

LADUE INVITATIONAL SPRING TOURNAMENT 2012

Round 2

TOSS-UPS

1. This man led British forces to victory against the Mysorean ruler Tipu Sultan in the Third Anglo-Mysore War. He negotiated the terms of the Treaty of Amiens, which he later signed on behalf of Britain with Napoleon, ending the War of the Second Coalition. In another war, he served under General William (*) Howe during the campaigns for New York City and Philadelphia, and he later defeated the army of Horatio Gates at the Battle of Camden. This commander is most famous for losing a battle in which Rochambeau and George Washington converged on this man's outpost on Chesapeake Bay. For ten points, name this British General whose surrender at the Battle of Yorktown ended the American Revolution.

ANSWER: Charles Cornwallis (or First Marquess Cornwallis; or Earl Cornwallis)

<LC>

2. The Glen-Nye law models the relationship between stress and strain in these entities, and alternating dark and light bands found near the base of them are called ogives. The firn limit divides these features into the zone of accumulation and the zone of ablation, and areas with them can be affected by (*) isostatic rebound when they disappear. These geologic entities can form ridges called arêtes and carve U-shaped valleys, and they erode surrounding terrain through plucking and abrasion. They often leave behind deposits of sediment called drumlins and moraines. Roughly 70% of the Earth's freshwater is frozen in, for ten points, what large, slow-moving masses of ice which form icebergs when they break apart?

ANSWER: glaciers (prompt on anything related to ice before mention)

<HX>

3. In a novel titled after one of these animals, Coldmoon grinds a glass ball, and that animal drowns while praying to Buddha and is owned by Mr. Sneaze. Another literary one of these animals also drowns after "the slippery verge her feet beguil'd / She tumbled headlong in." In addition to the title character of a (*) Natsume Soseki novel, and the subject of an "Ode on the Death of a Favourite" one by Thomas Gray, T.S. Eliot wrote Old Possum's Book of Practical *these animals*. Another one of these animals slowly disappears but taunts Alice with its grin. For ten points, identify this animal, one example of which appears "in a hat" in a Dr. Seuss work.

ANSWER: cats

<MS>

4. David Bohm's QM theory attempts to explain this concept through quantum mechanical phenomena, and Penrose's argued that it was non-algorithmic in his critique of artificial intelligence, *The Emperor's New Mind*. Philosophical zombies lack this, and objectivism maintains that reality exists apart from this concept. Durkheim proposed that totemic religion created a "collective" type of this concept, while William James is credited with the idea of a (*) "stream of" this entity. It is sometimes equated with sentience or self-awareness. For ten points, name this concept which refers to the ability of the mind to perceive the world around it, a loss of which is suffered when someone gets a concussion.

ANSWER: consciousness (accept word forms; accept self-awareness, sentience or perception before mentioned; prompt on artificial intelligence or mind before mentioned)

<HX>

5. *Inuhariko* and *daruma* are amulets used in this religion, which uses a ritual called *harai*. This religion's most important ceremony is the Great Purification, and one figure in this religion once pulled a "grass-cutting sword" from the Eight-Forked Serpent. The dead in this religion go to the underworld (*) Yomi, and according to this religion, the first islands were created when a jeweled spear was stirred in the oceans by Izanagi and Izanami. Ise Jingu is an important shrine in this religion, whose deities, referred to as kami, include Uzume, Susano'o, and Amaterasu. For ten points, identify this native Japanese religion.

ANSWER: Shintoism (or kami-no-michi)

<KT>

6. In this novel, the protagonist is sent to Mr. Creakle's Salem House where he meets a boy who likes drawing skeletons, Tommy Traddles, and James Steerforth, who later runs off with Peggotty's niece Little Em'ly. The protagonist of this novel is sent to London by (*) Murdstone, where he lives with Mr. Micawber, but runs away to live with his aunt Betsy Trotwood. This novel's title character first marries Dora Spenlow and, after she dies, helps thwart the plotting of the "umble" red-haired Uriah Heep, securing a marriage to Agnes Wickfield. For ten points, identify this novel by Charles Dickens.

ANSWER: David Copperfield

<MS>

7. This man defeated Arnegisclus at the Battle of the Utus, and his successor Ellac was defeated at the Battle of Nedao by the Ostrogoths. The majority of knowledge about this man was compiled by the historian Priscus, and this man gained power after death of Rugila. He demanded half of Rome as dowry for Valentinian III's sister and that sister, Honoria, had earlier sent this man a ring which prompted his (*) invasion of Italy. He killed his co-ruler and brother Bleda before losing at the Battle of Chalons, and he died from a nosebleed on the night of his wedding to Ildico. Pope Leo I managed to persuade this man not to sack Rome. For ten points, identify this "Scourge of God," the most famous leader of the Huns.

ANSWER: Attila the Hun

<JD>

8. One of this man's operas sees the Pharaoh's son Amenophis in love with Anaïs, while Musafà plans to marry off his wife to Lindoro in another. Another work by this composer of *Moses in Egypt* and *The Italian Girl in Algiers* sees the music teacher bribed to fake illness; that work chronicles Count (*) Almaviva's quest for Rosina's love in an operatic "prequel" to Mozart's *The Marriage of Figaro*. He also depicted Leuthold's murder of one of Gessler's soldiers in an opera that sees the title figure forced to shoot an apple off of his son's head. For ten points, name this Italian composer of *The Barber of Seville* and *William Tell*.

ANSWER: Gioachino Rossini

<HX>

9. Blas Cabrera may have detected one of these particles in February of 1982, but those results were never duplicated, and "spin ice" is very similar to one. Paul Dirac showed that the existence of these particles implies that electric charge is quantized, and many grand unified theories suggest their existence. One of (*) Gauss's Laws claims that the divergence of a certain field is zero, meaning that none of these entities exist. For ten points, identify this hypothetical particle from physics, a magnetic analogue of a point charge, which is missing either a north or south end.

ANSWER: magnetic monopoles

<MS>

10. This state had to move its Republican primaries back a month because it has not yet completed redistricting. One representative from this state introduced the Protecting Children From Online Pornographers and Stop Online Piracy Acts, and is named Lamar Smith. In 2007, this state's governor issued an executive order requiring girls be (*) vaccinated for HPV, but it was revealed that the vaccine manufacturer Merck had contributed to his campaign. A Libertarian from this state is currently in the Republican nomination race. For ten points, name this state home to Ron Paul and Rick Perry.

ANSWER: Texas

<MS>

HALFTIME

11. This dynasty saw the rule of the Zhengtong Emperor, who was defeated and captured by Mongols in the Tumu Crisis. It was forced to stop naval trade because wokou pirates swarmed its coastline. This dynasty saw the visit of the Jesuit priest Matteo Ricci, and its last emperor decided to hang himself on a tree behind the Forbidden City before Li Zicheng's rebellion succeeded. Its founder, the (*) Hongwu Emperor, rose to power in the Red Turban Rebellion, and under Yongle this dynasty moved its capital to Beijing. This dynasty saw voyages of the eunuch Zheng He and the introduction of porcelain. For ten points, name this Chinese dynasty that was overthrown by the Manchus and ruled between the Yuan and the Qing.

ANSWER: Ming dynasty

<JD>

12. In this novel, one character's legs wash up on the beach after being killed by McWatt, and another character wears an eye patch after a lecherous old man threw a flower at his eye. Besides Kid Sampson and Major de Coverley, characters in this novel include the atheistic Dunbar, who is "disappeared" by army officials, and Nurse Duckett. (*) Doc Daneeka's wife receives insurance benefits after her husband's supposed death, and the black-market Syndicate is created by Milo Minderbinder. The protagonist goes naked in front of Colonel Cathcart after he is unable to save Snowden in, for ten points, what World War II novel featuring the bombardier Yossarian, a work by Joseph Heller?

ANSWER: Catch-22

<BZ>

13. Despite being 6'9", this man played the point guard position and averaged a career record 11.2 assists per game along with 138 career triple-doubles. While at Michigan State, he led his team to the 1979 NCAA Championship against an Indiana State team featuring his future rival (*) Larry Bird. Playing without Kareem Abdul-Jabbar in the 1991 NBA Finals, this man lost to a Chicago Bulls team led by Michael Jordan despite getting two triple-doubles. That would turn out to be his final championship run after his public announcement later that year about contracting HIV. For ten points, name this retired Los Angeles Lakers guard whose ball-handling skills are simply unreal.

Answer: Earvin "Magic" Johnson Jr.

<EnzeC>

14. Sliding wooden walls are seen in this man's Hanna-Honeycomb House, while a copper roof and hexagonal skylights are found in his Kentuck Knob. This artist had a carport in his Rosenbaum House, which exemplified his Usonian design. One of his more famous buildings survived a 1923 (*) earthquake, and utilizes the "Maya-Revival" style. That work is the Imperial Hotel in Tokyo, and this architect's Robie House exemplifies his Prairie Style. For ten points, name this architect of the Guggenheim Museum in New York and of Edgar Kaufmann's house over Bear Run River, Fallingwater.

ANSWER: Frank Lloyd Wright

<KT>

15. This process can be terminated through a palindromic G-C rich hairpin loop or by a protein factor designated "Rho." In bacteria, this process can be initiated by a sigma factor, while in eukaryotes, it generally begins after TFIIID binds to the TATA box. Unlike a similar process, this does not form Okazaki fragments because only the 3' strand is used, and the (*) reverse of this process is used by retroviruses like HIV. Spliceosomes remove introns following this process, during which polymerase adds complementary nucleotides and replaces thymine with uracil. For ten points, name this process in which mRNA is synthesized from a DNA template, sometimes contrasted with translation.

ANSWER: transcription (do not accept or prompt on "translation" or "replication")

<HX>

16. One character in this work refuses to eat a grape offered to him. Jacopo offers to help the protagonist after he fakes an injury, but he declines so that he may search for the treasure of the Spada family. The title character prevents Maximilien from committing suicide, just he had done with Maximilien's father (*) Morrel, before vanishing with Haydee. Fernand Mondego marries Mercedes and Danglars becomes a successful banker after falsely accusing the title character of treason. For ten points, identify this novel in which Edmond Dantes gets his revenge, a work of Alexandre Dumas.

ANSWER: *The Count of Monte Cristo* (or *Le Comte de Monte-Cristo*)

<MS>

17. One structure that lies along this river is the plutonium-producing Hanford Site. The city of Astoria lies near this river's mouth, and this river flows past Golden and Invermere. "Fish-ladders" help salmon cross this river's numerous hydroelectric dams, which include John Jay and Bonneville. The Yakima River joins this river at Tri-Cities, while Franklin Delano Roosevelt Lake is formed by the (*) Grand Coulee Dam on this river. This river is joined by the Willamette at Portland, while its largest tributary goes through Hell's Canyon and is called the Snake. For ten points, name this river which lies on the border between Washington and Oregon.

ANSWER: Columbia River

<JD>

18. This man won a Blue Max for single-handedly capturing an Italian division at the Battle of Caporetto. He later commanded the 7th Panzer Division in opposition to the Allied invasion of Normandy. He committed suicide after he was linked to the 20 July Plot, which was a failed attempt to plant a bomb in the Wolf's Lair to assassinate Adolf Hitler. At the Battle of (*) Kasserine Pass, this figure defeated Allied forces participating in Operation Torch, but lost to them at El Alamein. For ten points, name this German Field Marshal during World War II, whose leadership of the German *Afrikkakorps* during the North African campaign earned him the nickname "The Desert Fox."

ANSWER: Field Marshal Erwin Rommel (accept "The Desert Fox" before mentioned)

<LC>

19. Bertrand's Postulate claims that there is always a prime between a positive integer and this number times that integer. The Euler characteristic of planar graphs and polyhedra is this number, meaning the number of faces plus vertices minus (*) edges is this number. An n -dimensional cube has this number to the power of n vertices, and Mersenne primes are one less than a power of it. This is the largest number equal to its own factorial, and the square root of this integer is the hypotenuse of an isosceles right triangle with side length one. For ten points, what is this only even prime number?

ANSWER: Two

<MS>

20. Like Anubis, this god's symbol is a Was scepter, and he engaged in a swimming race with his nephew in the form of a hippopotamus. This figure's main center of worship was at the Hyksos city of Avaris, and with the war goddess Neith, this figure fathered the crocodile god Sobek. This god lost a (*) boat race when he was tricked into sailing a boat made out of stone, and he was tricked into eating lettuce after assaulting his nephew. He is said to help Ra defeat the serpent Apophis each night, and was the husband of Nephtys. For ten points, name this son of Geb and Nut and Egyptian god of the desert, a rival of Horus who chopped his brother Osiris into fourteen pieces.

ANSWER: Seth (accept Setesh or Setukh)

<BZ>

End of regulation, only proceed if tied

21. This man was the first to formulate the concept of a "half-life" and also coined the terms "alpha", "beta", and "gamma" rays to describe the types of radiation given off by thorium and radium. He also confirmed Prout's hypothesis after successfully knocking a hydrogen nucleus out of a nitrogen atom, but he may be better known for an experiment with Geiger and Marsden involving a (*) zinc sulfide sheet which lit up when alpha particles were deflected onto it. That experiment lead him to conclude that the atom was mostly empty space with a dense nucleus, replacing J. J. Thompson's plum pudding model. For ten points, name this British chemist famous for carrying out the gold-foil experiment.

ANSWER: Ernest Rutherford

<EnzeC>

22. Lyndon B. Johnson appointed this man President of the World Bank in 1968, and he served as Ford's president before assuming his most famous post. He served as a member of EXCOMM during the Cuban Missile Crisis and persuaded the Joint Chiefs of Staff to choose the blockade option over a missile strike. He commissioned the (*) Pentagon Papers, which documented the Johnson Administration's deception of Congress and the American public. For ten points each name this Secretary of Defense who played a large role in escalating U.S. involvement in the Vietnam War under John F. Kennedy and Lyndon B. Johnson.

ANSWER: Robert McNamara

<LC>

BONUSES

1. Bonus: Its composer dedicated it to his “friends pictured within.” For ten points each:

[10] Name this musical cryptogram consisting of a theme followed by fourteen variations. Its “Ysobel” variation is dedicated to a viola student of the composer’s, and its “GRS” variation depicts a dog running around the River Wye.

ANSWER: **Enigma Variations** (prompt on **Op. 36**; accept **Elgar’s Op. 36** but do not mention “Elgar” if not given)

[10] This English composer of the *Enigma Variations* also wrote *The Dream of Gerontius* as well as a series of marches for orchestra, the *Pomp and Circumstance Marches*.

ANSWER: Edward **Elgar**

[10] Elgar depicted his close friend, Augustus Jaeger, in this ninth movement of the *Enigma Variations*. Its title refers to a patriarch from the Old Testament described as a “mighty hunter.”

ANSWER: **“Nimrod”**

<HX>

2. Bonus: This poem asks “When can their glory fade?” despite the fact that “Some one had blunder’d.” For ten points each:

[10] Identify this poem in which “Into the valley of Death / Rode the six hundred,” inspired by a suicidal offensive maneuver in the Battle of Balaclava.

ANSWER: “The **Charge of the Light Brigade**”

[10] This British poet of “The Charge of the Light Brigade” wrote about “Nature, red in tooth and claw” and claimed that “‘Tis better to have loved and lost / Than never to have loved at all” in his *In Memoriam A.H.H.*

ANSWER: Alfred, Lord **Tennyson**

[10] In this Tennyson poem, typically placed at the end of poetry collections, he says that he “hope[s] to see [his] Pilot face to face” when the title action has been done.

ANSWER: **“Crossing the Bar”**

<MS>

3. Bonus: In response to this event, American delegates responded with the phrase, “Million for defense, sir, but not one cent for tribute!” For ten points each:

[10] Identify this 1798 incident which saw three French agents attempt to coerce bribes from American diplomats.

ANSWER: **XYZ** Affair

[10] The French agents demanded that a bribe of \$250,000 be given to this French foreign minister who served under Napoleon and represented France at the Congress of Vienna.

ANSWER: Charles Maurice de **Talleyrand**-Périgord

[10] The XYZ Affair took place during this president’s administration. He signed the unpopular Alien and Sedition Acts and was succeeded by Jefferson.

ANSWER: **John Adams** (prompt on “Adams;” don’t accept “Quincy Adams”)

<EnzeC>

4. Bonus: Answer the following about the Judgment of Paris, for ten points each:

[10] The Judgement gave the golden apple to this goddess of love, who offered Paris the most beautiful woman in the world.

ANSWER: **Aphrodite** (or **Venus**)

[10] This goddess of strife threw the Apple of Discord to create enmity between the gods after being barred from entering the wedding of Peleus and Thetis.

ANSWER: **Eris**

[10] Before he abducted Helen, Paris lived on this mountain with the nymph Oenone. Earlier, Zeus abducted Ganymede from its highest peak, Gargarus.

ANSWER: Mount **Ida**

<CC>

5. Bonus: There is yet to be a unifying “Theory of Everything” that ties this branch of physics to Einstein’s General Theory of Relativity. For ten points each:

[10] Name this branch of physics in which energy can only be released in discrete amounts and all particles exhibit both wave and particle properties.

ANSWER: quantum mechanics

[10] This principle states that the position and velocity of a particle cannot be simultaneously known, as the more precisely one property is measured, the less precisely the other property can be determined.

ANSWER: Heisenberg’s Uncertainty Principle (accept either)

[10] In this phenomenon, a particle travels through a barrier that it normally wouldn’t be able to pass through, though its amplitude decreases in the process.

ANSWER: quantum tunneling

<LC>

6. Bonus: This pastime saw its popularity rise in Europe during the mid-1800’s after a series of matches between Paul Morphy and Adolf Anderssen. For ten points each:

[10] Name this board game that originated in India in the 6th century AD and later spread to Europe through Persian traders. It is played on a 64-square board and uses pieces such as the knight and rook.

ANSWER: chess

[10] This special move in chess originated from a need to bring the king to safety early in the game. A player can only use this move only once per game, and it involves moving the king to the opposite side of one of the rooks.

ANSWER: castling (also accept castle)

[10] This most famous American chess player won the world championship against Boris Spassky in 1972. He later went mad and spent the later part of his life living in Iceland, where he died in 2008.

ANSWER: Robert James “Bobby” Fischer

<JD>

7. Bonus: This country was the site of the Ogaden War, and the ancient Christian kingdom of Axum was based here. For ten points each:

[10] Name this present-day country from which Eritrea split in 1993. Its capital is Addis Ababa.

ANSWER: Ethiopia

[10] During the scramble for Africa, Italian forces under Oreste Baratieri attempted to colonize Ethiopia but were crushed by Menelik II at this 1896 battle.

ANSWER: Battle of Adowa

[10] This emperor ruled Ethiopia when Mussolini attacked it in the Abyssinia Crisis. Rastafarians regard this figure as an incarnation of God.

ANSWER: Haile Selassie I (prompt on Ras Tafari)

<JD>

8. Bonus: Answer some questions about zoonotic diseases, which can be transmitted to a human by an animal. For ten points each:

[10] This zoonotic viral disease is most often transmitted via a dog bite. It causes inflammation in the brain and foaming at the mouth, and is also known as hydrophobia

ANSWER: rabies

[10] This other zoonotic disease is thought to be caused in humans by bovine spongiform encephalopathy, which is known as mad cow disease in cows. It is incurable and fatal, and is caused by prions.

ANSWER: Creutzfeldt-Jakob disease (prompt on CJD)

[10] Mosquitoes carrying malaria and cows carrying mad cow disease are referred to as these vehicles of transmission, which carry and transmit disease from reservoir to host. Unlike fomites, these agents are living.

ANSWER: vectors

<HX>

9. Bonus: The title character of this work falls in love with Aglaya Yepanchin, but she refuses him after he has an epileptic fit. For ten points each:

[10] Identify this novel, in which Prince Myshkin and Rogozhin vie for the love of Nastasya Filippovna.

ANSWER: The **Idiot**

[10] *The Idiot* was written by this Russian author of *The Brothers Karamazov* and *Notes From the Underground*.

ANSWER: Fyodor **Dostoyevsky**

[10] Dostoyevsky is perhaps most famous for this novel, in which Raskolnikov convinces himself it is morally justified to kill the pawnbroker Alyona Ivanova. He also kills her half-sister Lizaveta.

ANSWER: **Crime and Punishment** (or **Prestupleniye i nakazaniye**)

<MS>

10. Bonus: He and his brother Hyrum were killed by a mob while awaiting trial. For ten points each:

[10] Identify this one-time mayor of Nauvoo, Illinois who founded the Latter Day Saint movement.

ANSWER: Joseph **Smith**, Jr.

[10] Smith claimed that he received golden plates which had writing inscribed on them in “reformed Egyptian.” He then translated those plates into this religious text.

ANSWER: *The Book of **Mormon**: An Account Written by the Hand of Mormon upon Plates Taken from the Plates of Nephi.*

[10] Joseph Smith claimed to have receive the golden plates from this angel, who was also called Nephi in the early days of Mormonism. This angel names the last section of the Book of Mormon.

ANSWER: **Moroni**

<MS>

11. Bonus: This man used the idea of “eternal recurrence” to argue that life was absurd and meaningless. For ten points each:

[10] Name this German philosopher who proposed the idea of the Übermensch in *Thus Spoke Zarathustra* and declared “God is dead” in *The Gay Science*.

ANSWER: Frederich **Nietzsche**

[10] Nietzsche proposed “master” and “slave” forms of this concept in a work titled *On the Genealogy of this*.

Schopenhauer’s *On the Basis of* this argues that it not based on duty alone, and it is often studied by ethicists.

ANSWER: **morality** (accept **morals**)

[10] Nietzsche argued for this concept, which he saw as the main driving force in all living beings. It contrasts with a similarly named idea proposed by Schopenhauer which maintains that actions are motivated by the fight for survival.

ANSWER: “**will to power**” or “der **Wille zur Macht**”

<HX>

12. Bonus: Calcium chloride and silica gel are common desiccants used to remove this substance from their surroundings. For ten points each:

[10] Name this substance which has a maximum density at 4 degrees Celsius and may be called dihydrogen monoxide. It is sometimes referred to as the “universal solvent.”

ANSWER: **water** (accept **H2O**)

[10] A mixture consisting of 96% ethanol and 4% water is an example of the positive kind of these mixtures that have boiling points different than any of its constituents and cannot be separated by simple distillation.

ANSWER: **azeotropes**

[10] Azeotropes violate this law, which states that the vapor pressure of a solution is equal to the products of the partial pressures of each component of the solution and its mole fraction.

ANSWER: **Raoult’s** Law

<EnzeC>

13. Bonus: Name some Premiers of the Soviet Union, for ten points each:

[10] This man orchestrated the Great Purge from 1936 to 1938. After he became Premier, he led the Soviet Union through World War II and installed communist regimes in most of Eastern Europe, forming the Eastern Bloc.

ANSWER: Joseph Vissarionovich **Stalin** (or Iosif Vissarionovich **Dzhugashvili**)

[10] Stalin was succeeded by this man, who told the West “we will bury you” and famously banged his shoe on a table during a UN meeting. He also led the Soviet Union through the Cuban Missile Crisis.

ANSWER: Nikita Sergeyevich **Khrushchev**

[10] This later Premier succeeded Leonid Brezhnev and was himself succeeded by Konstantin Chernenko. He was Premier for only 15 months, though he had earlier served as the Chairman of the KGB for 15 years.

ANSWER: Yuri Vladimirovich **Andropov**

<LC>

14. Bonus: Unferth lends the title character Hrunding before he encounters the main antagonist’s mother. For ten points each:

[10] Name this Anglo-Saxon work in which the main character becomes King of the Geats, an epic poem set in Scandinavia.

ANSWER: **Beowulf**

[10] This main antagonist of *Beowulf* is feared by everyone but Beowulf himself. This descendant of Cain is killed when Beowulf rips off his arm in a cave.

ANSWER: **Grendel**

[10] This son of Weohstan and distant cousin of Beowulf is the only warrior to accompany Beowulf as he fights off the dragon in his third and last battle. As Beowulf dies, he tells this man that he is the “last of the Waegmundings.”

ANSWER: **Wiglaf**

<KT>

15. Bonus: Over 1000 people died and many others were in danger of cholera spreading in shelters in Iligan. For ten points each:

[10] Name this Asian island nation whose island of Mindanao was struck by flash floods in December of 2011 after the arrival of tropical storm Washi.

ANSWER: Republic of the **Philippines**

[10] Gwendolyn Pang is the secretary general of the Philippines branch of this organization that provides medical care and disaster relief to impacted areas and whose American branch was started by Clara Barton in 1881.

ANSWER: **Red Cross**

[10] This man declared the floods “a national calamity” and is the current President of the Philippines.

ANSWER: **Benigno S. Aquino** III (prompt on partial)

<DA>

16. Bonus: Answer the following about a certain geometric figure and its relation to a triangle, for ten points each:

[10] You can always draw one of these round shapes tangent to every side of a triangle. That “in” variety of this figure has radius equal to the area of the triangle divided by its semi-perimeter.

ANSWER: **Circles**

[10] This circle contains all three vertices of the triangle, and its center lies at the intersection of the perpendicular bisectors.

ANSWER: **Circum**circle (or **circum**scribed circle)

[10] This circle goes through the midpoint of each side, the foot of each altitude, and the reflection of each foot about the orthocenter. According to Feuerbach’s Theorem, it is tangent to the incircle and the excircles.

ANSWER: **Nine-point** circle (accept **Six** or **Twelve-point** circle, **Euler** circle, or **Terquem** circle)

<MS>

17. Bonus: Birds building nests in trees is generally an example of it, as are egrets gathering around grazing cattle to eat the insects that are stirred up. For ten points each:

[10] Name this interaction between two biological species in which one species benefits while the other is neither helped nor harmed.

ANSWER: commensalism (prompt on symbiosis, but do not reveal answer if not given)

[10] Commensalism is an example of these close, long-term interactions between different species, other types of which are mutualism and parasitism.

ANSWER: symbiosis

[10] These root-less plants engage in commensalistic relationships with other plants, deriving support but not nutrients from them. Examples of them include such as Spanish moss and lichens.

ANSWER: epiphytes

<HX>

18. Bonus: A woman in this painting holds a musket in one hand, and a flag in the other. For ten points each:

[10] Name this French painting that celebrates the July Revolution of 1830, in which the title figure waves a *tricouleur* and stands next to a pistol-waving street urchin.

ANSWER: Liberty Leading the People (accept La Liberté guidant le peuple)

[10] This French painter of *Liberty Leading the People* also painted works like *Greece on the Ruins of Missolonghi* and *Scenes from the Massacres of Chios*.

ANSWER: Ferdinand Victor Eugène Delacroix

[10] Eugene Delacroix also painted this work, inspired by a Lord Byron poem, which shows a bearded Assyrian king apathetically witnessing the termination of his sex slaves.

ANSWER: *The* Death of Sardanapalus (Accept La Morte De Sardanapale)

<KT>

19. Bonus: One man of this name was a founder of the Roman Republic. For ten points each:

[10] Give this name shared by Lucius Junius and the more famous Marcus Junius, who led the conspirators in assassinating Julius Caesar.

ANSWER: Brutus

[10] Lucius Junius Brutus became one of the first consuls of the Republic after leading the overthrow of this last king of Rome.

ANSWER: Lucius Tarquinus Superbus or Tarquin the Proud

[10] Like many prior kings, Tarquin the Proud was a member of this native race of Italy. One king of its namesake civilization was Lars Porsena, who declared war on the newly established Republic.

ANSWER: Etruscans (prompt on Etruria)

<MS>

20. Bonus: The protagonist of this story is killed by her “heart trouble” when Brently returns alive. For ten points each:

[10] Identify this short story, in which Mrs. Mallard mistakenly thinks her husband is killed in a railroad accident.

ANSWER: “The Story of an Hour”

[10] In this novel written by the author of “The Story of an Hour”, Edna Pontellier drowns herself in the Gulf of Mexico after brief flings with Alcee Arobin and Robert Lebrun.

ANSWER: *The* Awakening

[10] This author of “The Story of an Hour” and *The Awakening* wrote about Armand discovering he is half-black after sending away his wife in the short story “Desiree’s Baby.”

ANSWER: Kate Chopin (or Katherine O’Flaherty)

<MS>

21. Bonus: Name some superlative lakes, for ten points each:

[10] This lake in Siberia is drained by the Angara River and is the deepest lake in the world. It contains Olkhon, the third-largest lake-bound island.

ANSWER: Lake **Baikal**

[10] This highest navigable lake in the world lies in the Altiplano on the border between Peru and Bolivia.

ANSWER: Lake **Titicaca**

[10] This largest lake in Ethiopia serves as the source of the Blue Nile and is fed by the Reb and Gumara rivers.

ANSWER: Lake **Tana**

<JD>

22. Bonus: One example of these structures is the arm of a human and the wing of a bat. For ten points each:

[10] Name these traits shared by organisms which have evolved from a common ancestor. They are often contrasted with analogous structures.

ANSWER: **homologous** structures (accept **homology**)

[10] A homologous structure is shared by all the members of this phylogenetic classification, which consists of a species and all of its descendants.

ANSWER: **clades**

[10] Whereas homologous structures signify divergent evolution, analogous structures usually indicate this type of evolution, by which unrelated organisms acquire similar traits.

ANSWER: **convergent** evolution

<HX>