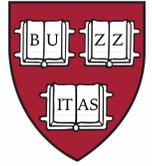


## Harvard Fall Tournament XIV

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Finals 1

Tossups

1. **A character becomes convinced that this man is the Antichrist after analyzing his name with the Hebrew system of enumeration. A character in a different novel justifies a murder he committed by telling a prostitute that he wanted to be like this man. A fictional article cites this man as an example of people who can justifiably commit (\*) crimes.** This man captures the wounded Andrei Bolkonsky, who joined the army to fight against this man. Pierre Bezukhov is obsessed with killing this man. This historical figure inspires Raskolnikov in Dostoevsky's *Crime and Punishment*. For 10 points, *War and Peace* depicts what Frenchman's invasion of Russia? ANSWER: Napoléon Bonaparte (accept either or both underlined parts)

<Suh, European Literature>

2. *Composer and genre required.* **The fifth of these works uses an E-minor clarinet opening melody as the main theme for its E-major finale. In the scherzo of the fourth of these works, strings only play *pizzicato* in F-major sections contrasted with an A-major section for winds. The last of them ends with a B-minor "Adagio lamentoso." These works have titles like (\*) "Winter Daydreams" and "Polish," and an unnumbered one is named "Manfred." A 5/4 "limping waltz" features in the last of these works, in which a marking of 6 *p*'s precedes a *fortissimo* crash.** For 10 points, name these orchestral works by a Russian composer including the "Pathétique."

ANSWER: symphonies by Pyotr Ilyich Tchaikovsky (prompt on partial answer)

<Yue, Music>

3. **A holder of this position wrote a letter to "Benny" after witnessing the gruesome death of a child in a train accident. The Highway Beautification Act was championed by a holder of this position who became a millionaire by investing in radio properties in Texas. Another holder of this position was known as "Lemonade" for her support of (\*) temperance.** A holder of this position supported the "Just Say No" advertising campaign against drug use. An earlier holder of this position saved a copy of a portrait of George Washington during the burning of Washington DC. For 10 points, give this title often held by the wife of the President.

ANSWER: First Lady of the United States (or FLOTUS) [*Writer's note:* In order of appearance, the First Ladies mentioned are Jane Pierce, Lady Bird Johnson, Lucy Hayes, Nancy Reagan, and Dolley Madison.]

<Suh, American History>

4. Alfred Tarski's theory of truth applies only to "formal" ones of these constructs. An A. J. Ayer book discusses [this concept], *Truth, and Logic*, and W. V. O. Quine's fictional example of it named Arunta features the concept of *gavagai*. A builder calls out "block" and "pillar" in an example of "games" of this concept described in a work that refutes a (\*) "picture theory" of it. A "private" one of these constructs does not exist according to Ludwig Wittgenstein ["**VIT-gen-shtein**"]. An innate human capacity for this concept is posited by Noam Chomsky's theory of universal grammar. For 10 points, name these systems studied by linguistics, which include French and English.

ANSWER: **languages**

<Yue, Philosophy>

5. The rape and death of a prostitute from this place sparked the bloody civil war at the end of the Book of Judges. Rachel died while giving birth to Benjamin near this place. Micah 5:2 ["**chapter 5, verse 2**"] wrote that a ruler of Israel was to come forth from this town that is "too little to be among the clans of Judah." Ruth met Boaz while working in this town, and Samuel met (\*) Jesse's household in this town. The Massacre of the Innocents occurred here, and a census decreed by Augustus made it difficult for a family to find lodging in this town. A star guided the three wise men to this town. For 10 points, name this little town where Jesus was born.

ANSWER: **Bethlehem** (or **Ephrathah**; or **Ephrath**)

<Suh, Religion>

6. The SHERLOCK diagnostic kit uses this technology to detect the Zika virus. Precursors to this technology such as ZFNs and TALENs ["**talons**"] are inefficient due to their reliance on specific recognition proteins. This technology targets repeated sequences that contain two guanine residues, which are known as protospacer-adjacent motifs, or PAMs. This technology uses (\*) crRNA ["**C-R-RNA**"] and tracrRNA ["**tracker-RNA**"] to designate a location where a Cas9 endonuclease can cut the genome and a new sequence can be inserted. For 10 points, name this gene-editing technology adapted from bacterial antiviral systems.

ANSWER: **CRISPR/Cas9 gene-editing** (accept **clustered regularly interspaced short palindromic repeats**; prompt on **gene-editing** before mention)

<Duffy, Biology>

7. A character created by this author scatters ball bearings around his room to foil an imaginary murder plot. The narrator of a story by this author switches between first and third person to describe a photo of a boy and a woman in a fur coat. A "counter-novel" by this author features Ossip Gregorovius as a member of the Serpent Club, which reveres the critic Moreli. After repeatedly visiting an aquarium, a character created by this author turns into an (\*) axolotl. A novel by this author recounts Horacio Oliveira's mental decline after abandoning his lover La Maga, and contains 99 "expendable" chapters and a Table of Instructions. For 10 points, name this Argentine author of *Hopscotch*.

ANSWER: Julio **Cortázar**

<R. Li, World Literature>

8. The short-lived *Numerus Batavorum* served in a similar capacity to this group. Members of this group were the only ones allowed to be armed within the Pomerium. Cleander called himself *pugione*, or "dagger-bearer," after seizing control of this group. This group murdered Pertinax and subsequently auctioned off the emperors to Didius Julianus. According to tradition, members of this group discovered (\*) Claudius hiding behind a curtain and declared him emperor. This military unit was disbanded by Constantine the Great. For 10 points, name this elite military unit that served as the bodyguards of Roman emperors.

ANSWER: **Praetorian Guard** (or **cohortes praetorianae**)

<Suh, Ancient History>

9. Near the end of a movie he appears in, this character reveals that he injured his fingers while reassembling a door. This character's date at Harryhausen's with his girlfriend Celia Mae is interrupted by the CDA. In order to explain why he was yelling, this character says that he is rehearsing the play *Put That Thing Back Where It Came From or So Help Me*. This character submits his paperwork to (\*) Roz, who constantly tells him that she is watching him. This character is rescued from being tortured by a "Scream Extractor" operated by Randall Boggs. For 10 points, name this one-eyed green companion of Sulley and Boo in *Monsters, Inc.*

ANSWER: Michael "Mike" Wazowski (accept any of the underlined parts)

<Suh, Trash>

10. This artist created a hill-shaped work comprised of many 2x4 beams of wood for the *Systematic Landscapes* series. This artist incorporated a relative's poetry into a work at a Cleveland Public Library "Reading Garden." This artist traced Lewis and Clark's path along the Columbia River in the *Confluence Project* series. This artist depicted rippling waves of grass in a (\*) "field" at the University of Michigan. Frederick Hart's *The Three Soldiers* is next to a work by this artist that is a black granite wall engraved with over 50,000 names. For 10 points, name this Chinese-American artist of the Vietnam Veterans Memorial.

ANSWER: Maya Lin

<R. Li, Sculpture>

11. The  $n$ -vector model generalizes a model of these materials in which their namesake property is given by *positive* interaction terms " $J$ -sub- $i$ -comma- $j$ ." The flux through these materials increases by sudden jumps as an applied magnetic field is increased. Heisenberg modified a model of these materials whose 2-D form was solved by Lars Onsager. These materials display the (\*) Barkhausen effect and are described by the Ising model. These materials exhibit hysteresis and gain their namesake property when their Weiss domains align below the Curie temperature. For 10 points, name these permanent magnets featured in cobalt, nickel, and iron.

ANSWER: ferromagnets (accept ferromagnetism; prompt on just magnets or magnetism)

<Yue, Physics>

12. This character's daughter opens a gate for him that cannot be closed again. As this character is thinking on Mount Niphates ["NIH-fah-tees"], the lack of pure joy on his face alerts another character to his plans. Abdiel abandons this character and participates in a battle against him. This character successfully disguises himself to trick (\*) Uriel. Mulciber builds this character's palace. "Squat like a toad," this character whispers into the ear of a woman to induce nightmares. This character tells Beelzebub that it is "better to reign in Hell than serve in Heaven." For 10 points, name this character who causes "Man's first disobedience" in *Paradise Lost* by John Milton.

ANSWER: Satan (or the Devil; or Lucifer)

<Suh, British Literature>

13. This technique can be used to find a quantity proportional to a molecule's attenuation cross section. This technique often measures electronic  $\pi$ -to- $\pi^*$  transitions. A more conjugated molecule will shift its peak rightward in the output of this technique, as predicted by the Woodward-Fieser ["FYE-ser"] rules. Calibration curves give a linear relationship between concentration and (\*) absorbance in this technique, in which samples are loaded in quartz cuvettes. Data analysis following this technique involves using Beer's law. For 10 points, name this spectroscopy technique measuring an often colorful compound's absorbance of above-infrared light.

ANSWER: spectrophotometry (prompt on absorption spectroscopy; accept UV/vis spectroscopy or ultraviolet/visible spectroscopy; generously accept colorimetry)

<Yue, Chemistry>

14. In one of this man's paintings, a figure lies on top of a pillar in front of a Greek temple and the outline of a pyramid in the background. In the final painting in a series by this man, a full moon is partially obscured by clouds in the background and vines cling to a large, crumbling pillar in the foreground. Another painting by this man set "after a thunderstorm" depicts a view from Mount (\*) Holyoke. That scene by this artist of *Desolation* includes a gnarled tree that was struck by lightning as well as the titular bend in the Connecticut River. For 10 points, name this artist of *The Course of Empire* series and *The Oxbow*.

ANSWER: Thomas Cole

<Gioia, Painting>

15. In a *Transformers* review, a critic from this publication extols the "wildly imaginative...genius" of Michael Bay. An 18,000-word article in this publication examines Mark and Delia Owens's militant conservationism. Anthony Scaramucci called Reince Priebus a "paranoid schizophrenic" to a reporter from this publication. Margot has a terrible date with Robert in Kristen Roupenian's (\*) "Cat Person," which appeared in this publication. David Remnick is the editor of this publication, whose writers include Jane Meyer and the author of a Brett Kavanaugh exposé, Ronan Farrow. For 10 points, name this magazine whose title evokes a resident of the Big Apple.

ANSWER: *The New Yorker* (do NOT accept or prompt on "*The New York Times*" or "*New York Magazine*")

<R. Li, Current Events>

16. This author destroyed all video recordings and scripts of a play about the *Dreaming* title boy. One of this author's characters repeatedly asks "you rememory me?" in a stream-of-consciousness chapter, and another walks around with a noose every January 3rd, which she deems National Suicide Day. In a novel by this author with a prologue about Dick and Jane, a (\*) Shirley Temple mug causes Pecola Breedlove to desire the title feature. Stamp Paid appears in a novel by this author, in which the title character arrives at 124 Bluestone Road to the surprise of Paul D and her mother Sethe. For 10 points, name this recently-deceased author of *The Bluest Eye* and *Beloved*.

ANSWER: Toni Morrison [*Writer's note*: The first clue is *Dreaming Emmett* and the third is *Sula*.]

<Sayphraraj/Yue, American Literature>

17. A holder of this position, sometimes known as "nosey Parker," helped draft the Thirty-nine Articles. Holders of this position are said to occupy the Chair of St Augustine, named after the Benedictine monk who first held this position. The Accord of Winchester resolved a "primacy" dispute between holders of this position and their rivals in (\*) York. An exclamation by Henry II led four knights to kill a holder of this office. Thomas Cranmer held this position while editing the first two versions of the *Book of Common Prayer*. For 10 points, name this senior bishop of the Church of England, one of whom was Thomas Becket.

ANSWER: Archbishop of Canterbury

<Suh, British History>

18. A character in this myth system enchanted a group of rival bards so they could only say "Blerwm blerwn" ["BLERM BLERN"]. In this myth system, a king's head buried at White Hill continued to speak after death. In this myth system, a wife who was falsely accused of killing her son later became stuck to a magical (\*) golden bowl with her son. Those stories from this myth system about Taliesin ["tah-lee-EH-sen"], Bran, and Rhiannon ["ree-ANN-un"] are collected in the *Mabinogion* ["MAB-ih-NOH-gee-on"]. For 10 points, name this myth system that includes the heroes Pwyll ["poo-ith"] and Pryderi ["pruh-DARE-ee"] and originated from a country in the United Kingdom.

ANSWER: Welsh mythology (accept Wales; prompt on British mythology or Arthurian mythology)

<Duffy, Mythology>

19. **When the shockwaves produced by these events sweep up enough mass, the remnants of these events enter an adiabatic expansion phase. One type of these events occurs when stellar wind has not been able to drive off hydrogen from its atmosphere. These events are classified by the presence of Balmer spectral lines and can be further classified by the presence of (\*) silicon lines.** Star formation can be triggered by the kinetic energy dissipated by these events. One type of these events occurs when the Chandrasekhar limit is exceeded. One example of a standard candle is, for 10 points, the type Ia variety of what massive stellar explosions?

ANSWER: supernovae (do NOT accept or prompt on “novae”)

<K. Li, Astronomy>

20. **The first American to visit this site heard of it while looking for a white rock. Sacrifices made at this site were performed at The Altar of the Condor. This place is home to a rock whose name is sometimes translated as “The Hitching Post of the Sun.” That rock at this site which probably served as an astronomical clock was Intihuatana. Since 2006, (\*) Yale University has returned some artifacts removed from this site by Hiram Bingham.** Spanish conquistadors never discovered this terraced site even though it is only 80 miles from Cusco. An estate for Incan emperor Pachacuti [“pah-cha-KOO-tee”] was built at, for 10 points, what city in the Peruvian Andes?

ANSWER: Machu Picchu

<Laskin/Suh, World History>

21. **This man went through aliases like “Rudi” and “Walter” before settling on his most well-known name. In a letter, this man openly told one of his rivals to stop sending assassins to kill him and threatened to send one of his own. This man led his country through the “Informbiro” period and executed Draza Mihailovic, the leader of the royalist (\*) Chetniks.** This European member of the Non-Aligned Movement was expelled from the Comintern due to his feud with Joseph Stalin. This man’s Partisans are considered to be the most effective resistance group to the Germans during World War II. For 10 points, name this longtime dictator of Yugoslavia.

ANSWER: Josip Broz Tito (or Josip Broz)

<Suh, European History>

## Bonuses

1. It's not India, but this modern-day country experienced a period known as "The Emergency" in which this country's National Liberation Army waged guerrilla warfare under the leadership of Chin Peng. For 10 points each:  
[10] Name this Southeast Asian country that gained independence in August 1957. This country's capital, Kuala Lumpur, was founded circa 1857.

ANSWER: **Malaysia**

[10] Under British rule, Malaysia was the world's largest exporter of tin and this other resource, which meant that the Malaysian economy was not very diversified.

ANSWER: **rubber**

[10] Malaysia was affected by the broader 1997 Asian financial crisis, which prompted Indonesia, South Korea, and Thailand to receive bailouts from this international organization founded at the Bretton Woods conference.

ANSWER: **International Monetary Fund** (or **IMF**)

<Suh, World History>

2. This sociologist developed the concept of the social action that was later expanded upon in the work of Talcott Parsons, who translated many of this sociologist's works. For 10 points each:

[10] Name this sociologist who predicted a "polar night of icy darkness" in an essay that defines the state as having a "monopoly on the legitimate use of force," *Politics as a Vocation*.

ANSWER: Max **Weber**

[10] In *Politics as a Vocation*, Weber described an "iron cage" brought on by these systems, which transform social action into rationally organized action. These administrative systems have hierarchies and impersonal rules.

ANSWER: **bureaucracy**

[10] This German thinker discussed a related notion to social action in his *Theory of Communicative Action*. He also wrote *The Structural Transformation of the Public Sphere*.

ANSWER: Jürgen **Habermas**

<Yue, Philosophy>

3. One piano work about a "lost" one of these objects is a comical rondo by Beethoven. For 10 points each:

[10] Name these objects, three of which title the most famous opera from Kurt Weill ["vile"] and Bertolt Brecht, an adaptation of John Gay's *The Beggar's Opera* containing "The Ballad of Mack the Knife."

ANSWER: **pennies** (accept *Rage Over a Lost Penny*; accept *The Threepenny Opera*)

[10] Kurt Weill was a composer from this country. He escaped to the United States and wrote for Broadway after the Nazi regime first emerged in this country.

ANSWER: **Germany**

[10] This other German composer fell in and out of favor with the Nazis, who labeled his music as "degenerate." He wrote the opera *Mathis der Maler* and the *Symphonic Metamorphosis of Themes by Carl Maria von Weber*.

ANSWER: Paul **Hindemith**

<Yue, Music>

4. Hadamard gates take two of these units as inputs, and they can be visualized on the Bloch sphere. For 10 points each:

[10] Name these small units of information whose states can be superimposed until measurement and entangled in Bell states. Their states may be written in Dirac notation.

ANSWER: **qubits** (or **quantum bits**)

[10] The controlled variety of this Boolean gate can be used to construct Bell states. This is the only Boolean operation to take just one input, unlike AND and OR.

ANSWER: **NOT** (accept **negation** or word forms)

[10] This MIT mathematician names a notable quantum computing algorithm that factors integers in polynomial time. If implemented at a large scale, this man's algorithm could break the RSA cryptography scheme.

ANSWER: Peter **Shor** (or Peter Williston **Shor**)

<Yue, Computer Science>

5. This character was partially inspired by the author's third wife, Harriet Bosse, who portrayed this character in the premiere of the play in which she appears. For 10 points each:

[10] Name this character, who repeatedly exclaims "men are to be pitied!" as she observes the hardships of two Coalheavers, a Singer, and an Officer. This character enters a burning castle whose roof blossoms into a chrysanthemum.

ANSWER: **Agnes** (accept anything referring to the **daughter** of **Indra**)

[10] Agnes is the protagonist of this Swedish author's *A Dream Play*. In another play by this author, Arkenholz meets a mummified Colonel's wife, her hyacinth-loving daughter, and Jacob Hummel.

ANSWER: August **Strindberg**

[10] This city's grueling copper mines partly provide the setting for Nobel prize-winning Swedish author Pär Lagerkvist's *Barabbas*. Henryk Sienkiewicz's ["**sin-KYEH-vich**"] novel about Marcus Vinicius, *Quo Vadis*, is set in this city.

ANSWER: **Rome**

<R. Li, European Literature>

6. For 10 points each, answer the following about fictional characters who break the fourth wall.

[10] Ryan Reynolds has portrayed this wisecracking, fourth wall-breaking Marvel antihero in three films. This character is a disfigured mercenary with advanced physical and healing abilities.

ANSWER: **Deadpool** (or Wade **Wilson**) [*Writer's note: Wilson appears in *X-Men: First Class* (2011).*]

[10] The post-credits scene of the 2016 film *Deadpool* spoofs a classic scene featuring this character telling the audience to "go home." Real life economist Ben Stein appeared as an economics teacher taking this character's attendance in a 1986 teen comedy.

ANSWER: **Ferris Bueller** (accept either or both underlined parts; accept "**Bueller? Bueller?**")

[10] At the end of Season 5 of the Netflix series *House of Cards*, this character portrayed by Robin Wright breaks the fourth wall, ending the season by turning to the audience and declaring "My turn."

ANSWER: **Claire** Underwood (or accept either or both of **Claire Hale**; prompt on Underwood)

<Suh, Trash>

7. This god wields the fire serpent Xiuhcoatl ["SHEE-uh-koh-AH-tul"] as his weapon. For 10 points each:

[10] Name this Aztec god of fire and war. He was born fully grown after his mother Coatlicue ["KWAHT-lee-kway"] was impregnated by a ball of feathers.

ANSWER: **Huitzilopochtli** ["WEET-zee-lo-PO-chlee"]

[10] Huitzilopochtli was often portrayed as a "southern" or "left-handed" one of these birds. Aztec warriors were thought to become these birds after death.

ANSWER: **hummingbirds**

[10] In Aztec belief, Huitzilopochtli served as the fifth one of these objects. Tezcatlipoca ["tez-kaht-lee-POKE-ah"], the god of the first iteration of this object, was ineffective because he was paradoxically also the god of night.

ANSWER: **sun**

<Duffy, Mythology>

8. The narrator of one story notes how "visitors to the pleasure quarters of Edo preferred" people with these artworks, and how "courtesans of the Yoshiwara... quarter fell in love with" men with these artworks. For 10 points each:

[10] Identify these artworks. Seikichi delights in creating one of these artworks depicting a "huge black-widow spider" for a geisha's servant in a Jun'ichirō Tanizaki story.

ANSWER: **tattoos**

[10] In Ha Jin's *War Trash*, Yu Yuan is forcibly tattooed by Chinese Nationalists with an expletive denouncing this ideology. Commissar Pei instructs followers of this ideology to raise the Five-Starred Red flag in that novel.

ANSWER: **communism**

[10] The protagonist of another novel describes this character's tattoos as "large blackish looking squares" before sharing a bed with him at the Spouter-Inn. This Polynesian native serves as the harpooner for the *Pequod*.

ANSWER: **Queequeg**

<R. Li, World Literature>

9. Several surveys of antiquarian maps have been conducted to resolve an ongoing dispute over the naming of this body of water that began in 1992. For 10 points each:

[10] Name this sea bordered by the Korean peninsula to the west and Russia to the north. South Koreans assert that it is called the "East Sea," while North Koreans call it the "Korean East Sea."

ANSWER: the **Sea of Japan**

[10] China began another dispute with Japan over these islands in the East China Sea when oil was discovered here. Protests in China erupted when Japan purchased three of these islands from a private owner in 2012.

ANSWER: the **Senkaku** islands (or **Diaoyu** or **Tiaoyutai**; or **Pinnacle** islands)

[10] This close-by island nation also claims the Senkaku Islands, which are known as the Tiaoyutai islands there. This country, once called Formosa, features a skyscraper with 101 floors in its capital of Taipei.

ANSWER: **Taiwan**

<Yue, Geography>

10. For 10 points each, answer the following related to popular games played by European nobility.

[10] Fox tossing, which involved launching live foxes and other animals into the air, was a popular blood sport for this king of Poland who was known for his incredible physical strength.

ANSWER: **Augustus II** the Strong (or **Augustus the Strong**; accept **Frederick Augustus I**; prompt on Augustus)

[10] This English king challenged Francis I of France to a surprise wrestling match at the Field of the Cloth of Gold, but was humiliated when he quickly lost. This English king is perhaps better known for his six marriages.

ANSWER: **Henry VIII** (prompt on Henry)

[10] In 1434, the knight Suero de Quiñones and ten companions played 166 matches of this game, suffering heavy injuries. Henry VIII was a big fan of this game, while Henry II of France died from participating in this activity.

ANSWER: **jousting** (or **tilts**)

<Suh, European History>

11. The traditional Byzantine depictions of the Deesis ["DAY-uh-sis"] include Jesus, Mary, and this other man. For 10 points each:

[10] Name this Biblical figure who is anachronistically depicted in a Matthias Grünewald painting next to the words "He must increase, but I must decrease."

ANSWER: **John the Baptist** (prompt on John; do NOT accept or prompt on "John the Apostle," "John the Evangelist," or "John of Patmos")

[10] That depiction of John the Baptist appears in this Grünewald altarpiece when its wings are closed. This altarpiece is also a prominent part of the opera *Mathis der Maler* by Paul Hindemith.

ANSWER: **Isenheim Altarpiece**

[10] This Baroque artist created at least eight paintings of John the Baptist and also painted *The Calling of Saint Matthew*.

ANSWER: Michelangelo **Merisi da Caravaggio** (accept either underlined part)

<Suh, Painting>

12. The Gross-Pitaevskii equation gives the single-particle wavefunction of substances in this state of matter. For 10 points each:

[10] Name this "fifth state of matter" that was achieved by cooling rubidium-87 atoms to near-absolute-zero temperatures in the early 1990s.

ANSWER: **Bose-Einstein condensates** (accept **BECs**)

[10] Bose-Einstein condensates follow a namesake statistical distribution contrasted with one named for this scientist and Dirac. This scientist names particles with half-integer spin.

ANSWER: Enrico **Fermi** (accept **fermions**)

[10] Sweeping a magnetic field through a Bose-Einstein condensate causes a type of this phenomenon named for Feshbach. The surface plasmon variety of this phenomenon forms the basis for a form of Raman spectroscopy.

ANSWER: **resonance**

<Yue, Physics>

13. This event is mentioned in Psalms 66, 74, 77, 78, among others. For 10 points each:

[10] Identify this event that was immediately followed by Miriam's song.

ANSWER: **crossing the Red Sea** (or ***Kriat Yam Suph***; accept reasonable equivalents of "crossing" like **traversing**; accept **Sea of Reeds** in place of "Red Sea")

[10] The crossing of the Red Sea is a major episode retold in this second book of the Torah detailing the Israelites' journey out of Egypt.

ANSWER: Book of **Exodus**

[10] Under the leadership of Joshua, the Israelites crossed this other body of water as they prepared to enter into the Promised Land. The territory of the tribe of Manasseh was bisected by this river.

ANSWER: **Jordan River**

<Suh, Religion>

14. In one work set in this country, Bessie is mistaken for a sniper and shot twice while pushing a character away from a window. For 10 points each:

[10] Name this country, the setting of another work in which a mother cries, "there isn't anything more [the title entity] can do to me," after a character searching for his missing brother is knocked into the sea by a gray pony.

ANSWER: **Ireland** (prompt on United Kingdom or Great Britain)

[10] This Irish playwright wrote *Riders to the Sea*. Much like Sean O'Casey's later play *The Plough and the Stars*, this author's play *The Playboy of the Western World* caused riots at its Abbott Theater premiere.

ANSWER: John Millington **Synge**

[10] In Sean O'Casey's *The Plough and the Stars*, Nora Clitheroe has a stillbirth on this day, during which her husband Jack is killed. Yeats repeats the line "A terrible beauty is born" in his poem titled for "[this day], 1916."

ANSWER: **Easter** Monday (accept **Easter** Rising)

<Yue, European Literature>

15. The historian Josephus quoted the priest Berossus's claim that this monarch built the Hanging Gardens of Babylon. For 10 points each:

[10] Name this king of the Neo-Babylonian Empire who defeated Egypt in the Battle of Carchemish and conquered the Kingdom of Judah.

ANSWER: **Nebuchadnezzar II** (prompt on Nebuchadnezzar)

[10] Berossus claimed that Nebuchadnezzar built the Hanging Gardens for his wife Amyntis, who was one of these ancient Iranian people who allied with the Neo-Babylonian Empire to conquer the Neo-Assyrian Empire.

ANSWER: **Medes** ["meeds"] (or the **Median** Empire)

[10] Eventually, the Median Empire, Lydian Empire, and the Neo-Babylonian Empire were all conquered by this "Great" founder of the Persian Achaemenid Empire.

ANSWER: **Cyrus II** of Persia (or **Cyrus the Great**; or **Cyrus the Elder**; prompt on Cyrus)

<Suh, Ancient History>

16. For 10 points each, answer some questions about polyketide biosynthesis.

[10] *Description acceptable.* Many drugs of this type, including tacrolimus and rapamycin, are polyketides. Some of these drugs operate by inhibiting calcineurin and preventing the production of interleukin-2.

ANSWER: **immunosuppressant** (accept answers indicating drugs which suppress/reduce the activity of the immune system or lymphocytes)

[10] This compound is an input to polyketide biosynthesis along with malonyl and propionyl-CoA. This compound is produced by decarboxylation of pyruvate, and it combines with oxaloacetate to form citrate in the Krebs cycle.

ANSWER: **acetyl-CoA**

[10] Aflatoxins are a class of polyketides which alkylate DNA and promote the development of this disease. Long-term tobacco smoking causes this disease in the lungs.

ANSWER: **cancer**

<K. Li, Biology>

17. Some consider the doctrine of “substantive due process” to have been first applied in this case. For 10 points each:

[10] Name this Supreme Court case in which Chief Justice Roger B. Taney [“**TAW-nee**”] ruled that African Americans, like the namesake of this case, were not American citizens.

ANSWER: ***Dred Scott* v. Sandford** (or *Sandford v. Dred Scott*)

[10] This conservative Supreme Court Justice considered both *Dred Scott* and *Roe v. Wade* to be examples of the excess of substantive due process. This recently deceased originalist was known for his scathing dissents in cases like *Obergefell v. Hodges*.

ANSWER: Antonin **Scalia**

[10] The “substantive due process” doctrine draws its constitutional grounding from the Fifth and this other amendment passed in the wake of the Civil War.

ANSWER: **Fourteenth** Amendment

<Suh, American History>

18. For 10 points each, answer some questions about the  $m/z$  ratio.

[10] Unlike what its name suggests, this technique actually measures the  $m/z$  ratio of the samples being analyzed. The tandem form of this technique is used in de novo peptide sequencing.

ANSWER: **mass spectrometry**

[10] Along with ESI [“**E-S-I**”], this ionization technique is often used in de novo peptide sequencing. In this technique, a matrix absorbs the energy from a laser and redirects it to ionize the sample in a gentle manner.

ANSWER: **MALDI** (or **matrix-assisted laser desorption/ionization**)

[10] The mass-to-charge ratio of an electron was calculated by this scientist who measured how a cathode ray was deflected by a magnetic field. This scientist’s findings led him to posit the plum pudding model of the atom.

ANSWER: J. J. **Thomson** (or Joseph John **Thomson**)

<K. Li, Chemistry>

19. This architect's *Puente del Alamillo* ["PWEN-tey del al-ah-MEE-yo"] uses a single pylon whose angle to the ground is the same as that of the Great Pyramid at Giza. For 10 points each:

[10] Name this architect who, in addition to designing bridges, is also notable for his use of zoomorphism.

ANSWER: Santiago **Calatrava**

[10] This zoomorphic work by Santiago Calatrava involves a movable *brise soleil* ["breeze so-LEY"] that mimics the wings of a bird. This building was Calatrava's first building in the United States.

ANSWER: **Milwaukee Art Museum** (or **Quadracci Pavilion**; or **Milwaukee Museum of Art**)

[10] One of Calatrava's most recent designs, the Oculus, is the PATH station for this complex that was rebuilt after its destruction on September 11th, 2001.

ANSWER: The New York **World Trade Center**

<Laskin, Architecture>

20. The speaker of a "letter" addressed to this person laments "the tedious day so long" after this person went "Southward," and describes him as "my joy, my Magazine of earthly store." For 10 points each:

[10] Identify this person, who is "absent upon Publick employment" in one poem. This person is referred to as "the Governor" in an "homage" to this person's wife.

ANSWER: Anne **Bradstreet's husband** (do NOT accept or prompt on "Anne Bradstreet"; prompt on **Bradstreet**; accept Simon **Bradstreet** or descriptive equivalents like **Mr. Bradstreet**)

[10] In "Prologue," Anne Bradstreet states that "a weak or wounded" one of these entities "admits no cure." The speaker of "The Author to Her Book" describes the title object as an "ill-formed offspring" of her "feeble" one of these entities.

ANSWER: **brains**

[10] John Berryman, who wrote "Homage to Mistress Bradstreet," also penned a poetry collection titled for "songs" denoted by these things. Another poem asks if a "deferred" one of these things "dr[ies] up / like a raisin in the sun?"

ANSWER: **dreams**

<R. Li, American Literature>

21. Groups of settlers in this state included the "Boomers," who were led by Charles C. Carpenter. For 10 points each:

[10] Name this state that was the setting of the Land Rush of 1889. During the Civil War, Union forces won the Battle of Honey Springs in this modern-day state.

ANSWER: **Oklahoma**

[10] The Land Rush found its legal grounding in this 1862 legislation signed by Abraham Lincoln, which allowed any US citizen who did not take up arms against the federal government to claim about 160 acres of public land.

ANSWER: **Homestead** Act

[10] The US bought much of present-day Oklahoma in this 1803 acquisition from France.

ANSWER: **Louisiana Purchase**

<Suh, American History>