Ladue Invitational Spring Tournament IV

Written and edited by Ben Zhang, Jialin Ding, Kisan Thakkar, Enze Chen, Michael Prablek, and Sam Crowder

Round 15

Tossups

1. One of these buildings lies on Seraglio Point, at the entrance to the Golden Horn. The oldest zoo in the world is located on the grounds of another one of these structures. Topkapi and Schonbrunn name those two examples of these structures, another one of which in (*) Lhasa was converted into a museum after the Dalai Lama fled in 1959. The Court of the Lions is located in one of these in Granada known as the Alhambra. Yellow glazed tiles cover the roofs of a "forbidden" complex of these buildings in Beijing. A famous one of these outside Paris contains the Hall of Mirrors the bedroom of Louis XIV. For ten points, identify this type of building exemplified by one at Versailles.
ANSWER: **palace**s
<JD>

2. In February 2013, one person with this title called his opponents "great supine protoplasmic invertebrate jellies." Norm Kelly assumed the powers of one person with this title after that person admitted to committing criminal acts "in one of [his] (*) drunken stupors." Allegations of sexual harassment forced another person with this title named Bob Filner to resign. In November 2013, Joe Lhota lost to Bill de Blasio in an election for this office. For ten points, identify these figures exemplified by Britain's Boris Johnson, Fort Lee's Mark Sokolich, and the crack-smoking Rob Ford.
ANSWER: **mayor**s
<JD>

3. A companion piece to this painting depicts *Olive Trees in a Mountainous Landscape*. A painting with the same name depicts a view of the artist's hometown "over the Rhone." The view outside the artist's sanitarium room window in Saint-Remy inspired this painting, whose right side shows a (*) church steeple rising in the middle of a small town. The left side of this painting is dominated by a dark, flamelike cypress tree, while blue rolling hills appear in its background. For ten points, identify this painting which depicts a swirling evening sky dotted with the title objects, created by Vincent van Gogh.
ANSWER: *The **Starry Night*** [or *De **sterrennacht***]
<JD>

4. According to Mormons, this figure was the human form of the archangel Gabriel. The seventy-first sura of the Qur'an is named after this figure and details how Allah created the Sun and Moon. Black slavery was sometimes justified by an incident in which this figure cursed his grandson to be the "lowest of slaves." That incident occurred after this figure's son saw him passed out and (*) naked in a tent. This father of Shem, Japheth, and Ham received an olive leaf from a dove he had sent out to look for land, which led to his landing on Mount Ararat and the formation of the Rainbow Covenant with God. For ten points, identify this biblical figure who survived the great flood on his ark.
ANSWER: **Noah** [or **Noe**; or **Noach**; or **Nuh**]
<JD>

5. This king's son was accused of being a "warming pan baby", even though his wife Mary of Modena had legitimately given birth. This king started a series of trials called the Bloody Assizes after James Scott tried to overthrow him in the Monmouth rebellion. The governorship of (*) Edmund Andros was ended at the conclusion of this man's reign. Seven Anglican bishops opposed this man's Declaration of Indulgence, and the Immortal Seven invited the Dutch husband of his daughter Mary to claim the throne. For ten points, name this Catholic son of Charles II who was overthrown in the Glorious Revolution.
ANSWER: **James II** [prompt on "James"]
<BZ>

6. This composer's only cello sonata was dedicated to Auguste Franchomme and was written in G minor. He also wrote a set of four works set in 6/4 and 6/8 time, one of which was inspired by the weather of Majorca. Another piece by this man is in D-flat major and is sometimes nicknamed after a (*) "little dog". Besides composing *Fantaisie-Impromptu*, this inventor of the ballade musical form wrote one work that is dominantly played on black keys and another that was written after the November Uprising. For ten points, name this Pocomposer, who, in addition to *Minute Waltz* and the *Revolutionary Etude*, wrote several polonaises, nocturnes, and mazurkas for the piano.
ANSWER: Frédéric François **Chopin**
<KT>

7. The Stoors are one subdivision of this race that remained in the Gladden Fields even when the Fallohides were permitted to cross the River Brandywine by the King of Arnor. Most power over this race lies with the Mayor of Michel Delving, though they were historically led by the Brandybuck and Took families. One corrupted member of this race lived in a cave under the (*) Misty Mountains after killing his brother Déagol, while more famous members included a burglar who wielded the elven blade Sting and four members of the Fellowship of the Ring. For ten points, identify these fictional inhabitants of the Shire invented by JRR Tolkien, examples of whom include Bilbo and Frodo Baggins.
ANSWER: **hobbit**s [or **halfling**s; or **perian**nath; or **holbytla**; prompt on "little people"]
<JD>

8. According to a theory developed by Milton Friedman and Edmund Phelps, an expansionary monetary policy does not change this quantity in the long run, where wages are not sticky. The non-accelerating inflation rate of this quantity, which replaced the theory of its "natural rate", is equivalent to the Y-axis of the long-run (*) Phillips curve, whose short-run form posits a tradeoff between this quantity and inflation. The cyclical type of this occurs due to insufficient demand in the labor market, while the frictional type results when people move between jobs. For ten points, name this phenomenon in which people are unable to find work.
ANSWER: **unemployment**
<BZ>

9. Pascal's theorem concerns the figure formed by choosing *this* many points on a conic section, and this value is the larger number in the first Ruth-Aaron pair. Euler's solution to the Basel problem, which asks for the sum of "one over *n* squared" for all positive integers, was pi squared divided by this quantity. Because this number equals the sum of its proper factors, it is the first (*) perfect number. It is also the third triangular number, and one multiplies side length squared by this integer to find the surface area of a cube. For ten points, identify this number equal to the number of sides in a hexagon.
ANSWER: **six**
<EC>

10. When one of this man's expeditions was recalled by Pedro de los Ríos, he defiantly drew a line in the sand and asked all loyal men to follow him. Those men became known as the "famous thirteen." This man was accompanied on his most famous expedition by Hernando de Soto. He was killed at the Battle of Las Salinas by supporters of his former ally Diego Almagro. His greatest victory came when he massacred the royal entourage in the central plaza of (*) Cajamarca. This man founded the city of Lima after previously executing Atahualpa and capturing the city of Cuzco. For ten points, identify this Spanish conquistador who conquered the Incan Empire.
ANSWER: Francisco **Pizarro** González
<JD>

11. This son of King Ban was known as the White Knight until he defeated the cowardly Copper Knight and lifted a stone slab to find his true name, after which Dolorous Guard became his castle Joyous Guard. This man killed Gaheris and Gareth as he rescued a lover from burning at the stake, which later earned him the enmity of their brother (*) Gawain. This man was raised by the Lady of the Lake, and his affair with Elaine of Corbenic produced the knight who eventually found the Holy Grail, Sir Galahad. For ten points, name this knight of the Round Table who had an affair with Arthur's wife Guinevere.
ANSWER: **Lancelot**
 <BZ>

12. This object's brightness is 2.5 times greater today than in Ptolemy's time, suggesting changes in stellar evolution 100 times larger than predicted. Found in an asterism with Kochab and Pherkad, this object exhibits decreased amplitude that suggests its departure from the instability strip. It has two other companions, one of which was discovered by Herschel in 1780, and is the closest Population I (*) Cepheid variable to Earth. It can be referenced with the line connecting Dubhe and Merak, and it is the brightest star in Ursa Minor. For ten points, name this star found at the end of the Little Dipper, commonly referred to as the North Star.
ANSWER: **Polaris** [accept **Alpha UMi** or **Alpha Ursae Minoris**; prompt on **North Star**, **Northern Star** or **Pole Star** before mention, as those change over the years]
<EC>

13. This author described "The eternal sunshine of the spotless mind" and noted that "He best can paint 'em, who shall feel 'em most" in one work. Another of his works asks, "Who breaks a Butterfly upon a Wheel?" This author of "Eloisa to Abelard" and "Epistle to Dr. Arbuthnot" commented that (*) "a little learning is a dangerous thing" and that "to err is human, to forgive Divine" in another work. In a more famous poem by this man, Umbriel visits the Cave of Spleen before Lord Petre cuts a piece of Belinda's hair without her knowledge. For ten points, name this English author of "An Essay on Man" and the mock epic poem, *The Rape of the Lock*.
ANSWER: Alexander **Pope**
<KT>

14. During the Civil War. the battles of Westport and Wilson's Creek occurred in this state. John C. Fremont married the daughter of a senator from this state, whose opposition to paper money earned him the nickname "Old Bullion" and was named Thomas Hart Benton. In the Election of 1860, this was the only state won by (*) Stephen Douglas in its entirety. In *Dred Scott v. Sandford*, the Supreme Court struck down a law that established a line at 36°30′, this state's southern border, above which slavery was illegal. For ten points, name this state which was admitted to the Union with Maine in an 1820 compromise named after it.
ANSWER: **Missouri**
<BZ>

15. This letter represents a quantity defined as Gibbs free energy per surface area in the Young-Laplace equation. Relativistic mass equals rest mass times a quantity represented by this letter, which is equal to the derivative of time with respect to proper time. That quantity is also expressed as one divided by the square root of one minus v squared over c squared, known as the (*) Lorentz factor. In addition to symbolizing surface tension and photons, this letter names a type of high-energy decay and radiation carrying more energy than X-rays. For ten points, identify this third letter of the Greek alphabet.
ANSWER: **gamma** [accept **gamma** radiation or **gamma** decay]
<EC>

16. In "The Hollow Men," T.S. Eliot quotes this author's statement that "Life is very long," which is spoken by Captain Lingard to Peter Willems in his story, *An Outcast of the Islands*. The title character of another of his novels allows Doramin to shoot him after the death of Dain Waris. In one of his stories, a captain near the Gulf of Siam allows Leggatt to escape after seeing him swim away from the *Sephora*. This author of (*) "The Secret Sharer" wrote a more famous novella about Kurtz, who is praised as a god in the Belgian Congo and yells "The horror! The horror!" to Charles Marlowe. For ten points, name this author of *Lord Jim* and *Heart of Darkness*.
ANSWER: Joseph **Conrad** [or Józef Teodor **Konrad** Korzeniowski]
<KT>

17. Caligula's planned invasion of this region ended bizarrely when he drew his troops in battle formation on the seashore and ordered them to attack the water and collect seashells. Caesar's invasion of this region successfully installed the client king Mandubracius. This region was the site of the Battle of Watling Street, in which Gaius Suetonius Paulinus defeated a rebellion of the Iceni led by (*) Boudica. The actual Roman conquest of this region began under Claudius, whose general Aulus Plautius served as its first governor. Hadrian's Wall was constructed in this region. For ten points, identify this region whose ancient city of Londinium is now the capital of a modern-day country.
ANSWER: Roman **Britain** [or Provincia **Britannia**; or Great **Britain**; do not accept "England" or "United Kingdom"]
<JD>

18. Bistartratocuprate(II) complexes oxidize these compounds to induce red copper(I) oxide to precipitate out of Fehling's solution. In the Wacker process, ethylene oxidizes into one of these compounds. These reactive compounds are oxidized by a diamminesilver(I) complex to form a silver mirror in Tollens' reagent. Acyclic ones are named by affixing the name of the longest carbon chain with the suffix (*) "-al," and their general structure has a carbonyl bonded to a hydrogen and a side chain. For ten points, name this group of compounds, the simplest of which is commonly used to preserve tissue.
ANSWER: **aldehyde**s [accept any specific types such as **formaldehyde**, **acetaldehyde**, etc]
<EC>

19. In one poem, this author wrote "i carry your heart with me" and "i am never without it." In another work, this poet described characters who "went down to the beach (to play one day)" before remarking that "it's always ourselves we find in the sea." An autobiographical novel by this man focuses on his imprisonment in La Ferté-Macé during the First World War. This poet of (*) "Maggie and Molly and Millie and May" wrote about a character "whose warmest heart recoiled at war" and about a place "with up so floating many bells down." For ten points, identify this author of *The Enormous Room*, "i sing of Olaf, glad and big" and "anyone lived in a pretty how town."
ANSWER: edward estlin **cummings**
<KT>

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20. A predisposition for strokes is caused by one variant of this protein named for Lepore. This protein's function is affected by pH in a phenomenon called the Bohr shift. A cofactor to this protein consists of a porphyrin ring bound to an (*) iron atom. Because the affected cells burst when infected with *Plasmodium*, possessing exactly one defective gene for this protein confers resistance to malaria, and is known as sickle-cell trait. Carbon monoxide inhalation can cause suffocation because this protein's affinity for that compound is higher than its affinity for oxygen. For ten points, name this protein found in red blood cells.
ANSWER: **hemoglobin**
<BZ>

21. In one novel by an author from this nation, Peter Holmes commits suicide when Commander Towers decides to scuttle the USS *Scorpion*. In addition to *On the Beach* by Nevil Shute, one book set in this country ends with a party held by the cousin of Laura for the unveiling of a statue of the title German explorer. Another novel set in this nation deals with a bet that one character cannot move a (*) glass factory to Bellingen. One author from this nation wrote about a Sudeten industrialist who compiled a list of "essentially skilled workers" from concentration camps. For ten points, name this country home to Patrick White, Peter Carey, and Thomas Keneally, the author of *Schindler's Ark*.
ANSWER: Commonwealth of **Australia**
<KT>

22. The Kaili biota formed during the fifth stage of this time period, and one group of fossilized remains from this time period is the Orsten fauna, notable for its well preserved, soft-body remains. It saw the extinction of Ediacaran organisms and is marked by the evolution of *Treptichnus pedum*. This period is known for its abundance of lagerstatte, featured in the Canadian (*) Burgess Shale formation, and the first appearance of trilobites. Molluscs and arthropods originated during this period, which preceded the Ordovician. For ten points, name this geological period, the first of Paleozoic Era, that featured a namesake "explosion."
ANSWER: **Cambrian** Period
<EC>

Bonuses

1. Bonus: Avery, Macleod, and McCarty showed that this substance caused bacteria to transform. For ten points each:
[10] Name this double-stranded molecule that carries the genetic code in all living organisms. It is composed of a phosphate and sugar backbone and nucleotides like thymine and cytosine.
ANSWER: **DNA** or **deoxyribonucleic acid**
[10] In eukaryotic nuclei, DNA is usually found wrapped around these proteins. When wrapped around these proteins, DNA forms nucleosomes that resemble beads on a string.
ANSWER: **histone**s
[10] Gene expression can be increased by doing this to histones, which involves HATs adding a certain functional group that causes DNA to loosen and allows transcription to occur.
ANSWER: **acetyl**ation [accept equivalents like **adding an acetyl** group; do not accept or prompt on "methylation" or "deacetylation"]
<BZ>

2. Bonus: It was torpedoed while on a voyage from New York to Liverpool. For ten points each:
[10] Name this British ocean liner, whose sinking during World War I resulted in strong anti-German sentiment in the United States.
ANSWER: RMS *Lusitania*
[10] When Germany resumed unrestricted submarine warfare two years after the *Lusitania* sunk, this American president urged Congress to declare war, stating that the world must be made "safe for democracy".
ANSWER: Thomas Woodrow **Wilson**
[10] Wilson had earlier beaten this Republican candidate in the 1916 election. Due to their similarly progressive records as governors, Theodore Roosevelt quipped that the only difference between the two men "was a shave".
ANSWER: Charles Evans **Hughes**
<BZ>

3. Bonus: One work in this language recounts the exile of Siavash. For ten points each:
[10] Name this language in which Ferdowsi's *Shahnameh* and the poems of Saadi were written.
ANSWER: **Persian** [or **Farsi**; or **Parsi**]
[10] Translated by Edward FitzGerald, this Persian "Book of Verses" describes "A Jug of Wine, a Loaf of Bread--and Thou" in one section.
ANSWER: The *Rubaiyat*
[10] *The Rubaiyat* was written by this celebrated poet and philosopher who lived in Iran during the reign of the Abbasid Caliphate.
ANSWER: Omar **Khayyam**
<MP>

4. Bonus: "I'm cool dad, that's my thang. I'm hip, I surf the web, I text. LOL: laugh out loud, OMG: oh my god, WTF: why the face." For ten points each:
[10] That was a quote from this fictional Ty Burrell character, a childish and competitive real estate agent who is married to Claire and is father to Haley, Alex, and Luke.
ANSWER: Phillip Andrew "**Phil**" **Dunphy** [accept either]
[10] Phil Dunphy is a character in this ABC comedy series which follows the story of Jay Pritchett and the families of his two children through mockumentary-style footage.
ANSWER: *Modern Family*
[10] Jay Pritchett's wife, Gloria, is played by this Colombian actress who also stars as Madame Desdemona in *Machete Kills* and provides the voice of Odile Angelou in the 2011 film version of *The Smurfs*.
ANSWER: Sofía Margarita **Vergara** Vergara [accept either]
<JD>

5. Bonus: It can be computed as change in enthalpy minus the product of absolute temperature and change in entropy. For ten points each,
[10] Identify this thermodynamic quantity, symbolized G, that measures a system's ability to do "useful" work.
ANSWER: **Gibbs free energy**
[10] For a spontaneous reaction, the change in Gibbs free energy, ΔG [read "delta G"] has this sign. The change in enthalpy for an exothermic reaction also has this sign.
ANSWER: **negative** [accept **less than zero**]
[10] ΔG also equals standard free energy plus the ideal gas constant times temperature times the natural log of this quantity, which measures the ratio of products to reactants at a particular point in a reaction.
ANSWER: **reaction quotient** [prompt on **Q**]
<EC>

6. Bonus: In June 2012, a Dana Air flight crash in this city's Iju-Ishaga neighborhood killed all 153 on board. For ten points each:
[10] Identify this rapidly growing city, estimated to have overtaken Cairo as the most populated city in Africa. Sand spits such as Bar Beach protect it from the Gulf of Guinea.
ANSWER: **Lagos**
[10] Lagos is the largest city in this OPEC-member country in which the Niger River empties into the Atlantic. This most populous African country has its capital at Abuja.
ANSWER: Federal Republic of **Nigeria**
[10] Lagos was originally founded by members of this ethnic group, who, along with the Hausa-Fulani and the Igbo, comprise a majority of Nigeria's population.
ANSWER: **Yoruba**
<JD>

7. Bonus: This man used a Mosin-Nagant rifle with iron sights to avoid being detected. For ten points each:
[10] Name this Finnish sniper who killed 505 Soviet soldiers during the Winter War. Either his real name or nickname is acceptable.
ANSWER: **White Death** [or Simo **Häyhä**]
[10] Improvised explosives named after this Russian minister were invented during the Winter War. This man also signed a nonaggression pact with Joachim von Ribbentrop that was broken by Germany's Operation Barbarossa.
ANSWER: Vyacheslav Mikhailovich **Molotov** [accept **Molotov** cocktail]
[10] This Soviet leader, the successor to Lenin, directed the campaign against Finland during the Winter War. However, his purges left the army with ranks of inexperienced officers.
ANSWER: Joseph **Stalin** [accept Ioseb Besarionis dze **Jugashvili**]
<BZ>

8. Bonus: This poem's speaker has "bathed in the Euphrates when dawns were young." For ten points each:
[10] Name this poem whose speaker's "soul has grown deep" like the title entities and has "looked upon the Nile and raised the pyramids above it."
ANSWER: "The **Negro Speaks of Rivers**"
[10] This Harlem Renaissance poet wrote "The Negro Speaks of Rivers" and "Theme for English B.", and asked "what happens to a dream deferred" in another poem.
ANSWER: James Langston **Hughes**
[10] This poem by Hughes begins with "Droning a drowsy syncopated tune" and later describes an individual who "slept like a rock or a man that's dead."
ANSWER: "The **Weary Blues**"
<KT>

9. Bonus: The "tit for tat" strategy was proposed as the best solution to the iterated form of this construct. For ten points each,
[10] Name this situation in which two criminals may choose to betray each other, even when it appears it is in their best interests to cooperate.
ANSWER: **prisoner's dilemma**
[10] The prisoner's dilemma is analyzed in this field that studies strategy in decision making. Nash equilibrium is a key concept in this discipline.
ANSWER: **game theory**
[10] These mathematical systems, used to analyze processes in game theory and the sciences, undergo random and memoryless transitions between a finite number of states independent of previous events.
ANSWER: discrete-time **Markov chain** [prompt on "MDP" or "Markov decision process"]
<EC>

10. Bonus: For ten points each, answer the following about recent deaths among world leaders:
[10] This former president of Venezuela died in March 2013 and was succeeded by his Minister of Foreign Affairs, Nicolas Maduro, as President.
ANSWER: Hugo Rafael **Chavez** Frias
[10] The funeral of this former Prime Minister took place in April 2013. Cristina Kirchner was not invited to that funeral due to tensions over the Falkland Islands brought on by this female British Prime Minister.
ANSWER: Margaret Hilda **Thatcher**, Baroness Thatcher
[10] A former dictator of this country named Jorge Videla was sentenced to life in prison for kidnapping children, where he died in May 2013.
ANSWER: **Argentina**
<BZ>

11. Bonus: Her son Parthenopaeus was one of the Seven Against Thebes. For ten points each:
[10] Name this daughter of Iasus who was loved by Meleager. She and Hippomenes were eventually turned into lions for disrespecting Cybele's temple.
ANSWER: **Atalanta**
[10] Atalanta was the first to wound the Calydonian one of these animals. Heracles captured the Erymanthian one as part of his labors, and Ares gored Adonis to death in the guise of one of these animals.
ANSWER: **boar**s or **pig**s
[10] Hippomenes won Atalanta's hand in marriage after he defeated her in a footrace with the help of three of these objects, which were given to him by Aphrodite.
ANSWER: **gold**en **apple**s [prompt on "apples"]
<BZ>

12. Bonus: Identify these French authors, for ten points each:
[10] This author wrote a "Chronicle of the 19th century" whose protagonist, Julien Sorel, impregnates Mathilde de la Mole and is later guillotined. That novel is *The Red and the Black*.
ANSWER: **Stendhal** [or Marie-Henri **Beyle**]
[10] This author wrote a work split into seven volumes including *Swann's Way* and *Time Regained*, called *In Search of Lost Time*.
ANSWER: Valentin Louis Georges Eugène Marcel **Proust**
[10] This author negatively received Proust's magnum opus and wrote about Michel, who successfully fights tuberculosis and moves to Normandy after getting tired of Paris, in his novel *The Immoralist*.
ANSWER: André Paul Guillaume **Gide**
<KT>

13. Bonus: These organisms often adopt cryptic coloration or secrete chemicals as mechanisms of defense. For ten points each,
[10] Identify these organisms which are hunted by predators.
ANSWER: **prey**
[10] These differential equations model predator-prey interactions and display sequential oscillations in population size as the size of one group depends on the population of the other.
ANSWER: **Lotka-Volterra** equation
[10] Prey like the viceroy butterfly practice the Müllerian type of this technique. In the Mertensian type of this technique, a deadly species models a less harmful one.
ANSWER: **mimicry** [accept specific types]
<EC>

14. Bonus: They were the main good transported in the Middle Passage. For ten points each:
[10] Identify this type of good, American examples of which included Nat Turner and Harriet Tubman.
ANSWER: **slave**s
[10] In New Spain, Native Americans were put under this system of forced labor that was identical to slavery in all but name.
ANSWER: **encomienda**
[10] This one-time owner of encomiendas chronicled the atrocities of the encomienda system in his book *A Short Account of the Destruction of the Indies*. He argued against Juan Ginés de Sepúlveda in the Valladolid debates.
ANSWER: Bartolomé de **las Casas**
<JD>

15. Bonus: The Gospel of Barnabas claims that this man was crucified in place of Jesus. For ten points each:
[10] Identify this apostle who, in canonical tellings of the New Testament, betrayed Jesus for thirty pieces of silver.
ANSWER: **Judas** Iscariot
[10] During the arrest of Jesus in the Garden of Gethsemane, Judas identified Jesus to the Sanhedrin priests by performing this action.
ANSWER: **kiss**ing Jesus [accept anything that involves kissing]
[10] Judas was eventually overcome with shame and hanged himself, leading to his place among the Twelve Apostles being replaced by this man.
ANSWER: Saint **Matthias**
<JD>

16. Bonus: Its title originates from Act III of Shakespeare's *Othello*. For ten points each:
[10] Name this set of six marches often played at graduations which contains a famous *Trio* accompanied by the lyrics of "Land of Hope and Glory."
ANSWER: *Pomp and Circumstance Military Marches*
[10] *Pomp and Circumstance* was composed by this English man whose "Nimrod" section in his *Enigma Variations* was inspired by Augustus Jaeger.
ANSWER: Sir Edward William **Elgar**, 1st Baronet
[10] Edward Elgar also composed this musical piece which is based on a poem by Cardinal Newman. It describes the title man's judgement by God and contains the aria, *Sanctus fortis*.
ANSWER: The *Dream of Gerontius*
<KT>

17. Bonus: Ideal types of these devices have zero input current, zero output impedance, infinite bandwidth, and infinite open-loop gain. For ten points each,
[10] Name these devices that receive a differential input and produce a single output with a much higher voltage. They are often depicted in circuit diagrams as a rightwards-pointing triangle.
ANSWER: **op-amp** or **operational amplifier**
[10] These components, represented by zig-zag lines, require a potential difference to function. Their namesake property is measured in ohms.
ANSWER: **resistor**s
[10] Resistance is directly proportional to resistivity and length while inversely proportional to this quantity. For a parallel-plate capacitor, capacitance is directly proportional to this quantity.
ANSWER: cross-sectional **area** [accept surface **area** of the plates]
<EC>

18. Bonus: Two characters in this work realize that only pushing on Clifford's wheelchair will transport him up an incline. For ten points each:
[10] Name this novel in which Connie falls in love and has an affair with Oliver Mellors, a gamekeeper in her husband's Wragby Estate.
ANSWER: *Lady Chatterley's Lover*
[10] This author of *Lady Chatterley's Lover* also wrote about the artist Paul Morel in *Sons and Lovers*.
ANSWER: David Herbert **Lawrence**
[10] In this short story by D.H. Lawrence, Paul rides the title object to correctly predict the winner, allowing Bassett to win about 80,000 pounds.
ANSWER: "The **Rocking-Horse Winner**"
<KT>

19. Bonus: Its authors chose not to list all non-intensional functions in one section since "life is too short." For ten points each:
[10] Name this three-volume work co-written by Alfred North Whitehead which aimed to use logic as a base for all mathematics. One of its sections attempts to prove the fact that one plus one equals two.
ANSWER: *Principia Mathematica*
[10] This thinker wrote *Principia Mathematica* and argued against churches in his essay, "Why I am Not a Christian." He also discussed the statement, "the present king of France is bald" in his essay, "On Denoting."
ANSWER: Bertrand Arthur William **Russell**, 3rd Earl Russell
[10] This philosopher who studied under Russell claimed that "what we cannot speak, we must pass over in silence" in *Tractatus Logico-Philosophicus*. He argued that private language is impossible in *Philosophical Investigations*.
ANSWER: Ludwig Josef Johann **Wittgenstein**
<KT>

20. Bonus: Its background shows the desolation of the title Aegean island. For ten points each:
[10] Identify this painting whose foreground depicts an Ottoman soldier sitting on a horse that rears over a huddled mass of dying Greeks. Its artist later painted *Greece on the Ruins of Missolonghi* on a similar subject.
ANSWER: The *Massacre at Chios* [or *Scène des massacres de Scio*]
[10] The painter of *The Massacre at Chios* also created this painting, which depicts a boy waving a pistol in the air next to the title bare-breasted figure, who raises a French flag.
ANSWER: *Liberty Leading the People* [or *La Liberté guidant le peuple*]
[10] *The Massacre at Chios* and *Liberty Leading the People* are both paintings by this French Romantic artist.
ANSWER: Ferdinand Victor Eugène **Delacroix**
<JD>

21. Bonus: This dynasty's founder took mercury pills hoping to become immortal, but died instead. For ten points each:
[10] Identify this first imperial dynasty of China which began construction of the Great Wall. Despite promising to last ten thousand generations, this dynasty was replaced by the Han after only fifteen years.
ANSWER: **Qin** Dynasty
[10] In order to suppress independent thinking among the common people, the Qin chancellor Li Si began a campaign to kill scholars and do this. The surviving materials of this action were preserved in the imperial library.
ANSWER: **burning books** [accept equivalents; or **biblioclasm**; or **libricide**; accept words like "destroying" in place of burning; accept synonyms of books like "texts" or "bamboo strips bound together"]
[10] Qin Shihuangdi, the first Qin emperor, was buried in a mausoleum surrounded by pits containing this collection of sculptures of chariots, warriors, and horses.
ANSWER: **Terracotta Army** [accept equivalents of army like "warriors" and "soldiers"]
<JD>

22. Bonus: He represented the prosecution during the Scopes trial. For ten points each:
[10] Name this three-time Democratic presidential candidate, who lost to McKinley in the 1896 election.
ANSWER: William Jennings **Bryan** [accept **WJB**]
[10] This party endorsed William Jennings Bryan's nomination, as he had given the "Cross of Gold" speech in favor of free silver. Many farmers who were affected by the deflation of the late 19th century joined this party.
ANSWER: **Populist** party or **Populist**s [or **People's** Party]
[10] In 1892, this man ran on the Populist ticket with his running mate James Field, and won the states of Colorado, Kansas, Idaho, and Nevada.
ANSWER: James Baird **Weaver**
<BZ>