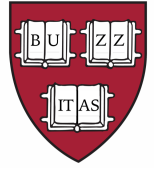


Harvard Fall Tournament XIII

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Round 13

Tossups

1. **In a poem, this author imagines “cloudy symbols of a high romance” that the speaker “may never live to trace” with the “magic hand of chance.” This author of “When I Have Fears That I May Cease to Be” stated “a thing of beauty is a joy forever” in a poem that imagines the love of Cynthia for the title Greek shepherd. This author of (*) “Endymion” wrote a ballad which asks “what can ail thee” to a knight-at-arms. In a different poem, this writer of “La Belle Dame Sans Merci” addresses a “still unravish’d bride of quietness” and declares “beauty is truth, truth beauty.” For 10 points, name this poet of “Ode on a Grecian Urn.”**

Answer: John Keats <Gioia>

2. **Description acceptable. Shamash daily visits a tree in this place that gives precious gems as fruit. One character is described as losing a drum and ball in this place in an extra tablet, and rules of this place ban things like shouting and wearing clean garments. This place is variously named Kur and Ereshkigal, after its queen. Inanna removes seven articles of clothing to pass through the seven gates guarding this place. After (*) Enkidu was unwillingly taken to this place, his best friend and king of Uruk went on a quest to find the plant of life and so avoid going here as well. For 10 points, describe this location where Gilgamesh went upon his death.**

ANSWER: the Sumerian underworld (accept Mesopotamian, Babylonian, or Akkadian underworld; accept Irkalla, Kur, or Ereshkigal before mention) <Owen>

3. **An object of this name is a Seyfert 2 galaxy that is distinguished from Seyfert 1 galaxies by their lack of broad band emission lines. An entity with this name has the larger mass of the two entities whose wavefunctions are addressed by the Born–Oppenheimer approximation. An object with this name is also called a (*) cloud seed and allows water vapor to condense and form droplets. The outer membrane of another object with this name contains pores through which mRNA, after being transcribed from chromosomes, can exit this object. For 10 points, give this word which names the center most component of a eukaryotic cell.**

ANSWER: nucleus <K. Li>

4. **People sing a song titled for this person at the conclusion of the *Havdalah* ceremony. An empty chair is set aside for this figure during *brit milah* circumcision ceremonies. This man raised the dead son of the widow of Zarephath, and previously, this man survived on bread and meat brought to him by (*) ravens. This man’s disciple is the origin for the phrase “taking up the mantle.” After ending a seven-year drought, this man ascended Mount Carmel, where he won a challenge against the followers of Baal by having fire come down from heaven. For 10 points, name this prophet who went up to heaven in a chariot of fire.**

ANSWER: Elijah (or Elias; do NOT accept or prompt on “Elisha”) <Suh>

5. During debates over these laws, Edmund Burke gave a speech that said “Again, and again, revert to your own principles—Seek Peace, and ensue it.” One of these laws restricted the number of town hall meetings to one per year. These laws installed Thomas Gage as the governor of a colony. These laws were passed alongside the (*) Quebec Act, which angered the target audience of these laws. A provision in these laws later led to the ratification of the Third Amendment of the Constitution. These laws closed down Boston harbor until the colonists paid for the Tea Party. For 10 points, name these punitive laws designed to punish Massachusetts.

ANSWER: Intolerable Acts (or Coercive Acts) <Suh>

6. This poet described a character who woos a “blue-eyed maid” and cries, “Skoal!” in a poem inspired by the discovery of a skeleton of an apparent Viking. A character in one of this man’s poems “thought of Christ, who stilled the wave, / On the Lake of Galilee.” Sections like “The Four Winds” and “The (*) White Man’s Foot” appear in one of this author’s epics, and another is titled *Evangeline, A Tale of Acadie*. The most famous poem by this author of *The Song of Hiawatha* begins, “Listen, my children, and you shall hear.” For 10 points, name this American poet who relates a warning of the incoming British forces in his “Paul Revere’s Ride.”

ANSWER: Henry Wadsworth Longfellow [*Ed’s note*: unnamed poems are “The Skeleton in Armor” and “The Wreck of the Hesperus.”] <Horton>

7. An artist from this country will design a statue to memorialize the death of Saman Kunan. On November 10, 2018, Apple opened its first store in this country. Anesthetist Richard Harris was given diplomatic immunity by this country’s government for his assistance with a certain event. A group of (*) children from this country met LA Galaxy player Zlatan Ibrahimovic on an *Ellen* appearance. John Volanthen and Vern Unsworth were among the divers involved in a rescue operation in this country. For 10 points, name this country where twelve youth soccer players were rescued from the Tham Luang cave.

ANSWER: Thailand <R. Li>

8. Solving Laplace’s equation for this geometry often requires Bessel functions. A Gaussian surface of this shape is used to derive the electric field for an infinite line of charge, and the capacitance per length for a system with this geometry has an inverse logarithmic dependence on radii [“RAY-dee-eye”]. It’s not a disk, but this shape with a (*) one-half $m r$ -squared moment of inertia always achieves a higher velocity down an incline than a thin hoop. The coordinate system named for this geometry has r , θ , and z axes, and a solenoid has this shape. For 10 points, name this geometry, named for a shape with volume formula πr -squared h .

ANSWER: cylindrical (accept word forms; accept cylindrical shell) <Yue>

9. One of these figures clutches a cloth in a sculpture that was one of the first to use the *pubica* pose. A sculpture of one of these figures shows him leaning on a tree about to catch a running lizard, thus giving it the name *Sauroctonos*. Filippo Marinetti claimed that a race car was more beautiful than a famous sculpture of one of these (*) figures in a manifesto of the Futurist movement. A headless sculpture of one of these figures in the Louvre has its wings swept back, is titled for Samothrace, and is meant to represent the “Winged Victory” incarnation of one of these figures. For 10 points, describe this type of figure such as Nike, Apollo, or Venus.

ANSWER: Greco-Roman gods (or Greco-Roman goddesses; accept any reasonable synonyms like “deities”; accept answers mentioning “Greek” or “Roman” instead of “Greco-Roman”; accept any specific answer of Apollo, Venus, Nike, or Victory) <Chu>

10. This scientist was criticized alongside Gail Hudson for plagiarizing from astrology website, “Find Your Fate” and Wikipedia in the original draft of *Seeds of Hope*. Alongside Biruté Galdikas and Dian Fossey, this person made up a group of “Angels,” and she first reported the “Four Year War” of Gombe. This scientist studied individuals nicknamed (*) Frodo, Flo, and Goliath, and through observations of David Greybeard “fishing” for termites using straws, she found evidence for non-human tool usage. For 10 points, name this British scientist known for her studies of chimpanzees in Tanzania.

ANSWER: Jane Goodall <Owen>

11. After a hiatus, a band formed in this city released *Crack-Up* in 2017. “Shake” and “Another Story” are songs on *Let’s Be Still*, the last album recorded in this city by The Head and the Heart. This home city to Fleet Foxes was also the founding city of a band with a song wishing, “If everything could ever feel this real forever.” After the death of the lead singer of the album (*) *Bleach*, a drummer in this city founded the band behind songs like “Best of You” and “Everlong.” This city’s grunge scene was home to Dave Grohl and Kurt Cobain. For 10 points, name this Pacific Northwest city with a music scene once home to Nirvana.

ANSWER: Seattle, Washington <Levine>

12. As Clarissa Vaughn arrives to take poet Richard Brown to one of these events in Michael Cunningham’s *The Hours*, Richard jumps from a window. During one of these events, a man is asked why the chicken crossed the road, and a game of blind man’s bluff occurs before that man attempts to rape Lulu. Laura Sheridan learns of a working class (*) neighbor’s death while preparing for one of these events. A Harold Pinter play is titled for one of these occasions with Goldberg, McCann, and Stanley, and Kate Mansfield wrote about a “Garden” instance of them. For 10 points, describe these celebratory events that Jay Gatsby hosts.

ANSWER: party (accept obvious equivalents; accept specific types of parties like birthday party, garden party, dinner party, etc.) <Levine>

13. Zampano breaks down in one of these places after hearing of Gelsomina’s death in Federico Fellini’s *La Strada*. Antonius Block plays chess with Death in one of these places in *The Seventh Seal*, and *The 400 Blows* ends with a freeze frame of Antoine Doinel in one of these places. A 27-minute sequence set in one of these places beginning with the arrival of Sergeant Horvath, Captain (*) Miller and others depicts a soldier picking up his severed arm and other gory events that reportedly triggered veterans’ PTSD. For 10 points, describe this kind of location depicted at the beginning of Spielberg’s *Saving Private Ryan* as one in Normandy is stormed.

ANSWER: beaches (accept shorelines; accept coastlines; prompt on answers like the sea or the ocean by asking, “What section of the sea/ocean?”) <Chu/Yue>

14. Dietrich Nieheim wrote that this ruler would have spared Smyrna had its defenders, the Knights Hospitallers, displayed this man’s banners on the castle walls. The elderly Ibn Khaldun was lowered down from the walls of Damascus by rope to negotiate with this man. The Ottoman Interregnum began after this man’s capture of (*) Bayezid I at the Battle of Ankara. Eyewitness accounts recorded this man building pyramids of severed human heads. This man who killed 5% of the world’s population at the time was buried in his capital city of Samarkand. For 10 points, name this Turkish nomadic conqueror who walked with a limp.

ANSWER: Timur the Lame (or Tamerlane) <Suh>

15. A symphony by this composer opens with a unison statement of the melody B-B-C-E-D-sharp-B-D-B, which is inscribed on his tomb. This composer began one tone poem with high-E harmonics by the violins, and another of his works alternates “Gliding Dance[s] of the Maidens” with “Dance[s] of the Boys.” “Traveling” and (*) “Eastern” themes feature in a tone poem by this composer, who wrote an A-major “Notturmo” as the third movement of his second string quartet and closed an opera’s second act with dances by Khan Konchak’s slaves. For 10 points, name this Russian composer of *In the Steppes of Central Asia* and the “Polovtsian Dances” found in *Prince Igor*.

ANSWER: Alexander **Borodin** <Yue>

16. Winifred Carney participated in this event as a secretary for the leaders of one side of this event. During this event, fighting occurred at Boland’s Mill and Jacobs Biscuit Factory. In the aftermath of this event, a man who was jailed in Pentonville Prison declared that he was to be “hanged on a comma.” That man, who attempted to (*) smuggle in arms from Germany for this event, was Roger Casement. During this event, James Connolly and Patrick Pearse issued the Proclamation of the Republic from the rebel headquarters at the General Post Office. For ten points, name this 1916 Irish rebellion that occurred on a Christian holiday.

ANSWER: **Easter** Rising (or **Easter** Rebellion; accept **Eiri Amach na Casca**) <Huang>

17. Umberto Eco’s essay titled for the “narrative structures” of this author identified 14 recurring pairs of opposing characters or values in this author’s works. In a novel by this author, the protagonist’s children warn Monsieur Bon-Bon of an impending chocolate shop burglary that is later thwarted by the title vehicle, (*) *Chitty-Chitty-Bang-Bang*. In a novel by this author, the protagonist is tasked with bankrupting “The Cipher” by playing baccarat at a French casino. A character created by this author appears in books such as *Thunderball*, *For Your Eyes Only*, and *Casino Royale*. For 10 points, name this British author who created James Bond.

ANSWER: Ian **Fleming** <R. Li>

18. A critique of teleological historicism by Karl Popper discusses the spell of this thinker, and describes him as laying the groundwork for totalitarianism. This thinker used a swarm of bees to illustrate between listing instances as opposed to defining the essence of a particular quality. A work by this man describes a theory of knowledge called *amnesis*, and features an education experiment involving a (*) slave boy. A work by this thinker features a shepherd who exploits a ring to do evil, advocates for philosopher kings, and describes a theory of forms in the “Allegory of the Cave.” For 10 points, name this a student of Socrates who wrote *The Republic*.

ANSWER: **Plato** <Jin>

19. A facility storing material for this initiative experienced the PEPCON explosion. The Soviet Union developed the Buran as a response to this program. The Rogers Commission investigated an event that occurred in this program. The first vehicle created for this program, the *Enterprise*, was not actually used for any (*) missions. One of the more famous participants of this program was Sally Ride, who was the first American woman in space. This program was discontinued in 2011 after 135 missions. For 10 points, name this spacecraft system operated by NASA, which included orbiters such as *Columbia* and *Challenger*.

ANSWER: **Space Shuttle** (or **Space Transportation System**; or **STS**; prompt on *Challenger* and *Columbia* until mention; I guess prompt on NASA until mention) <Suh>

20. **To obtain a lower bound on particle size in this technique, one can use the Scherrer equation which includes a term for the FWHM of the data. Margaret Thatcher used this technique to elucidate the structure of gramicidin [ˈɡrɑːh-miːh-ˈsɪe-dɪn] S while studying under Nobel Laureate Dorothy (*) Hodgkin.** In this technique the sample is slowly rotated in a beam of radiation and the resulting diffraction pattern is recorded. This technique uses Bragg's law to determine the structure of a sample based on its X-ray diffraction pattern. For 10 points, give this technique whose X-ray variant Rosalind Franklin used to help determine the structure of DNA.
ANSWER: **crystallography** (accept specific types) <K. Li>

21. **In many protocols involving antibodies such as western blots, immunoprecipitation, and immunogold staining, a solution described by this word must be added to the sample to prevent non-specific binding. Matrices described by this word, which are partitioned into (*) smaller matrices, can make performing matrix operations like multiplication and inversion easier.** This organizational category describes elements that are from adjacent groups with each type of this category named after its characteristic orbital. For 10 points, give the name of an object that sits on a ramp in a popular demonstration of friction in physics.
ANSWER: **block** <K. Li>

Bonuses

1. Answer some questions about the Estonian composer Arvo Pärt for 10 points each:

[10] Pärt is a member of the “holy” variant of minimalism, a movement from this country. Terry Riley, Steve Reich, and Philip Glass pioneered minimalism in this country’s cities of New York City and San Francisco.

ANSWER: United States of America (accept either underlined part; accept abbreviations like U.S.A.)

[10] Arvo Pärt wrote a *Cantus in memoriam* for this composer. This 20th-century British composer wrote many roles in operas like *Billy Budd* and *Peter Grimes* for his partner, Peter Pears.

ANSWER: Benjamin Britten

[10] Unlike Bach’s Passions, which portray this man as a bass, Pärt’s *Passio* portrays this man as a tenor. This man sings “Behold the man” when presenting Jesus to a crowd and earlier asks “what is truth?” while interrogating Jesus.

ANSWER: Pontius Pilate (accept Pilatus) <Minton>

2. Brooks and streams are used to represent Alice moving around a world-sized board for this game in *Through the Looking Glass*. For 10 points each:

[10] Name this game, the wizard’s variant of which is played by Harry and Ron in *Harry Potter and the Sorcerer’s Stone*. Ron sacrifices himself in this game so that Harry can achieve checkmate.

ANSWER: chess

[10] A 1938 237-move match of this other game is recounted in a novel describing an old master’s loss to a younger player in a “retirement game.” An unexpected move in this game is compared to “smearing ink over a picture.”

ANSWER: go (accept *The Master of Go*)

[10] This German described a game that has universal symbols by Joculator Basiliensis in *The Glass Bead Game*. He also wrote about a search for enlightenment in *Siddhartha*.

ANSWER: Hermann Hesse <Yue>

3. Answer the following questions about prominent political families in American history, for 10 points each:

[10] At least one member of this family has continuously held federal elective office since 1947, the most famous of whom was a president who was assassinated in 1963 by Lee Harvey Oswald.

ANSWER: Kennedy

[10] A man from this early American family, Charles Cotesworth, unsuccessfully ran for president in 1804, while his brother Thomas was once the Governor of South Carolina.

ANSWER: Pinckney

[10] One member of this family, who was a son of a former president, unsuccessfully sought the Republican nomination three times, but was nonetheless named one of the five greatest Senators of all time.

ANSWER: Taft <Suh>

4. For 10 points each, answer the following about entomophagy, or the act of eating insects.

[10] This man hosts the show titled “Bizarre Foods with” himself, on which he often eats insects including giraffe beetles in Madagascar and tarantulas in Cambodia.

ANSWER: Andrew Zimmern

[10] Many people unintentionally commit entomophagy when eating this fruit, which is often eaten as jam inside a sweet roll. Wasps lay eggs inside these fruits before being digested.

ANSWER: figs

[10] A popular culinary bug is the larvae of coconut worms, which is considered a delicacy in this Southeast Asian country. Other well-known cuisine from this country include banh mi and pho [“fuh”].

ANSWER: Vietnam <Duffy>

5. The man who coined this phrase had earlier collaborated with cellist Charlotte Moorman on a scandalous performance in New York City where Moorman was arrested for playing the cello topless. For 10 points each:

[10] Give this phrase emblematic of the digital age that was coined by Nam June Paik [“**beck**”]. A work by Paik titled for this phrase and “*Continental U.S., Alaska, Hawaii*” shows various televisions in the shape of America.

ANSWER: “**electronic superhighway**”

[10] *Electronic Superhighway: Continental U.S., Alaska, Hawaii* is located at the SAAM in this city. The SAAM’s branch gallery, the Renwick, is also located in this city, as are the Hirshhorn Sculpture Garden and an East Wing designed by I. M. Pei.

ANSWER: **Washington, D.C.** (accept either underlined portion, as well as **District of Columbia** in place of “D.C.”) [*Ed’s note*: the SAAM is the Smithsonian American Art Museum; the East Wing refers to that of the National Gallery.]

[10] The vogue of television was intrinsic to this TV channel launched in 1981. It premiered with an image of an astronaut planting its flag on the moon and the music video to “Video Killed the Radio Star.”

ANSWER: **MTV** (or **Music Television**) <Chu/Kuang>

6. This character wonders if he should “have the strength to force the moment to its crisis” after noting how “the evening sleeps so peacefully.” For 10 points each:

[10] Name this character titling a poem in which he is “not Prince Hamlet, nor was meant to be.” At one point he wonders “do I / dare disturb the universe?” opens the poem declaring, “Let us go then, you and I.”

ANSWER: J. Alfred **Prufrock**

[10] This poet wrote “The Love Song of J. Alfred Prufrock” along with critical essays like “Hamlet and His Problems.” Most famously, he wrote the long modernist poem *The Waste Land*.

ANSWER: T. S. **Eliot**

[10] This NON-Eliot poem notes how “all perform their tragic play” and “though Hamlet rambles and Lear rages...[tragedy] cannot gro.” It also describes “two Chinamen,” “a symbol of longevity,” and “a serving-man.”

ANSWER: “**Lapis Lazuli**” [*Ed’s note*: the poem is by W. B. Yeats.] <Yue>

7. One of the most iconic images from this political movement was the “It’s High Noon” election poster. For 10 points each:

[10] Name this trade union begun by Lech Wałęsa [“**vah-WEH-sa**”] at the Lenin shipyard in 1980.

ANSWER: **Solidarity** (or **Solidarność**)

[10] In 1989, this country’s government invited Solidarity to the so-called “Round Table Talks” in its capital Warsaw to ease social unrest. Solidarity is still active as a trade union in this country.

ANSWER: **Poland**

[10] Another anti-communist movement in Poland was an “Alternative” movement named for this color, which started in Wrocław [“**VROT-zwaff**”]. A revolution named for this color took place in Ukraine from 2004 to 2005.

ANSWER: **orange** (accept **Orange** Alternative; accept **Orange** Revolution) <Huang>

8. Answer the following about volcanoes and their place in various mythologies. For 10 points each:

[10] Name this Pacific island whose volcano Kīlauea is considered to be the home of the goddess Pele.

ANSWER: **Hawaii**

[10] According to Alaskan myth, the “great” ones of these birds were once said to have lived in volcanoes until they captured and ate the wife of a hunter, who killed all of these birds living in volcanoes in retribution.

ANSWER: **eagles**

[10] Mt. Etna’s volcanic eruptions were explained as the breath of this giant, who was said to be trapped under the volcano by Athena. Do not confuse this giant with Typhon.

ANSWER: **Enceladus** <Suh>

9. For 10 points each, answer the following about news outlets that have become notable in 2018.

[10] In September, this newspaper published an anonymous op-ed whose author claimed to be “working diligently from within to frustrate” the President’s agenda. This newspaper’s columnists include Paul Krugman [“kroog-mun”].

ANSWER: The New York Times (accept NYT; prompt on Times)

[10] This website often publishes bogus stories and conspiracy theories, including claims that the Sandy Hook shootings were false flag operations. After this website’s founder heckled Marco Rubio on camera, Rubio responded by threatening to personally “take care of [him].”

ANSWER: InfoWars

[10] In August, this newspaper urged editorial boards across the nation to condemn President Trump’s “relentless assault on the free press.” This newspaper published a 2002 exposé [“ex-poe-zay”] of child sex abuse in the Catholic Archdiocese, as depicted in the 2015 film *Spotlight*.

ANSWER: The Boston Globe (prompt on the Globe) <R. Li>

10. The most famous work of Edward Tylor is titled for a “primitive” one of these concepts. For 10 points each:

[10] Name this concept that represents the collective set of beliefs and values of a society. Moving to a foreign country across the world may cause a “shock” named after this concept.

ANSWER: culture

[10] This anthropologist defined culture as “personality writ large” in her book *Patterns of Culture*, but is better known for discussing Japanese shame culture in *The Chrysanthemum and the Sword*.

ANSWER: Ruth Benedict

[10] This anthropologist wrote a 1976 book that discussed the materialistic and symbolic theories of culture. He also posited that the hunter-gatherers were the “original affluent society.”

ANSWER: Marshall Sahlins <Suh>

11. This character ridicules the Crystal Palace for being an “idle dream.” For 10 points each:

[10] Name this asocial character who “finds enjoyment in a toothache.” In a Russian novella, he pushes the prostitute Liza away in a section titled “Apropos [“AH-pro-poe”] of the Wet Snow.”

ANSWER: the Underground Man (accept the unnamed narrator of Notes from the Underground or Letters from the Underworld)

[10] The Underground Man narrates this Russian author’s novella *Notes from the Underground*. He also wrote *Crime and Punishment* and *The Brothers Karamazov*.

ANSWER: Fyodor Mikhailovich Dostoevsky

[10] The Underground Man asserts that this mathematical statement is “sometimes a very charming thing” although not completely rational. Using the principle of *doublethink*, O’Brien tells Winston Smith that this statement is true.

ANSWER: 2 + 2 = 5 (accept equivalents like two and two is five) <Yue>

12. The English scholar Alcuin of York served in this ruler’s court. For 10 points each:

[10] Name this Carolingian ruler whose rule heralded a namesake “Renaissance.”

ANSWER: Charlemagne (or Charles the Great; or Charles I; or Carolus Magnus; prompt on partial answer)

[10] Charlemagne opposed the decision of the second ecumenical council held in this city that restored the veneration of icons. The first ecumenical council held in this city produced a namesake “creed” after striking down the Arian heresy.

ANSWER: Nicaea (accept Nicene Creed)

[10] Charlemagne was crowned the King of these people in 774 after laying siege to Pavia and removing their king Desiderius.

ANSWER: Lombards <Suh>

13. The Chinese proverb “Three laughs at Tiger Brook” illustrates the harmony between Buddhism, Confucianism, and this religion. For 10 points each:

[10] Name this religion that emphasizes the importance of *wu wei*, or action through inaction. It also uses yin and yang to illustrate the importance of balance.

ANSWER: **Taoism** (or **Daoism**)

[10] This sage and founder of Taoism is credited with writing the *Tao Te Ching*, which is considered to be one of the religion’s two fundamental texts.

ANSWER: **Laozi** (or **Lao-Tzu**; or **Lao-Tze**)

[10] This philosopher is the namesake of the other fundamental text of Daoism, in which he contemplates whether he is a man who dreamed of being a butterfly or a butterfly who dreamed of being a man.

ANSWER: **Zhuangzi** (or **Zhuang Zhou** or **Chuang Tzu**) <Duffy>

14. For 10 points each, answer some questions about the physics and mathematics of density functional theory, or DFT.

[10] DFT is a computational method to solve an equation named for this scientist which has time-independent and time-dependent varieties. Without observation, it is unclear whether this scientist’s theoretical cat is dead or alive.

ANSWER: **Schrödinger** equation

[10] Due to the antisymmetry under exchange of many-electron wavefunctions, examples of this quantity named for Slater are used to represent them in DFT. These quantities, which are only defined for square matrices, can be computed by expansion by minors.

ANSWER: **determinant**

[10] The meta-GGA functional contains a term involving an operator named after this French scientist, equivalent to the divergence of the curl. Expansion by minors is also known as this man’s expansion.

ANSWER: Pierre-Simon **Laplace** <K. Li/Yue>

15. A scene in this film juxtaposes dialogue like “Well, I would like to take a serious photography course” with subtitles of the characters’ inner thoughts like “He probably thinks I’m a yo-yo.” For 10 points each:

[10] Name this film in which Diane Keaton plays the title woman. At its beginning, we are introduced to the protagonist Alvy Singer, a neurotic Jewish man who narrates the rest of the film.

ANSWER: **Annie Hall**

[10] *Annie Hall* is a film by this director. In recent years, he has come under fire for allegations of sexual assault made by his adoptive daughter Dylan Farrow.

ANSWER: Woody **Allen** (or Heywood **Allen**; or **Allan Stewart Konigsberg**)

[10] Woody Allen’s *Manhattan* is one of these kinds of films, many of which were colorized in the 1990s. These films were still made by Hollywood into the 1950s despite the existence of Technicolor since the 1920s.

ANSWER: **black-and-white** films <Yue>

16. Till is the name for unsorted sediment originating from erosion caused by these things. For 10 points each:

[10] Name these large mobile ice sheets, whose feats of erosion are also thought to have formed the Great Lakes.

ANSWER: **glacier**

[10] The accumulation of glacial till creates these landforms, an example of which is the Giant’s Wall in Norway. The terminal variety of this landform marks the maximum advance of a glacier.

ANSWER: **moraine**

[10] This is the term for the rise of land masses after the lifting of glacial weight.

ANSWER: **isostatic rebound** (accept **post-glacial rebound** or **crustal rebound**; prompt on **rebound** or **isostasy**) <Duffy>

17. The 1993 novel *Pigs in Heaven* is the sequel to a novel named after this food. For 10 points each:

[10] Name this food featured in the title of that Barbara Kingsolver work about Taylor Greer and her adoptive daughter Turtle. A poem by a different author about people eating this food says that “dinner is a casual affair.”

ANSWER: **beans** (accept *The Bean Trees* or “The **Bean** Eaters”; accept more specific types of **beans**)

[10] This poet of “The Bean Eaters” ended seven out of eight lines with the word “We” in her poem “We Real Cool.” Her only published novel is *Maud Martha*.

ANSWER: Gwendolyn Elizabeth **Brooks**

[10] Brooks’ *Maud Martha* takes place in this city, which also titles a Carl Sandburg poem with an opening calling it “Hog Butcher for the World.” Upton Sinclair’s *The Jungle* takes place in this midwestern city.

ANSWER: **Chicago** <Levine>

18. Recent research by scientists in Australia suggests that plants have the ability to hear. For 10 points each:

[10] That research was conducted using this plant, a genus of rockcress. It’s frequently used as a model organism, especially in studies of non-Mendelian inheritance.

ANSWER: ***Arabidopsis thaliana*** (or ***A. thaliana***)

[10] Gagliano and her team found that this part of the plant grew towards the vibrations of water running through a pipe. *Arabidopsis* has the tap type of this organ, and in general in plants, this organ draws water and nutrients from the soil.

ANSWER: **root**

[10] This term describes the purposeful growth of a plant in response to stimulus. Its “thigmo” variety describes a plant’s growth in response to touch.

ANSWER: **tropism** (accept word forms) <K. Li>

19. This leader started the Guulwade cult of personality and touched off a Cold War crisis when he invaded a neighboring country’s Ogaden region. For 10 points each:

[10] Name this dictator who switched his allegiance during the Cold War when the Soviet Union refused to support his invasion of Ethiopia.

ANSWER: Ahmed **Siad Barre** [“see-ahd BAH-ray”] (require both parts)

[10] Siad Barre led this country, made up of a former Italian colony merged with a former British one on the horn of Africa. This country lapsed into a very long period of civil war after Siad Barre’s death.

ANSWER: **Somalia**

[10] The warlord Mohamed Farrah Aidid, who took control of Mogadishu after Siad Barre died, was the target of a US operation given this nickname after a type of US helicopter that crashed near its outset. This phrase also titles a 2001 Ridley Scott film about the same operation.

ANSWER: “**Black Hawk Down**” <Myers>

20. This quantity is defined as the negative sum of probabilities times the base-2 log of those probabilities. For 10 points each:

[10] Name this quantity determining the minimal number of bits needed for encoding a data source on average, often denoted with a capital H.

ANSWER: information **entropy** (or Shannon **entropy**)

[10] Information entropy provides a mathematical limit on the lossless variety of this operation. Zipping a file performs this operation, which reduces file size.

ANSWER: data **compression**

[10] In contrast, an example of lossy data compression is this file format used for digital audio, which is formally known as either MPEG-1 and MPEG-2.

ANSWER: **MP3** (accept **.mp3**; prompt on **MPEG-2.5**) <Yue>

21. For 10 points each, answer some questions about simplifying calculations in physics:

[10] The reduced form of this quantity allows one to perform calculations on a two-body problem as if it were a one-body problem. It is calculated by taking half of the harmonic mean of two values for this quantity.

ANSWER: **mass**

[10] Reduced mass is represented with this Greek letter which also represents the coefficient of friction.

ANSWER: **μ** (or **mu**)

[10] Like reduced mass, the effective value for this quantity in a parallel circuit can be found by taking the reciprocal of the sum of reciprocals.

ANSWER: **resistance** <K. Li>