

Western Invitational Tournament 2013
Packet by St. John's

Tossups

1. Guillaume Dufay composed “Nuper rosarum flores” to commemorate the completion of this building. Michelozzo completed the last part of this building due to the death of its main architect. Verocchio designed the copper sphere and cross filled with holy relics that tops this building. Neri di Fioravante’s design for this building won over the design of Giovanni di Lapo Ghini; both designs chose to reject the usage of (*) flying buttresses. One part of this building includes an ogival arch and a double dome of two shells consisting of eight ribbed arches connected by a lantern, inspired by a similar feature on the Pantheon. For 10 points, name this cathedral topped by a Filippo Brunelleschi-designed dome.

ANSWER: Florence Cathedral [or Il Duomo; or Basilica di Santa Maria del Fiore; or Basilica of Saint Mary of the Flower; accept just Florence after mention of “cathedral”; prompt to be less specific on answers like “the dome of the Florence Cathedral designed by Brunelleschi”]

2. This artist depicted a mythological figure with black wings and a stake in his right hand and holding a piece of paper in his right hand while raising his left hand to his face, in his paintings *Cupid as a Link Boy* and *Venus Chiding Cupid*. In one of his portraits, Augustus Keppel takes the pose of Apollo Belvedere. He painted Colonel Acland and Lord Sydney wearing contrasting colors of green and yellow while preparing to (*) fire their bows in a forested area. In a more famous painting, this artist depicted an English actress sitting on a throne playing the role of Melpomene, while the figures of Pity and Terror stand behind her. For 10 points, name this English artist of *Sarah Siddons as the Tragic Muse*, the first president of the Royal Academy.

ANSWER: Sir Joshua Reynolds

3. This god wears a crown with two tall plumes and serves as the master of ceremonies of the Feast of the Tail when assuming the form of Tatenen. This deity wears the Atef crown and represents the necropolis of Saqqara when taking the form of Seker. The Shabaka Stone claims to detail the contents of a worm-ridden scroll about this deity. This deity fathered Nefertem and Maahes with his consort (*) Sekhmet and is also said to have fathered Imhotep. The bull god Apis served as this god’s herald before this deity’s identity was absorbed by Osiris. He is usually depicted as a mummified figure with green skin, and was syncretized by the Greeks with Hephaestus. For 10 points, name this Egyptian god of craftsmen, the supreme god of Memphis.

ANSWER: Ptah [prompt on Osiris before mention, outright accept Tatenen and Seker before their respective mentions]

4. One proof of this theorem takes the normal closure of a finite extension and then considers a 2-Sylow subgroup of that extension’s Galois group. This theorem follows from continuity and Picard’s little theorem. Another proof considers the function $1/f$, which is entire and bounded, and thus must be constant by Liouville’s theorem. Since algebraic extensions have finite subextensions, this theorem is equivalent to there being no (*) nontrivial finite extension of the complex numbers. This theorem implies that irreducible complex polynomials are linear, and thus non-constant complex polynomials are a product of linear factors. For 10 points, name this theorem stating that n^{th} degree polynomials have n complex roots.

ANSWER: fundamental theorem of algebra

5. This thinker tackled the “Plato’s Beard” problem in one of his works, in which he refutes the fictional philosopher McX who claims that Pegasus exists. He argued that not just individual statements, but entire fields, are verified in his “holism.” He is the first namesake of an “indispensability argument” for mathematical realism. This man analyzed how the word “gavagai” corresponds to seeing a rabbit run in different cultural contexts and under linguistic barriers, which he termed (*) “indeterminacy of translation.” In his magnum opus, he attacked reductionism and the distinction between analytic and synthetic statements. For 10 points, name this American author of *Ontological Relativity*, *Word and Object*, and “Two Dogmas of Empiricism.”

ANSWER: Willard Van Orman Quine

6. This man was named for a director who took the name of Lorenzo Sabatini to direct his father in *Castle of the Living Dead*. He was one of the executive producers of a 2011 miniseries in which he also starred as The

Confessor, a character who threatens to kill his father, a priest, for abusing him and compelling his mother to commit suicide. His first American role was as “Ace” Merrill, a local bully, in *Stand By Me*. In his most recent television role, he plays former reporter (*) Martin Bohm, who cares for the mute Jake. In his most famous role, he protects David Palmer as part of the Counter Terrorist Unit. For 10 points, name this actor, best known for playing Jack Bauer in *24*.

ANSWER: Kiefer (William Frederick Dempsey George Rufus) Sutherland

7. After one isotope of this element is purified, the waste product is often used as a starting material for aneutronic fusion. It’s not gadolinium, but a phenylalanine derivative containing this element is delivered to brain tumors in the proposed mechanism for neutron capture therapy. This element’s hydrides adopt closo-, nido-, and arachno- configurations, as predicted by (*) Wade’s rules. This element’s oxide and silica are found in a ubiquitous glass used in virtually all laboratory glassware. Many compounds involving this element have electron-deficient three-center two-electron bonds because this element, which is present in Pyrex, can only hold on to six valence electrons. For 10 points, name this lightest metalloid, the fifth element.

ANSWER: boron [or B]

8. This poet wrote about a dream in which she has to “walk purplish landscapes” following the title event, which causes that poet to compare its central figure to five saints in a separate poem. This poet of “Death of My Mother” declared that “You shall love beauty, which is the shadow of God over the Universe” in the opening of her “Decalogue of the Artist.” This poet posited that “our worst crime is abandoning our children” in a statement ending “To him we cannot answer (*) ‘Tomorrow,’ his name is today.” This poet promised to “lower you to the humble and sunny earth” in the first section of a collection dedicated to her deceased lover Romelio Ureta. For 10 points, name this poet of *Tala*, *Desolación*, and *Sonnets of Death*, a Chilean.

ANSWER: Gabriela Mistral [or Lucila Godoy Alcayaga]

9. One side in this event called for the rejection of the “Tory Constitution,” and their opponents passed the so-called “Algerine Law” due to its harshness. This event’s leader was opposed by his father Sullivan, who owned the Bernon Mill Village. After suffering defeat, one of this event’s factions retreated to Chepachet in an effort to reassemble the People’s Convention. The Supreme Court case (*) *Luther v. Borden* took place in this event’s aftermath, in which the instigators of this event claimed that the colonial charter of the state it occurred in violated the Guarantee Clause. Newly elected governor Samuel Ward King declared martial law before this rebellion. For 10 points, name this failed rebellion which sought to achieve universal male suffrage in Rhode Island.

ANSWER: Dorr’s Rebellion

10. In this novel, an old Roman amphitheater known as “The Ring” was where a woman who murdered her husband was “half-strangled” and later burned in 1705. One character in this novel goes to work without pants due to his tendency to oversleep, and another character organizes a “skimmity-ride” after (*) Jopp reads the love letters of the protagonist out loud in an inn, resulting in the death of Lucetta from a miscarriage. This novel’s protagonist puts his trust in a “weather prophet” in order to gain the upper hand on his rival, Donald Farfrae, who towards the end marries Elizabeth-Jane. At this novel’s opening, the protagonist sells his wife and child for five guineas at Weydon Fair. For 10 points, name this novel about Michael Henchard, written by Thomas Hardy.

ANSWER: *The* Mayor of Casterbridge

11. This author’s most recent drama centers on the retired longshoreman Gus Marcantonio. Another play by this author is set in the apartment of middle-aged actress Agnes Eggling during the waning days of the Weimar Republic and is frequently interrupted by scenes featuring Zilla, an American living in 1990 who fears Ronald Reagan has become too much like Hitler. In this author’s most famous play, Louis (*) Ironson discovers that his lover Prior Walter has AIDS, and closeted homosexual Joe Pitt is offered a promotion from Roy Cohn, who also has AIDS. For 10 points, name this Jewish-American playwright of *A Bright Room Called Day* and *Angels in America*.

ANSWER: Anthony Robert “Tony” Kushner

12. During one of these wars, the city of Chyhyryn changed hands five times. Another of these wars, in which one side launched the disastrous Bergmann Offensive and shattered the 3rd Army of their enemies at the Battle of Sarikamish, was a sub-theater of World War I. Following one of these conflicts, one side was given

the right to protect Christians in exchange for the return of the Danube Principalities via the terms of the Treaty of Kuchuk-Kainarji. Yet another of them included the Siege of (*) Plevna and resulted in the creation of the Bulgarian state at the Treaty of San Stefano. For 10 points, name this staggering series of thirteen wars, including two won by Catherine the Great, fought by an Orthodox Christian and a Muslim empire.
ANSWER: Russo-Turkish Wars [or Russo-Ottoman Wars; accept in either order]

13. Responding to “Dover Beach,” this author wrote “There’s keen delight in what we have: The rattle of pebbles on the shore under the receding wave” in his poem “The Nineteenth Century and After.” This author wrote a series of poems about a woman whose “breasts are flat and fallen now” according to a Bishop encountered on the road who states that “Love has pitched his mansion in/The place of excrement.” This author of the (*) Crazy Jane poems described a group of animals that “paddle in the cold” in one poem, and stated that “All changed, changed utterly/A terrible beauty is born” in a poem about a political uprising. For 10 points, name this Irish poet of “Easter 1916” who declared “This is no country for old men” in “Sailing to Byzantium.”
ANSWER: William Butler Yeats

14. The recently-discovered F16 antibody binds to all 16 subtypes of a protein expressed by this pathogen. During infection, this pathogen’s matrix protein M1 dissociates from the ribonucleoprotein after M2 proton channel activity lowers the pH. Another protein expressed by this pathogen is cleaved by proteases into two forms, one of which extends a triple alpha helix to the endosomal membrane. This pathogen, whose different strains are all members of *Orthomyxoviridae*, binds to sialic acid-rich sites. Different subtypes of its surface proteins (*) hemagglutinin and neuraminidase are used for classification. Cold temperatures contribute to its spread during its namesake “season” in winter. For 10 points, name this virus whose H1N1 “swine” strain emerged in 2009.
ANSWER: influenza virus [accept Orthomyxoviridae before mention]

15. This phenomenon causes a quadratic term to appear in pulsar periods in the Shklovskii effect. Three unevenly spaced wavelengths were produced by using concave mirror to ignore one of its forms, confirming another form of this phenomenon caused by time dilation in the Ives-Stilwell experiment. Photons emitted from particles in thermal motion undergo spectral (*) broadening due to this effect. It was independently confirmed by Fizeau and Buys Ballot. As the spectral lines of distant stars have lower frequency than that of hydrogen, this effect can be used to show that the universe is expanding. For 10 points, redshift is a manifestation of what effect that causes the observed pitch of a siren to decrease as an ambulance passes by?
ANSWER: Doppler effect [accept transverse Doppler effect; prompt on redshift or blueshift]

16. Lorenz von Stein and Rudolf von Geist were employed by the government during this event. It was opposed by groups such as the White Tiger Corps and the Northern Alliance. The period leading up to this event was known as the “end of the curtain” and saw the increased popularity of the *Sonno joi* movement. This event involved the defeat of the breakaway (*) Ezo Republic. Its goals were laid out in a document promising a break with the “evil customs of the past.” Both the Boshin War and the Satsuma Rebellion occurred during this event, which saw the abolition of the *han* system and the drafting of a new constitution. For 10 points, name this 1868 event which restored imperial rule to Japan under the namesake Emperor.
ANSWER: Meiji Restoration [or Meiji Ishin; or Meiji Revolution; accept synonyms of “reform” as well]

17. One of these individuals received a pair of divine earrings from a merchant, only to see them break. Another of them died in a forest fire, but not before founding the Ikshvaku dynasty, to which most of these figures belong; only two of them are members of the Harivamsa. They are usually depicted in the kayotsarga pose because many of them achieved (*) moksha while in that pose. Because they are free of kashayas, they have unlimited siddhis at their disposal. They include the gender-ambiguous Mallinath, and Rishabha, who was succeeded by a man who taught the five great vows of right conduct, including ahimsa. For 10 points, Mahavira is the last of what twenty-four “ford-makers” who help people achieve enlightenment in Jainism?
ANSWER: tirthankaras [or katavul; prompt on ford-makers before mention]

18. One work for this instrument includes movements titled “The Perilous Shore” and “Put Your Loving Arms Around Me” and was influenced by the death of the composer’s father to Alzheimer’s. This instrument plays a solo in the third movement of Ottorino Respighi’s *Pines of Rome*. This instrument, which plays the solo in John Adams’s *Gnarly Buttons*, was performed by Woody Herman, who commissioned Stravinsky’s

***Ebony Concerto* for this instrument. Other concertos for this instrument include two by (*) Carl Maria von Weber and a jazz-inspired one by Copland. Mozart's concerto for it was written for Anton Stadler. For 10 points, what woodwind instrument that plays the glissando opening in the orchestration of *Rhapsody in Blue*?**

ANSWER: clarinet

19. Two of these objects were placed behind a screen, which was then lifted to reveal either one, two, or three of them, in a study conducted by Karen Wynn proving that one-year olds understand numbers. Inspired by his childhood memories of these objects, Masahiro Mori concluded that humans may fear robots in his uncanny valley hypothesis. In the film *A Girl Like Me*, Kiri Davis repeated a study conducted by Kenneth and Mamie Clark, in which children preferred a (*) white object of this kind to a black one, proving that segregation breeds feelings of inferiority. Adults repeatedly exclaimed "sock him!" while attacking them, inspiring children to do the same. For 10 points, name these toys whose "bobo" variety was used in an experiment by Albert Bandura.

ANSWER: dolls [do not accept "robot"]

20. The Primrose League was an organization founded in this man's honor two years after his death. This man reportedly remarked, "I have climbed to the top of the greasy pole" upon reaching his highest office. In his youth, he published the unsuccessful newspaper *The Representative* and led the Young England movement in an attempt to promote working class interests. He served as Chancellor of the Exchequer under the (*) Earl of Derby during the "Who? Who?" Ministry and joined with Lord George Bentinck in forcing Robert Peel's resignation over the repeal of the Corn Laws. This man's failure to respond to the "Bulgarian Horrors" made him the target of the Midlothian Campaign. For 10 points, name Conservative prime minister, a rival of William Gladstone.

ANSWER: Benjamin Disraeli

Tiebreakers

21. Two answers required. An agreement between these two nations enforced the earlier Convention of Constantinople and saw one of them gain the town of Yarbutenda and the Iles de Los in equatorial Africa. These two nations squared off in the Third Carnatic War. After one of these nations completed a fourteen-month trek from the headwaters of the Ubangi River, they were locked in a (*) stalemate with the other in the Fashoda Incident. These nations remained enemies despite the Diplomatic Revolution, and fought in a global war that included the Battle of Plassey and the first military skirmishes of George Washington. For 10 points, name these two countries, the primary combatants in the Seven Years' War.

ANSWER: Britain and France [or England and France]

22. Like the scalar curvature, this quantity is multiplied by the metric tensor in Einstein's field equations. Although quantum field theory predicts a property that could be represented by this, QFT predictions for its value do not match cosmological ones, causing this property's namesake problem. Introducing this parameter into the Friedmann–Robertson–Walker metric gives the standard Lambda-CDM model. This entity contrasts with quintessence and other forms of dark energy because it is constant and equal at all points in the universe. This quantity, equivalent to the energy density of empty space, was first proposed by Einstein to allow for a static universe in general relativity. For 10 points, name this quantity, which Einstein called his "biggest blunder."

ANSWER: cosmological constant [prompt on lambda]

23. The narrator of this work attempts to print out permutations of the name of God in an effort to hack a computer, only to gain access when he types in "No" as the password. This book's first chapter opens with a Hebrew inscription taken from a study on the Kabbalah and is organized into sections named for the parts of the Sephiroth. The narrator follows Amparo to (*) Brazil, where he meets a man who claims to be the Comte de Saint-Germain and works with a semiotician. The main plot of this novel begins with the disappearance of Colonel Ardeni, who wrote a book about the plan of the Knights Templar to seize the Holy Grail. For 10 points, name this novel about a conspiracy constructed by Belbo, Diotallevi, and Casaubon, written by Umberto Eco.

ANSWER: Foucault's Pendulum [or Il Pendolo di Foucault]

Bonuses

1. Name some changes to the map of Europe devised by the Congress of Vienna, for 10 points each.

[10] To create a buffer between Prussia and Austria, the German Confederation was formed out of this group of French client states created by Napoleon to replace the Holy Roman Empire.

ANSWER: Confederation of the Rhine

[10] The Congress also dissolved the Grand Duchy of this city, which had been created in the Treaty of Tilsit. This city would later lend its name to the Communist Bloc's response to NATO.

ANSWER: Warsaw [or Warszawa]

[10] The Duchies of Parma, Piacenza, and Guastalla were given to this second wife of Napoleon, a daughter of Francis I of Austria who entered into a morganatic marriage with Count Adam von Neipperg after Napoleon's exile.

ANSWER: Marie-Louise, Duchess of Parma

2. This man's namesake spaces generalize Euclidean space while preserving the techniques of calculus and linear algebra. For 10 points each:

[10] Name this German mathematician, who compiled a namesake list of 23 problems.

ANSWER: David Hilbert

[10] As Chairman of Mathematics at this university, unmatched as an institution for mathematical research at the time, Hilbert taught Ernst Zermelo and formed social circles with Emmy Noether and Alonzo Church.

ANSWER: University of Göttingen [or Georg-August-Universität Göttingen; or GAU; or Georgia Augusta]

[10] Hilbert's 18th conjecture revisits this scientist's conjecture about the highest possible spherical packing density. He posited that equal areas are swept out in equal times in the second of his three laws of planetary motion.

ANSWER: Johannes Kepler

3. This play begins with the main character playing chess with himself before his father notes that the time is already twelve. For 10 points each:

[10] The parents of Hugo Pludek set up a meeting with the influential Mr. Kalabis in this play, only to find out that he can't come because of the title event at the Liquidation Office, forcing Hugo to go to it.

ANSWER: *The* Garden Party [or Zahradni slavnost]

[10] *The Garden Party* was written by this Absurdist Czech playwright, who also invented the imaginary language Ptydepe, which appears on a note given to Josef Gross in his *The Memorandum*.

ANSWER: Vaclav Havel

[10] Havel's *Temptation* draws heavily from this two-part play, whose title character makes a deal with Mephistopheles and pursues a tragic romance with Gretchen.

ANSWER: Goethe's Faust

4. There are "structural" and "individual" components to this theory, respectively reflecting problems inherent to society which affect individuals and the changing aspirations of the individuals themselves. For 10 points each:

[10] Name this theory, advanced by Albert K. Cohen, Richard Cloward, and Robert Agnew, which claims that social structure inherently causes individuals to commit crime.

ANSWER: strain theory

[10] This father of strain theory is more famous for penning the terms "role-model" and "self-fulfilling prophecy" and writing the 1949 book *Social Theory and Social Structure*.

ANSWER: Robert King Merton

[10] Zhang Jie connected strain theory to this action among the poor in rural China. Emile Durkheim identified egoistic, altruistic, anomic, and fatalistic types of this phenomenon, whose rates are highest for unmarried men.

ANSWER: suicide

5. During this war, Emilio Mola coined the term “fifth column” to describe secret opponents of the government. For 10 points each:

[10] Name this conflict which also featured the participation of the Mackenzie-Papineau Battalion and the Abraham Lincoln Brigade.

ANSWER: **Spanish Civil War**

[10] This victor of the Spanish Civil War seized power and combined the Falange with Carlism. He ruled as dictator of Spain for the next 36 years.

ANSWER: Generalissimo Francisco **Franco** y Bahamonde

[10] Carlism was founded in the 1830s to oppose the succession of this queen to the Spanish throne. She was eventually deposed in the Spanish Glorious Revolution and replaced with Amadeo of Savoy.

ANSWER: **Isabella II** [prompt on **Isabella**]

6. This man led his namesake legion alongside the forces of Nathanael Greene in the Siege of Ninety Six and the Battle of Guilford Court House. For 10 points each:

[10] Name this Revolutionary War military figure and ninth governor of Virginia whose son would later lead the Confederate forces. He was nicknamed for his prowess as a cavalry officer.

ANSWER: Henry “Lighthorse” **Harry** **Lee** III [or **Henry Lee**; prompt on partial answer]

[10] Lee was later called upon by George Washington to lead the Watermelon Army to end this uprising of Western Pennsylvania farmers who were upset with Alexander Hamilton’s tax on the namesake liquor.

ANSWER: **Whiskey Rebellion** [or **Whiskey Insurrection**]

[10] This leader of the Regulator movement in North Carolina raised a liberty pole which stated “Liberty and No Excise” during the Whiskey Rebellion.

ANSWER: Herman **Husband** [or Harmon **Husband**]

7. This opera sees soldiers sing “Soldiers of Heaven Hold the Sky” and the author of “The Red Detachment of Women” sing “I am the wife of Mao Tse-tung.” For 10 points each:

[10] Name this opera which ends with Chou asking “How much of what we did was good?”

ANSWER: **Nixon in China**

[10] *Nixon in China* was written by this American composer, who also wrote the operas *The Death of Klinghoffer* and *Doctor Atomic*.

ANSWER: John (Coolidge) **Adams**

[10] This woman wrote the librettos to *Nixon in China* and *The Death of Klinghoffer*.

ANSWER: Alice **Goodman**

8. Answer the following about Major League Baseball’s posting system and the New York Yankees, for 10 points each.

[10] The posting system was created as a result of players such as this man using loopholes to void their contracts. This former Hiroshima Toyo Carp player then joined the Yankees for four years, and currently plays for the Cubs.

ANSWER: Alfonso (Guilleard) **Soriano**

[10] This former member of the Orix BlueWave joined the MLB in 2001, where he set the record for most consecutive seasons with 200+ hits. He was traded to the Yankees for DJ Mitchell and Danny Farquhar in 2012.

ANSWER: **Ichiro Suzuki** [either name fine]

[10] This shortstop signed a two year, \$6.5 million contract with the Oakland A’s in 2012 after playing for the Seibu Lions for 11 years. He was posted in 2011, but failed to reach a contract with the New York Yankees.

ANSWER: Hiroyuki **Nakajima**

9. He sails away on a boat of copper after an infant he sentenced to death criticized him for his sins and became a king. For 10 points each:

[10] Name this bard who owns a harp-like instrument made of pike bones known as the kantele. Aino drowns to avoid marrying this man after he defeats Joukahainen in a singing contest.

ANSWER: **Vainamoinen**

[10] Vainamoinen is the main character of this Finnish epic, compiled by Elias Lönnrot. It begins with the creation of the world from a crushed duck egg and details the birth of Vainamoinen from the goddess Ilmatar.

ANSWER: **Kalevala**

[10] This other character from the *Kalevala* drowns in the Tuonela River while attempting to kill the black swan that

lives there. He is brought back to life after his mother receives a copper rake and recovers his broken body.

ANSWER: **Lemminkainen**

10. Two of these enzymes are known as isoschizomers if they share the same recognition sequence and as isocaudomers if they produce the same ends. For 10 points each:

[10] Name these enzymes which cut DNA at specific nucleotide sequences.

ANSWER: **restriction** enzymes [or **restriction endonucleases**; prompt on **endonucleases**]

[10] This term refers to the reduction in specificity of a restriction enzyme for its recognition sequence, resulting in greater cleavage at similar sites. It is triggered by the presence of metal cofactors other than Mg²⁺ and by high pH.

ANSWER: **star activity**

[10] Some restriction enzymes, like EcoR1, cut straight through the DNA sequence, whereas others, like Sma1, leave hanging bits on each strand. Give the term for either of these two ends.

ANSWER: **blunt**-ends or **sticky**-ends [either is fine for the 10 points]

11. Horatio Parker served as his teacher while he was at Yale, supervising the composition of his first symphony, whose second movement was inspired by the Largo from Dvorak's *New World Symphony*. For 10 points each:

[10] Name this American composer who also wrote *Calcium Night Light* and *Yale-Princeton Football Game* while at Yale. When he was younger, he wrote *Variations on America* for the organ.

ANSWER: Charles (Edward) **Ives**

[10] Ives's symphony of this number includes movements such as "Children's Day" and "Communion," and is known as *Camp Meeting*. This is also the number of the *Symphony of Sorrowful Songs* and the *Eroica Symphony*.

ANSWER: Symphony No. **3**

[10] This other composition involves the string quartet representing "the Silences of the Druids," and involves a call and response between a solo trumpet and a woodwind quartet. Elliot Feld adapted it for ballet in 1988.

ANSWER: *The **Unanswered Question***

12. This period was followed by the North South States Period, in which the Balhae nation ruled much of Manchuria. For 10 points each:

[10] Name this era from 57 to 668 AD, during which the Goguryeo, Baekje, and Silla predominated.

ANSWER: **Three Kingdoms**

[10] This region experienced the Three Kingdoms and was later ruled for 500 years by the Choson Dynasty, during which the Hangul writing system was developed.

ANSWER: **Korean** Peninsula

[10] The Silla kingdom eventually split into the Later Three Kingdoms, which themselves gave way to this dynasty founded by Emperor Taejo. It warred with the Mongols and the Khitan Dynasty.

ANSWER: **Goryeo** [do not accept **Korea**]

13. Answer some questions about beta decay, for 10 points each.

[10] A "double" beta decay could hypothetically proceed without the release one of these chargeless subatomic particles or their antiparticles, one of which is always released in single beta-minus decay.

ANSWER: electron **neutrino**

[10] This quark changes to a lighter type in beta minus decay, causing a neutron to change to a proton.

ANSWER: **down** quark

[10] Beta decay proceeds via the emission or absorption of the plus or minus kind of particle. Along with Z bosons, these are the gauge bosons of the weak force.

ANSWER: **W** boson

14. It is joined to the Craddock Massif at Hammer Col, and extends to Goodge Col and Branscomb Glacier to its northwest. For 10 points each:

[10] Name this mountain found in the Sentinel Range. It is the tallest mountain in Antarctica, and it is named for a senator who names a bill that authorized new battleships with Park Trammell.

ANSWER: **Vinson** Massif

[10] Vinson Massif is found on this mountain range located on the Ronne Ice Shelf. The Minnesota glacier splits it into its Sentinel and Heritage subranges.

ANSWER: **Ellsworth** Mountains

[10] Antarctica is also home to Mount Erebus, which is one of these features that come in “mud,” “shield,” and “strato” varieties.

ANSWER: **volcanoes**

15. The main character of this play remembers a production of *The Importance of Being Earnest*, a play in which he once had a leading role. For 10 points each:

[10] Name this play about the aged actor Henry Carr, who lives in Zurich during World War I, where he encounters historical figures like Vladimir Lenin and James Joyce.

ANSWER: **Travesties**

[10] Travesties is a drama by this British author of *Arcadia* and *Rosencrantz and Guildenstern are Dead*, as well as the screenplays to *Brazil* and *Shakespeare in Love*.

ANSWER: Tom **Stoppard**

[10] In the play, Carr also meets with this Romanian author of *The Gas Heart* and *Handkerchief of Clouds*. He was one of the founders of the Dada movement and inaugurated the magazine *Simbolul* with Ion Vinea.

ANSWER: Tristan **Tzara** [or Samuel/Samy **Rosenstock**; or S. **Samyro**]

16. She describes the “baby rivers and little towns, each with its abbey or its cathedral” of the title entity before comparing it to other countries such as Greece, France, and America in “England.” For 10 points each:

[10] Name this American writer who stated “I, too, dislike it,” when describing the title art form before noting that reading “with a perfect contempt for it, one discovers” “a place for the genuine” in “Poetry.”

ANSWER: Marianne **Moore**

[10] Following the resignation of Scofield Thayer, Moore edited this magazine, which during the 1920s became a mouthpiece for the Modernism movement. Margaret Fuller was its first editor.

ANSWER: *The* **Dial**

[10] From 1840 until 1844, the Dial served to distribute the writings of those in the Transcendentalist movement, including this author of *The Over-Soul* and *Self-Reliance*.

ANSWER: Ralph Waldo **Emerson**

17. Name some pragmatists, for 10 points each.

[10] This man subtitled his best known work, *Pragmatism*, “A New Way for Some Old Ways of Thinking.” He compared it to a squirrel running around a tree.

ANSWER: William **James**

[10] This man responded to a claim of Walter Lippmann in *The Public and Its Problems*. He also synthesized the educational philosophies of Plato and Jean-Jacques Rousseau in *Democracy and Education*.

ANSWER: John **Dewey**

[10] This later philosopher revived pragmatism in his writings, which included *Philosophy and the Scientific Image of Man* and *Empiricism and the Philosophy of Mind*.

ANSWER: Wilfrid Stalker **Sellars**

18. Generally, a thunderstorm will remain below this atmospheric boundary. For 10 points each:

[10] Name this boundary lying below the stratosphere.

ANSWER: **tropopause** [do not accept “troposphere”]

[10] These wind currents are located near the tropopause. They cause a difference in flight times moving east-to-west and west-to-east.

ANSWER: **jet stream**

[10] This climate pattern causes a change in the subtropical jet stream, increasing precipitation in California. It occurs approximately once every five years. It is accompanied by a cold phase with a similar feminine name.

ANSWER: **El Niño** Southern Oscillation [or **ENSO**]

19. Answer some questions about *The Famished Road*, for 10 points each:

[10] *The Famished Road* was a breakthrough novel for this Nigerian author. Jeffia Okwe witnesses the downfall of his corrupt father, a shady businessman, in this author’s debut novel, *Flowers and Shadows*.

ANSWER: Ben **Okri**

[10] *The Famished Road* is an example of this genre of literature, in which elements of fantasy are inserted into otherwise regular situations. *One Hundred Years of Solitude* is considered an exemplar of this literary genre.

ANSWER: magical realism

[10] In *The Famished Road*, Jeremiah is repeatedly arrested for producing these items. In an Athol Fugard play, Sizwe Banzi asks Styles for one of these items, which evokes memories of a servant named Lydia in *July's People*.

ANSWER: photographs

20. Among this painter's many Madonnas include ones "with the Blue Diadem," "with Beardless St. Joseph," and "of the Pinks." For 10 points each:

[10] Name this Renaissance artist, who painted *La Disputa* for the Stanza della Segnatura. He may be better known for the *Mond Crucifixion* and *The School of Athens*.

ANSWER: Raphael [or Raffaello Sanzio da Urbino]

[10] A book identifying Mary as "Sedes Sapientiae" appears in this painting, in which an infant John the Baptist holds the title bird in his hands as the infant Christ reaches for it. It was originally a wedding gift for Lorenzo Nasi.

ANSWER: Madonna of the Goldfinch [or Madonna del cardellino]

[10] Paolo Giovio commissioned this Raphael Madonna, which depicts John the Baptist holding up a cross on the left while the infant Christ grasps it. In front of Mary a few small plants can be seen in this circular painting.

ANSWER: Alba Madonna

21. The title character of this novel is Anne Catherick, a mentally ill woman who dies of a heart condition, after which Laura Fairlie takes her place in the asylum. For 10 points each:

[10] Name this novel which ends with the marriage of Laura, who escapes the asylum with the help of Marian, and the art teacher Walter Hartwright, who blackmails Count Fosco into restoring Laura's identity.

ANSWER: *The* Woman in White

[10] *The Woman in White* was written by this British author, who collaborated with Charles Dickens on *No Thoroughfare*. He also wrote of Rachel Verinder's inheritance of the title object in *The Moonstone*.

ANSWER: (William) Wilkie Collins

[10] Following *The Woman in White*, Collins published this novel, in which Magdalen and Norah Vanstone lose their inheritance to their older brother Michael because their parents were married for only a few months.

ANSWER: No Name

22. One type of this process is named for Robin Hood, while another is known as hopscotch and combines the methods of its cuckoo type and linear probing. For 10 points each:

[10] Name this process that maps input keys to strings of fixed length. It is used to implement its namesake tables.

ANSWER: hashing

[10] When the range of a hash function is smaller than the domain, collisions occur by this principle. It states that when placing n items into fewer than n of the namesake containers, one of the containers will have multiple items.

ANSWER: pigeonhole principle

[10] This family of cryptographic hash functions is the standard for most of the U.S. government. A contest to design a third subfamily of it was held in 2012.

ANSWER: Secure Hash Algorithm

23. It includes thirteen Articles of Faith written in a letter to "Long" John Wentworth in 1842. For 10 points each:

[10] Name this religious text which also includes the Book of Matthew, the Book of Abraham, and selections from the Book of Moses. Its 1851 edition was first compiled by Franklin D. Richards in Liverpool.

ANSWER: Pearl of Great Price

[10] The *Pearl of Great Price* also includes a first-person narrative of the life of this man, who translated its Bible excerpts. He died in Carthage, Illinois after a mob attacked the prison he was confined in and shot him.

ANSWER: Joseph Smith, Jr.

[10] Before his arrest and death, Smith helped established this city, where he served as Lieutenant General of its namesake Legion and introduced the practice of baptism for the dead.

ANSWER: Nauvoo