satirical series of books by François Rabelais.

ANSWER: Gargantua and Pantagruel (accept names in either order; prompt on only one name; accept *The Life of Gargantua and Pantagruel*) <Cohen>

15. A factor named for this scientist is equal to e to the quantity negative beta times the energy of the particle, and the sum of that factor for all energies is the partition function. This physicist is the *second* in an equation giving the power from a blackbody as proportional to the (*) fourth power of temperature, and he defined entropy as k -sub- b times the natural logarithm of the number of microstates. The constant named after this scientist equals the ideal gas constant divided by Avogadro’s number and is symbolized lowercase k . For 10 points, name this Austrian physicist whose contributions to statistical mechanics include co-naming a distribution with Maxwell.

ANSWER: Ludwig Boltzmann <Jin>

16. This man’s life was saved by a man who stepped in between him and a firing squad and yelled “The brave do not kill!;” that man was the poet Guillermo Prieto. After one victory, this man made the famous statement that “respect for the rights of others is peace.” This man’s namesake law subordinated religious courts to civil ones and prompted Conservative backlash that led to the (*) War of the Reform. This man was president when his country was victorious at the Battle of Puebla, although he would eventually be overthrown and replaced by

Emperor Maximilian I. For 10 points, name this Zapotec President of Mexico during the mid-1800s.

ANSWER: Benito (Pablo) Juárez (García) <Chu>

17. The score of a 1995 opera in this language calls for a slide whistle and a fishing reel and controversially followed the exploits of the “Dirty Duchess.” An aria in this language includes the line “Remember me, but ah! Forget my fate” and is sung prior to the singer killing herself. One opera in this language concerns a sea captain defending himself in the (*) drowning death of his apprentice, and an opera in this language ends with the Trojan fleet leaving Carthage and a final scene between the two title characters, Dido and Aeneas. For 10 points, name this language used by opera composers such as Thomas Adés, Henry Purcell and Benjamin Britten.

ANSWER: English (the first two operas mentioned are *Powder Her Face* and *Peter Grimes*) <Chu>

18. One of these *religious* things is a symbolic method to control one’s Kaam, and a *dastaar* is an item of clothing that can be used to accommodate one of these things. These things are usually accompanied by the taking of the Amrit baptism ceremony, and they are also called the *kakars*. These things include an (*) iron bracelet and comb. Adhering to these things was required of the Khalsa by Guru Gobind Singh, and they include things like keeping on hand the *kirpan* dagger and keeping the hair perpetually uncut. For 10 points, name this group of things required of some Sikhs and named for the letter beginning each of their names.

ANSWER: the Five Ks (accept kakar before read; anti-prompt [ask for less specific] on any of “Kara,” “Kesh,” “Kangha,” “Kirpan,” or “Kachera”; anti-prompt on “uncut hair” or equivalents after “*dastaar*” is read) <Kuang>

19. This figure’s name doesn’t reference any countries, but one candidate for this figure asks who is “to blame” for the sins of men in the poem “You Men.” Anne Carson’s collection *If Not, Winter* translates the work of one figure of this title who wrote a poem pining for a man who “seems to me, equal to the gods.” The Mexican nun (*) Sor Juana de la Cruz is often given this title. This figure is “*Latently Sprung Up in America*” in the title of Anne Bradstreet’s first collection, and this title is often applied to Sappho. For 10 points, give this term referring to a potential additional member of a mythological group including Terpsichore and Calliope.

ANSWER: the Tenth Muse (prompt on just Muse; prompt on any of the names “Sor Juana Ines de la Cruz,” “Anne Bradstreet,” or “Sappho” by asking “*We need their nickname.*”) <Cohen>

20. It’s not ethics, but Kierkegaard used this word to describe Abraham’s justification for sacrificing Isaac in *Fear and Trembling*. In a book on this subject, Kant describes a term as the feeling of seeing a violent storm, and a work in this subfield by Aristotle defines terms such as (*) *mimesis* and *peripeteia*. Nietzsche wrote a book in this subfield prefaced with the essay “An Attempt at Self-Criticism” and that work delineates the Apollonian and Dionysian aspects of Greek tragedy. The *Critique of Judgement*, *Poetics*, and *The Birth of Tragedy* are all works in this subfield. For 10 points, name this field of philosophy concerning the study of art.

ANSWER: aesthetics (accept word forms; prompt on philosophy of art or beauty; accept sublime after “Kant” is read; prompt on literature, drama, theater, or any other reasonable synonyms after “Nietzsche” is read, but the exact term aesthetics must be given) <Jin>

21. The narrator of Knut Hamsun’s book *Hunger* is often compared to this character. This character arrives half an hour early to a dinner party at which he impulsively says he’ll pay for his own meal, despite later asking Simonov for money to attend a brothel. This character repeatedly rails against the “Crystal Palace” and utopian philosophy of the author’s contemporary (*) Chernyshevsky. In the section “Apropos of the Wet Snow,” this man finds kinship with the prostitute Liza, and he declares, “I am a sick man,” to open the book he appears in. For 10 points, name this protagonist of an early existentialist book by Fyodor Dostoyevsky.

ANSWER: the Underground Man (accept the protagonist or narrator from *Notes from the Underground*)

<Kuang>

Bonuses

1. In real life, this man was the older brother of Plato, but Plato makes him say pretty dumb things like justice is “the advantage of the stronger.” For 10 points each:

[10] Name this ancient Athenian who served as an interlocutor for Socrates in dialogues such as *The Republic*.

ANSWER: **Glaucon**

[10] In a famous allegory from the *The Republic*, Socrates tells Glaucon about a person chained inside one of these places looking at shadows on the wall. The person then escapes, only to be killed when he returns and his former friends don’t like his whole “sun” spiel.

ANSWER: **cave** (accept “The Allegory of the **Cave**”)

[10] Glaucon tells a story about Gyges, who discovers one of these items of jewelry that makes the wearer invisible. Gyges then becomes evil, an experience often compared to online trolls and anonymity.

ANSWER: **ring** (accept “The **Ring** of Gyges”) <Jin>

2. This man led the Hoosiers to the 1981 NCAA Championship. For 10 points each:

[10] Name this Hall-of-Fame basketball player who played for the “Bad Boy” Pistons from 1981 through 1994. In 1989, another player would be born with a very similar name to this man after that player’s father lost a bet.

ANSWER: Isaiah Lord **Thomas** III

[10] Modern player Isaiah Thomas was sent to the Cleveland Cavaliers from this team in a blockbuster 2017 trade. All-time greats like Bill Russell and Larry Bird have played for this team.

ANSWER: **Boston Celtics** (accept either the city, team name, or both)

[10] Isaiah Thomas is a notably short NBA player at 5’9”. Despite his height, this other 5’9” player notably won the slam dunk competition three times. He was drafted 21st overall by the Suns, but traded that night to the Knicks.

ANSWER: Nate **Robinson** <Kuang>

3. This event was prompted by Günter Schabowski’s statement that a particular policy would be “effective immediately, without delay.” For 10 points each:

[10] Name this event, which was followed shortly afterwards by a performance of Beethoven’s 9th symphony conducted by Leonard Bernstein where the “Ode to Joy” was replaced by an “Ode to Freedom.”

ANSWER: **fall** of the **Berlin Wall** (accept any answer mentioning the **Berlin Wall** or the **border between East and West Berlin** and it **opening** or **ceasing to exist**; prompt on partial answers mentioning just the **Berlin Wall**)

[10] Although Berlin was the *de jure* capital of West Germany, its *de facto* capital was at this city in North Rhine-Westphalia. Beethoven was born in this city.

ANSWER: **Bonn**

[10] The fall of the Berlin Wall was a major symbolic defeat for the USSR, which was led at the time by this reformist-minded implementer of *perestroika* and *glasnost*.

ANSWER: Mikhail (Sergeyevich) **Gorbachev** <Chu>

4. Answer some questions about right-wing populism in Europe, for 10 points each:

[10] The National Front nominated Marine Le Pen in this country’s 2017 presidential election. She lost the election to Emmanuel Macron, who succeeded François Hollande to become the youngest president in this country’s history.

ANSWER: **France** (accept **French** Republic or République **française**)

[10] The Law and Justice Party holds a majority of seats in this country’s legislature, which is called the Sejm [“same”]. A 2010 plane crash killed Lech Kaczyński, who was this country’s president at that time.

ANSWER: Republic of **Poland** (or Rzeczpospolita **Polska**)

[10] This 31-year-old leader of the People’s Party began negotiations with the right-wing Freedom Party after Austria’s legislative elections in 2017. He previously served as Austria’s Foreign Minister.

ANSWER: Sebastian **Kurz** <Park>

5. A film from this country won the 2017 Oscar for Best Foreign Language Film and concerns a couple trying to put

on a production of *Death of a Salesman* after Rana, the wife, is assaulted. For 10 points each:

[10] Name this home country of Asghar Farhadi, who could not attend the Oscars because of Donald Trump's travel ban. Other representatives of this country's rich film history include Abbas Kiarostami.

ANSWER: Islamic Republic of **Iran** (or Jomhuri-ye Eslāmi-ye **Irān**)

[10] Kiarostami released a 2002 film consisting solely of this many conversations between a woman driver and her passengers. Charlton Heston played Moses in a film titled for this number of Commandments.

ANSWER: **ten** (accept *The **Ten** Commandments*)

[10] In Kiarostami's film *Close-Up*, this kind of actor plays the filmmaker who interviews Hossain Sabzian. Unique to their roles in their films, Mr. Brown in *Reservoir Dogs* and Falstaff in *Chimes at Midnight* are played by actors with this characteristic.

ANSWER: they are the **directors** themselves (accept anything about the actor playing the role also being the **director** of the movie; prompt on **cameo** appearances; prompt on "they are Abbas **Kiarostami**" or "they are Quentin **Tarantino**" or "they are Orson **Welles**") <Chu>

6. This man was nicknamed "Nyayo," the Swahili footsteps, for his role in succeeding the man who led his country to independence. For 10 points each:

[10] Name this man, the *second* leader of a certain African nation after it gained independence. This man's predecessor frequently called for "Harambee," or pulling together.

ANSWER: Daniel (Toroitich) **arap Moi**

[10] Moi succeeded Jomo Kenyatta, who had led this nation to independence from British rule. The Kikuyu are the largest ethnic group in this country.

ANSWER: Republic of **Kenya**

[10] Kenyatta was arrested as one of the Kapenguria Six for leading this "Uprising" against the British. Operation Anvil during this rebellion systematically removed dissenting Kikuyu from Nairobi.

ANSWER: **Mau Mau** Uprising <Kuang>

7. This character is apprenticed to a shepherd and is later forced to sacrifice his favorite sheep. For 10 points each:

[10] Name this character. He discovers an incredible talent for catching fish and falls in love with Mary Magdalene in a José Saramago book about his *Gospel*.

ANSWER: **Jesus** (accept **Christ** or any reasonably substitutable religious term; accept *The Gospel According to **Jesus** Christ*)

[10] This author described Jesus as actually being two different personas in his book *The Good Man Jesus and the Scoundrel Christ*. 20 years after his *His Dark Materials* trilogy was published, this author returned to young adult fantasy in 2017 with the *Book of Dust* trilogy.

ANSWER: Philip **Pullman**

[10] This Irish writer imagined the old age of Mary in his short novel *The Testament of Mary*. Ellis Lacey immigrates to New York in his 2009 book *Brooklyn*.

ANSWER: Colm **Tóibín** <Yue>

8. The only surviving first person account of this empire was written by Zhou Daguan ["tschow da-gwan"] and describes its people as only wearing a single waistcloth. For 10 points each:

[10] Name this empire most famous for its massive capital at Angkor. It frequently ran into conflict with the nearby

Champa and Ayutthaya kingdoms.

ANSWER: **Khmer** Empire

[10] The Khmer empire was located in this modern day country, inspiring the 20th century dictator Pol Pot to name his government the Khmer Rouge.

ANSWER: Kingdom of **Cambodia**

[10] This ruler founded the Khmer Empire by breaking it away from control under Java. This man was succeeded by Indravarman I.

ANSWER: **Jayavarman II** (prompt on just "Jayavarman") <Kuang>

9. *Blade Runner 2049* quotes from this book using the line "cells interlinked within cells interlinked." For 10 points each:

[10] Name this novel by Vladimir Nabokov consisting of John Slade's title 999-line poem and Charles Kinbote's editorial comments on that poem. It opens with the line "I saw the shadow of the waxwing slain."

ANSWER: **Pale Fire**

[10] Nabokov is more famous for this novel about Humbert Humbert, who lusts for the title underage "nymphet," Dolores Haze.

ANSWER: **Lolita**

[10] Within *Pale Fire*, Kinbote claims that John Slade was inspired by the tale of Charles II's exile from this fictional country, and was mistakenly killed by Gradus, an assassin from this country.

ANSWER: **Zembla** <Kuang>

10. This piece's opening movement begins with an *Adagio sostenuto* A-major 3/4 section before moving to a *Presto* 4/4. For 10 points each:

[10] Name this A-minor violin sonata that George Bridgetower reportedly sight-read at its premiere before the composer re-dedicated the piece to the title violinist.

ANSWER: the **Kreutzer** sonata (accept, *but DO NOT reveal* Beethoven's **Violin Sonata** No. **9** in A minor, Op. 47)

[10] This composer of the Kreutzer and Spring violin sonatas also wrote two piano trios subtitled "Archduke" and "Ghost." Another work of his in A minor is his bagatelle "Für Elise."

ANSWER: Ludwig van **Beethoven**

[10] This Czech composer's first string quartet is also titled "Kreutzer Sonata," after a Tolstoy short story. His classic Czech-inspired works include his opera *Jenufa* and his *Sinfonietta*.

ANSWER: Leoš **Janáček** <Yue>

11. For 10 points each, answer some questions about photochemistry:

[10] One important branch of photochemistry aims to elucidate this sequence of events that take place as a reaction proceeds. It is composed of elementary steps, and can be illustrated via arrow pushing.

ANSWER: reaction **mechanisms**

[10] These chemical species with an unpaired valence electron usually mediate photodegradation. AIBN and benzoyl peroxide are initiators that readily produce these highly reactive species.

ANSWER: free **radicals**

[10] Chemists use this doubly-eponymous set of rules to determine the products of electrocyclic reactions under photochemical control. One of its namesakes published total syntheses of cholesterol and chlorophyll.

ANSWER: **Woodward-Hoffmann** rules <Park>

12. A large-scale one of these events is called a pandemic. For 10 points each:

[10] Name this sudden and rapid spread of diseases that affect large numbers of people over a wide geographic area. While this term usually refers to infectious diseases, it has also been used to describe obesity and opioid use.

ANSWER: **epidemics**

[10] This term refers to infectious diseases that are transmittable from animals to humans. Examples of these diseases include swine flu, rabies, and Lyme disease.

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

[10] Epidemiologists use this scientist's namesake criteria to determine if observed epidemiologic associations are causal. This scientist also demonstrated that cigarette smoking increased the risk of lung cancer.

ANSWER: Austin Bradford **Hill** <Park>

13. One poem describes an "invisible procession going by" in this city. For 10 points each:

[10] Name this city that "you are losing" in the poem "The God Abandons Antony." Lawrence Durrell wrote a quartet of books titled for this city.

ANSWER: **Alexandria**, Egypt

[10] This man wrote "The God Abandons Antony," as well as about a city that suddenly finds itself without "a kind of solution" in his poem "Waiting for the Barbarians."

ANSWER: Constantin **Cavafy**

[10] Cavafy was a poet in this language. Nikos Kazantzakis created the character of Zorba in a novel in this language.

ANSWER: Modern **Greek** <Kuang>

14. Want to change American history? Just write a book! For 10 points each:

[10] Abraham Lincoln reportedly asked this woman if she was "the little woman who wrote the book that started this great war" in reference to her novel *Uncle Tom's Cabin*.

ANSWER: Harriet Beecher **Stowe**

[10] "The Sporty Corvair" is the first chapter of this man's 1965 book *Unsafe at Any Speed*, which accused automakers of dragging their feet implementing safety guidelines, and prompted every state but New Hampshire to pass seat-belt laws. This man also ran in the 2000 US presidential election.

ANSWER: Ralph **Nader**

[10] The New York State Tenement House Act of 1901 was passed in response to this photo book, which showed slum conditions in New York City neighborhoods like Five Points.

ANSWER: ***How the Other Half Lives***: *Studies among the Tenements of New York* (by Jacob Riis) <Chu>

15. These equations are equivalent to the conservation of momentum for each infinitesimal element of a fluid. For 10 points each:

[10] Name these fundamental equations of fluid dynamics, for which no general existence and smoothness proof yet exists. They cannot be solved except in the simplest cases.

ANSWER: **Navier-Stokes** equations

[10] In the incompressible simplification of the Navier-Stokes equations, this quantity is assumed to be a constant. This quantity is symbolized with the greek letter *rho*, and specific gravity is a ratio of values for this quantity.

ANSWER: **density**

[10] Using scale analysis, one can show that the velocity profile is parabolic in these viscosity-dominated regions, where the effective Reynolds number is small. Ludwig Prandtl devised an important theory on these regions.

ANSWER: **boundary layer** <Pendyala>

16. For 10 points each, name some things related to that fruit which one Harvard quizbowler once foolishly pronounced as "pah-muh-gruh-nah-tay":

[10] This goddess was trapped in the underworld for part of the year after she was fed by pomegranate seeds by her abductor Hades. Her mother Demeter caused worldwide famine by looking for her during that abduction.

ANSWER: **Persephone**

[10] Side, whose name literally means "pomegranate," was the first wife of this famous hunter. His blindness was

cured after looking at the rising sun, and in one version of his death, he was killed by a giant scorpion.

ANSWER: **Orion**

[10] A statue of this goddess's consort Attis shows him wield a crook and a pomegranate. This Phrygian "mother goddess" was often identified with Rhea.

ANSWER: **Cybele** <Owen>

17. Joachim Patinir pioneered the "world" style of this genre of painting. For 10 points each:

[10] Name this general style of painting. Jean Baptiste Camille Corot and Claude Lorrain were best known for their works in this style, and Albert Bierstadt belonged to a movement best known for painting works on these subjects.

ANSWER: **landscape** painting

[10] Bierstadt belonged to this American movement that also included Asher Durand and Thomas Cole. It's named for a body of water in New York.

ANSWER: **Hudson River** school

[10] This artist's *The Tempest* is often cited as the first landscape in Western art. This Venetian artist and contemporary of Titian also painted *The Three Philosophers* and *Sleeping Venus*.

ANSWER: **Giorgione** (or Giorgio **Barbarelli** da Castelfranco) <Chu>

18. Many of us know about the first four gospels, so instead, answer these three questions about the other 23 books of the New Testament, for 10 points each:

[10] This man wrote the majority of the New Testament after meeting Jesus in a conversion experience on the road to Damascus. Karl Barth wrote a commentary titled after this man's *Epistle to the Romans*.

ANSWER: **Paul** (or **Saul** of Tarsus)

[10] This book is the only one in the New Testament with no general agreement as to its authorship. Its eleventh chapter famously speaks about faith in God.

ANSWER: Epistle to the **Hebrews**

[10] In the Epistle of Jude, a strange verse discusses how the Devil and the archangel Michael feuded over the body of this man. This man was buried on Mount Nebo, but no one can locate his tomb.

ANSWER: **Moses** <Suh>

19. A novice writer from this country created the amazing phrase "incoherent transactions" to describe theft. For 10 points each:

[10] Name this home country of Angus McDiarmid. Much more influential writers from this country include Walter Scott and Robert Burns.

ANSWER: **Scotland** (prompt on the "United Kingdom" or "Great Britain")

[10] This Walter Scott character was probably responsible for some incoherent transactions in his lifetime. Frank Osbaldistone meets this real life highlander and outlaw in the Scott novel titled for this man.

ANSWER: **Rob Roy** (or Robert Roy **MacGregor**)

[10] This Walter Scott novel is titled for an Edinburgh prison. In it, Jeanie Deans travels to London to obtain a pardon for her sister Effie.

ANSWER: *The **Heart of Midlothian*** <Kuang>

20. For 10 points each, answer some questions about evo-devo, or evolutionary developmental biology:

[10] This important set of genes serves as the master regulator of embryonic development. These highly conserved genes encode transcription factors with a 60-amino-acid-long DNA-binding domain.

ANSWER: **Hox** genes

[10] The "deep" form of this phenomenon is an important concept in evo-devo. This term also refers to the similarity of structures and genes due to shared ancestry, and is usually contrasted with analogy.

ANSWER: **homology**

[10] The egg-polarity genes *bicoid* and *nanos* display this phenomenon, in which the mother's genotype determines the offspring's phenotype. It is the result of the mother supplying proteins or mRNA to the oocyte.

ANSWER: **maternal effect** <Park>

21. Casualties on this beach were the highest because of the roughly 150 foot cliffs overlooking it. For 10 points each:

[10] Name this D-Day beach. Taking this beach was the responsibility of the US Army troops and was attacked by the 29th Infantry Division.

ANSWER: **Omaha** Beach

[10] The operation with this code name involved the creation of a fictitious 1st US Army Group that was training for an assault on Calais. This operation featured the use of inflatable tanks and diverted German resources away from Normandy.

ANSWER: Operation **Fortitude**

[10] Operation Bodyguard was executed by this American General. This man also gave the order "play ball" as a code phrase to begin the relief of Bastogne during the Battle of the Bulge.

ANSWER: George S. **Patton** <Jin>