

**LADUE INVITATIONAL  
SPRING TOURNAMENT 2011**

Round 8

## **TOSS-UPS**

**1. A sixth-order one of these phenomena was observed when a HeNe laser beam was shown through a pendant water drop. These phenomena are thought to also exist on Saturn's moon Titan, as it has a wet surface and humid clouds, but, because methane, not water, would be (\*) refracting the light, its radius would be 49° instead of 42°, like on Earth. They can be seen near waterfalls or fountains, or in the spray created by waves, but they are better known for appearing after a storm. For ten points, name this colorful meteorological phenomenon that appears as a spectrum of light in the sky.**

ANSWER: **Rainbows**

<HX>

**2. This event was catalyzed by the Vinson-Walsh Act and followed up by the 14-Part Message It was preceded by delivery of the Hull note, and more than half the casualties occurred when the USS (\*) *Arizona* exploded. An undelivered third strike would have destroyed most of the base's infrastructure, delaying U.S. naval action in the Pacific Theater for more than a year, but that idea was nixed by Admiral Yamamoto. For ten points, name this event occurring on December 7th, 1941, a surprise attack by the Japanese on a Hawaiian naval base, which led to America's entry into World War II.**

ANSWER: Attack on **Pearl Harbor** (accept **Operation Z** or **Operation Hawaii** or **Operation AI**)

<MS>

**3. Although the *Townley* version of this work has the title figure looking down, the original version shows him looking back at the object in his outstretched right hand. One Roman copy of this work, restored by Pierre-Étienne Monnot, depicts the title figure as a wounded gladiator supporting himself on his (\*) arm as he sinks to the ground, and this famously well-proportioned work crouches in an unnatural pose. For ten points, name this famous Greek sculpture by Myron, which shows an athlete about to throw the titular Frisbee-like object.**

ANSWER: **Discobolus** or **Discus Thrower**

<HX>

**4. The music video for this song begins as the singer emerges from a pool of water wearing a mask with two Great Danes beside her, and this song is the second single in its artist's debut album, *The Fame*. The singer claims "Russian Roulette is not the same without a gun," she is seen winning the title (\*) game by holding four Aces. It begins with "Mum-mum-mum-mah," and the singer later says "I'll get him hot," to "show him what I've got," claiming "no, he can't read my" title expression. For ten points, name this pop song about gambling, sung by Lady Gaga.**

Answer: **Poker Face**

<EnzeC>

**5. One author from this country drew controversy due to her reworking of *Pride and Prejudice* in *The Independence of Miss Mary Bennett*, Colleen McCullough, and another author from this country wrote about Hurtle Duffield's life in *The Vivisector*. That author also wrote about a group of people who all saw the same fiery image in (\*) *Riders in the Chariot*, and another author from this country wrote about Oskar's attempts to save Jews in *Schindler's Ark*. For ten points, identify this country, home to Thomas Keneally and Patrick White, whose *Voss* tells the tale of an explorer and some Aborigines who get lost in the outback.**

ANSWER: Australia

<MS>

**6. This man was decapitated by the Scythian Queen Tomyris, who dipped his head in a jar of blood as revenge for his bloodlust, and this man was supposedly raised by herders after his grandfather dreamed that he would overthrow him. Indeed, he did overthrow Astyages in a rebellion against the Medes, and his Edict of Restoration gave the (\*) Jews permission to return to their homeland. This figure later conquered the Neo-Babylonian Empire and the Lydian Empire, and declared himself King of Babylon, Sumer, and Akkad. For ten points, name this Zoroastrian king who is credited with the creation of the Persian Empire.**

Answer: Cyrus the Great or Cyrus II

<CC>

**7. These entities can be classified as having fast, tonic, or regular spiking, and can be found in every member of the group Eumetazoa. These entities contain tight junctions called hillocks, and nodes of Ranvier can be found on them. Glia cells such as Schwann cells and oligodendrocytes form a characteristic (\*) sheath around parts of these entities, the deterioration of which can cause multiple sclerosis, and the body of these cells is called the soma. Synapses are the spaces between, for ten points, what type of myelin-sheathed cell that has both dendrites and axons?**

ANSWER: Neuron (accept axon before "cells")

<HX>

**8. In one of this man's works, the protagonist drowns while swimming with Tito, not long after his studies in Castalia led him to become master of the title pursuit. In another novel, the title character becomes a boatman and meets up with Govinda on his way to (\*) Enlightenment. This man's most famous novel sees the protagonist follow the saxophonist Pablo to The Magic Theater and Hermine explain to Harry Haller how to live life. For ten points, name this German author of *The Glass Bead Game*, *Siddhartha*, and *Steppenwolf*.**

ANSWER: Herman Hesse

<MS>

**9. This country controls the exclave of Llivia, and the highest point on the mainland of this country is Mulhacen, part of the Cordillera Penibética. This country controls Formentera, Ibiza, Menorca, and Mallorca, which make up the (\*) Balearic Islands, and this country proposed a connection to Morocco via an underwater tunnel below the Strait of Gibraltar. Bordered on the northeast by Andorra and France, and on the west by Portugal, for ten points, what is this country on the Iberian Peninsula with capital at Madrid?**

ANSWER: Kingdom of Spain

<MS>

**10. Some accounts of this figure say he was replaced by a colt and hidden by Arne, and then raised by the Telchines on Rhodes, just like his brother was raised by the Korybantes on Crete. This figure sought revenge on King Laomedon by sending a monster to attack Troy, which was killed by Heracles, and he sent another monster to kill (\*) Laocoon and his sons. However, he is much better known for losing a competition with Athena for the patronage of Athens, as well as for fathering Polyphemus and Triton. For ten points, name this “Earth-Shaker” who carried a trident, the Greek god of the sea.**

ANSWER: Poseidon

<HX>

## HALFTIME

**11. One of these compositions is dedicated “to the memory of an angel,” and another begins with a long G. In addition to those compositions by Berg and Bruch, the melody of one of these “gives [the composer] no peace.” That work was debuted in 1845 by Ferdinand David, and was famously played by Sarah Chang in a 2007 tour. Lalo’s *Symphonie Espagnol* is one, and a set of (\*) four of these compositions was written to go along with four sonnets, which contained such lines as “Springtime is upon us” and “this is winter.” For ten points, name this type of musical composition, famous examples of which include one in E minor, opus 64 by Mendelssohn and Vivaldi’s “The Four Seasons.”**

ANSWER: Violin Concertos (prompt on concertos; do not accept concertos of any other instruments)

<HX>

**12. One character in this work is called a slattern by Miss Cratcherd; that character is Helen Burns, who befriends the protagonist of this novel, but dies of tuberculosis amid a typhus outbreak at Lowood. The title character of this novel then takes a job offered by Miss Fairfax, which is being the (\*) governess of Adele at Thornfield Hall. While there, she thinks she learns about an attempt by Grace Poole to set the house on fire and kill Edward Rochester. For ten points, name this novel, the most famous work of Charlotte Bronte.**

ANSWER: Jane Eyre

<MS>

**13. This man argued that the alchemical process to transform lead into gold was a metaphor for the individuation process from an impure soul to the perfected soul in *Psychology and Alchemy*, and as a child, this man carved a mannequin into the end of a wooden ruler, which he hid in the attic and periodically visited in a ceremonial act that inspired his later work on the (\*) collective unconscious. This man also categorized people into primary types of psychological function, which provided the basis for the Myer-Briggs Type Indicator. The terms “introvert” and “extrovert” were coined by, for ten points, which Swiss psychiatrist and founder of analytical psychology?**

ANSWER: Carl Gustav Jung

<HX>

**14. One treaty signed in this city united Bessarabia with Romania, while another ended the Albigenian Crusade. The European Coal and Steel community was established by a treaty in this city, in which an 1856 treaty demilitarised the (\*) Black Sea. This city was also the site of the signing of another treaty by David Hartley, John Jay, Benjamin Franklin, John Adams. The Crimean, Seven Year's, and American Revolutionary Wars all ended with a treaty signed in, for ten points, which European city, the capital of France?**

ANSWER: Paris

<HX>

**15. One scientist with this last name invented the electrometer to measure charge, which another scientist with this last name used to study torbernite and pitchblende. One scientist of this name formulated a namesake law describing the effect of temperature on paramagnetism, and also shared the (\*) 1903 Nobel Prize in Physics with her and Henri Becquerel for their work in radioactivity. Polonium and radium were discovered by scientists with, for ten points, what last name, shared by Jacques, Pierre, and Marie?**

ANSWER: Curie (accept first names as long as Curie is given)

<HX>

**16. One ruler of this country, who rose to power after the Zemene Mesafint, or the “Age of the Princes”, asked Captain Charles Duncan Cameron to carry a letter to Queen Victoria, while another, Iyasu V, was excommunicated by the Orthodox Tewahido Church of this country. This country was assisted by Ras Gobena's militia during its expansion, and finally united and modernized under Tewodros II. This country defeated (\*) Italy at Adowa while led by Menelik II, but was later defeated while ruled by Haile Selassie, who is now the god of Rastafarianism. For ten points, name this country in the Horn of Africa with capital at Addis Adaba.**

ANSWER: Ethiopia

<HX>

**17. One of this man's works uses the analogy of a layer of bad oranges at the top of a crate of oranges to explain why a scientific person would see injustice in one place as an indication of injustice elsewhere, while another was inspired by his four failed marriages. This author of *Is Modern Marriage a Failure?* defined the "fundamental" notion of a propositional function  $C(x)$  ("C of x") where C of everything means that C of x is always true in "On Denoting", and his namesake (\*) paradox shows that a set containing all sets contains itself. *Why I Am Not a Christian* was written by, for ten points, which British philosopher who collaborated with Alfred Whitehead on *Principia Mathematica*?**

ANSWER: Bertrand Russell

<HX>

**18. Turgenev's *A Sportsman's Sketches* is often called the Russian version of this novel, which begins with a conversation between Mr. Haley and the indebted Arthur Shelby. This novel sees the title character befriend Eva as well as Tom Loker's chase of (\*) George Harris and Eliza. This novel was originally titled "Life Among the Lowly," and it ends with Simon Legree ordering his overseers to kill the title character. For ten points, name this abolitionist novel by Harriet Beecher Stowe that helped spark the Civil War.**

ANSWER: Uncle Tom's Cabin

<CC>

**19. When this 3-dimensional figure is rotated around its space diagonal, the resulting volume is pi divided by the square root of 3 times larger, and the n-dimensional generalization of this figure has 2 to the power of n minus m times n choose m m-dimensional boundaries. Prince Rupert's variety of this figure has an (\*) edge length of 1.06, and there are eleven nets to build this figure, the most commonly used of which is in the shape of a cross. This figure has 12 edges and 8 vertices, and is the dual solid of the octahedron. The only platonic figure able to tile space, for ten points, name this geometrical figure which has six square faces.**

ANSWER: Cube

<MS>

**20. This country's neighbor pledged to join the Proliferation Security Initiative in 2009, leading to this country's declaration that their namesake Armistice of 1953 was invalid. That year also saw two U.S. journalists sentenced by this country for entering illegally, leading to a visit by former president (\*) Bill Clinton, and the March 2010 sinking of the warship *Cheonan* was allegedly caused by a torpedo from this country. November 2010 saw the bombing of Yeonpyeong Island by, for ten points, what East Asian country with capital Pyongyang, bordered by China and South Korea?**

ANSWER: North Korea or Democratic People's Republic of Korea (prompt on Korea)

<HX>

## **BONUSES**

1. Bonus: J. A. Jacobs suggested that this entity is growing due to the gradual cooling of Earth's interior. For ten points each:

[10] Name this innermost layer of the Earth, a primarily solid sphere of iron and nickel, thought to have a temperature similar to that of the Sun's surface.

ANSWER: **Inner core** (prompt on **core**, but do not prompt or accept outer core)

[10] The growth of the inner core and the dynamo action in the liquid outer core play an important role in the formation of this entity, which has a south pole near Earth's geographic north pole. Reversals in this entity provided evidence of sea-floor spreading.

ANSWER: Earth's **Magnetic field** (do not accept magnetosphere)

[10] The inner core is separated from the outer core by this discontinuity, named after a Danish seismologist who noticed an abrupt increase of P- and S-wave velocities at that boundary.

ANSWER: **Lehmann** discontinuity.

<HX>

2. Bonus: Name some things mentioned in the greatest song ever, Weird Al's "White & Nerdy", for ten points each:

[10] The singer claims that the only question he "ever thought was hard" was "do I like Kirk?, or do I like" this man, the commander of the USS *Enterprise* in *Star Trek: The Next Generation*.

ANSWER: Jean-Luc **Picard**

[10] The singer earlier noted that they see him "ride on" one of these two-wheeled vehicles, which use gyroscopic sensors to make sure they stay upright.

ANSWER: **Segway** Personal Transporter

[10] The singer would also like to participate in this recreational activity with "the gangsters". Noted female Kelly Kulick recently beat a bunch of men in this activity, prompting outrage.

ANSWER: **Bowling** (do not accept rolling)

<MS>

3. Bonus: One story concerns Walter of Saluzzo, who tests his wife Griselda's loyalty by taking away their children. For ten points each:

[10] Name this collection of stories told by people on a pilgrimage to Saint Thomas Becket's grave. It begins at the Tabard Inn and includes stories told by people like the Knight, Wife of Bath, and Clerk.

ANSWER: The **Canterbury Tales**

[10] This author of *The Canterbury Tales* introduced the rhyme royal and wrote *The Book of the Duchess* for Blanche of Lancaster. His other works include *Treatise on the Astrolabe* and *Troilus and Criseyde*.

ANSWER: Geoffrey **Chaucer**

[10] This story in *The Canterbury Tales* describes Nick's attempts to get with his landlord's wife Alison by convincing him to stay in a tub tied to the roof.

ANSWER: The **Miller's Tale**

<BZ>

4. Bonus: Name these ancient types of writing. For ten points each:

[10] These picture-like symbols were written on papyrus by the ancient Egyptians. They were found on the Rosetta Stone along with demotic script and Greek.

ANSWER: **Hieroglyphics** (accept word forms)

[10] This system of wedge-shaped impressions made in a clay tablet with a blunt reed was one of the earliest known forms of written expression, originating in Sumer.

ANSWER: **Cuneiform**

[10] This syllabic script was used for writing Mycenaean Greek, and was similar to the Cypro-Minoan syllabary. Michael Ventris and John Chadwick developed a grid for deciphering it.

ANSWER: **Linear B** (do not accept or prompt on Linear A, which the Minoans used)

<HX>

5. Bonus: Answer some questions about the pretty messed up House of Atreus, for ten points each:

[10] This grandfather of Atreus tried to cook his own son and serve him to the gods. He had earlier stolen ambrosia and nectar.

ANSWER: **Tantalus**

[10] Atreus' son, Agamemnon sacrificed this daughter of his so that good winds would bear the Greek ships to Troy.

ANSWER: **Iphigenia**

[10] Agamemnon convinced Iphigenia to come by promising her she would be wed to this nearly invincible Greek hero, who slew Hector and was shot in the heel.

ANSWER: **Achilles**

<MS>



6. Bonus: Name some types of matrices, for ten points each:

[10] The matrix of this type is denoted by a capital I, consists of ones running from its upper-left to lower-right hand corners, and zeroes everywhere else. The multiplicative type of this is 1, and the additive type is 0.

ANSWER: **Identity** Matrix

[10] These matrices are equal to their transpose, meaning the entry in the  $ij$ th position is equal to the entry in the  $ji$ th.

ANSWER: **Symmetric** Matrices (prompt on **Hermitian**)

[10] These matrices are the complex analogues of symmetric matrices. They are equal to their conjugate transpose.

ANSWER: **Hermitian** Matrices (or **self-adjoint**)

<MS>

7. Bonus: He wrote about descendants of the major prophets of Judaism, Christianity, and Islam in *The Children of Gebelawi*. For ten points each:

[10] Name this author of *Palace Walk*, *Palace of Desire*, and *Sugar Street*, who wrote about the assassination of Anwar Sadat in *The Day the Leader was Killed*.

ANSWER: Naguib **Mahfouz**

[10] Mahfouz set most of his works in this city, the capital of his home country.

ANSWER: **Cairo**

[10] Mahfouz also wrote this work, in which the petty criminal Said tries to have his revenge on the people who landed him in jail.

ANSWER: *The **Thief and the Dogs** or **El-lis's wa el-kilab***

<MS>

8. Bonus: He wrote a set of *Songs from Sir Walter Scott* after a holiday in Upper Austria, which includes a song mistakenly referred to as his *Ave Maria*. For ten points each:

[10] Name this composer of *Salve Regina*, three *Marches Militaires*, *Death and the Maiden*, and *Der Erlkonig*.

ANSWER: Franz **Schubert**

[10] This Schubert work only has two complete movements and a nearly completed piano score of a scherzo. Its missing finale is thought to have become the B minor entr'acte for Schubert's *Rosamunde*, and it is sometimes renumbered as seven.

ANSWER: **Unfinished Symphony** or **Symphony No. 8** in B minor

[10] This other Schubert work is scored for piano, violin, viola, cello, and double bass, and its fourth movement is a set of variations on an earlier work, "Die Forelle".

ANSWER: **Trout Quintet**, D. 667

<HX>

9. Bonus: Answer some questions about Soviet bloc countries, for ten points each:

[10] Josip Broz Tito led this communist country, which, in 1992 splintered into several Balkan states, like Croatia, Serbia, and Slovenia.

ANSWER: **Yugoslavia**

[10] This country was led by Enver Hoxha, and they were pretty close friends with China.

ANSWER: **Albania**

[10] This Baltic country with capital at Tallinn was the birthplace of the Singing Revolution, which liberated both this country and nearby Latvia and Lithuania.

ANSWER: **Estonia**

<MS>

10. Bonus: They are typically underground, and can form mycorrhizas with fungi. For ten points each:

[10] Name this organ of vascular plants which have no leaves. They absorb water and nutrients from the ground and also serve as an anchor for the plant.

ANSWER: **Roots**

[10] Roots emerge during this process, in which a plant sprouts from a seed.

ANSWER: **Germination**

[10] Roots grow from these areas of undifferentiated cells, also called “growing tips”. Their outermost layer is called the tunica, while the inner layers are the corpus.

ANSWER: **Apical meristem** (prompt on **meristem**)

<HX>

11. Bonus: It depicts the July Monarchy and the Restoration in its 143 sections. For ten points each:

[10] Name this collection of works about Lucien de Rubempré and Eugène de Rastignac, who are given advice by Vautrin to progress socially in France.

ANSWER: **The Human Comedy** (accept **La Comédie humaine**)

[10] *The Human Comedy* is by this author, who wrote about Raphaël de Valentin dying several years after possessing the title object in *The Wild Ass' Skin* and miserliness in *Eugénie Grandet*.

ANSWER: Honoré de **Balzac**

[10] This Balzac work was included in *The Human Comedy* and sees Rastignac attend the funeral of the title character and fall in love with his daughter Delphine.

ANSWER: **Father Goriot** (accept **Old Goriot**, or **Le Père Goriot**)

<BZ>

12. Bonus: Albert Einstein agreed with this work's views about God. For ten points each:

[10] Name this work in Latin with a "geometrical order," famous for its argument on "God or Nature."

ANSWER: **Ethics**

[10] This author of *Ethics* stated that there was only one substance in the universe- God, and is one of the three great Rationalists. His beliefs got him kicked out of the Dutch-Jewish community.

ANSWER: Baruch **Spinoza**

[10] This anonymously published Spinoza work put forth a systematic critique of all religion, claiming that it should be argued by reason, not faith, and argues for secular government.

ANSWER: **Theologico-Political Treatise** (accept **Tractatus Theologico-Politicus**)

<KT>

13. Bonus: Answer the following about the history of a pretty cool continent, for ten points each:

[10] This Antarctic locale was first reached by the Norwegian Roald Amundsen on December 14th, 1911.

ANSWER: Geographic **South Pole**

[10] 34 days later, this British explorer successfully led his party to the South Pole. On the return trek, they all died of cold and starvation.

ANSWER: Robert Falcon **Scott**

[10] This Irishman attempted to lead an expedition to cross the Antarctic continent, but his ship, the *Endurance*, got stuck in the ice and sunk.

ANSWER: Ernest **Shackleton**

<MS>

14. Bonus: Name some islands of the Mediterranean, for ten points each.

[10] This island is separated from Italy by the Strait of Messina and has capital at Palermo.

ANSWER: **Sicily**

[10] Greeks and Turks continually battle for control over this island in the eastern part of the Mediterranean. Right now, the Green Line splits it in half, with the capital Nicosia straddling the border.

ANSWER: **Cyprus**

[10] This large French island lies to the north of Sardinia and was the birthplace of Napoleon.

ANSWER: **Corsica**

<MS>

15. Bonus: Identify some incorrect concepts from old science, for ten points each:

[10] The Michelson-Morley experiment discredited the existence of this supposed medium to transmit light.

ANSWER: Luminiferous Aether

[10] Heliocentrists earned the wrath of the Church by opposing this belief that the Sun and other celestial bodies revolved around Earth.

ANSWER: Geocentrism (accept word forms)

[10] This theory explained combustion by proposing that a certain element, also called *Terra pinguis*, was released upon burning.

ANSWER: Phlogiston

<MS>

16. Bonus: In this work, Trystero's symbol is a muted horn. For ten points each:

[10] Identify this novel about Oedipa Maas' attempts to find out more about her deceased boyfriend Pierce Inverarity. It ends with her attending the title auction.

ANSWER: *The Crying of Lot 49*

[10] In this other novel by the author of *The Crying of Lot 49*, Tyrone Slothrop searches for a mysterious box labeled 00000, which is going to be placed on a V-2 Rocket.

ANSWER: *Gravity's Rainbow*

[10] *The Crying of Lot 49* is the shortest novel of this post-modernist American author of *Gravity's Rainbow*, *Mason and Dixon*, and *Vineland*.

ANSWER: Thomas Pynchon

<MS>

17. Bonus: Examples of these include ethane and propane. For ten points each:

[10] Name these organic compounds consisting entirely of their two namesake elements.

ANSWER: Hydrocarbons

[10] This is the simplest hydrocarbon. It contains one carbon atom bonded to four hydrogen atoms.

ANSWER: Methane

[10] These are hydrocarbons that have a triple bond. They have  $n$  carbon atoms and  $2n-2$  hydrogens.

ANSWER: Alkynes

<HX>

18. Bonus: Name some battles of the American Revolution, for ten points each:

[10] These first two battles of the revolution witnessed the “Shot Heard Round the World.” The Americans were prepared thanks to the heroics of Paul Revere. Name BOTH.

Answer: Battles of **Lexington** and **Concord** (prompt if only one is given)

[10] This June 1775 battle occurred when General Howe broke the American blockade on Boston, and General Prescott famously told his men not to “fire until you see the whites of their eyes.”

Answer: **Bunker Hill** (also accept **Breed’s Hill**)

[10] This battle took place about a week after Trenton. Washington tricked the British by leaving campfires burning all night, and circumnavigated Cornwallis’ army to attack from the rear.

Answer: **Princeton**

<CC>

19. Bonus: This painting is one of its artist’s three-part cycle on the title saint. For ten points each:

[10] Name this complement of paintings titled *The Martyrdom* and *The Inspiration* of the title figure. It depicts Jesus appearing in front of four tax-collectors at Levi’s table.

ANSWER: **The Calling of St. Matthew** (prompt on St. **Matthew**)

[10] *The Calling of St. Matthew* is a work by this painter of *Boy with a Basket of Fruit*, who was commissioned to paint *Crucifixion of Saint Peter* and *The Conversion of St. Paul* by Tiberio Cerasi.

ANSWER: Michelangelo Merisi da **Caravaggio**

[10] This other painting by Caravaggio depicts the moment when an incognito Jesus blesses the bread and reveals his resurrection to two of his disciples at the title meal.

ANSWER: **Supper at Emmaus**

<HX>

20. Bonus: It has spent the longest time in space of any spacecraft in the world. For ten points each:

[10] Name this space shuttle, NASA’s third operational orbiter following *Columbia* and *Challenger*. It spent a cumulative total of 365 days in space before its final landing on March 9th, 2011.

ANSWER: Space Shuttle **Discovery**

[10] During that last voyage, *Discovery* visited this research facility that is orbiting around Earth. Its on-orbit construction is scheduled to finish by 2012.

ANSWER: **International Space Station**

[10] *Discovery* made her final touchdown at this launch facility located on Merritt Island, Florida. Space Shuttle *Endeavour* was launched there on May 16th.

ANSWER: John F. **Kennedy** Space Center

<HX>