

Governor's School Academic Competition XXV

Round 14

TOSSUPS

1. **This artist painted many scenes from his stay in St. Cloud, and also painted an evening and a spring day on Karl Johan Street. The many self-portraits of this painter include one of him holding a burning cigarette. A man leans against the back of a green wall praying in a painting by this artist about a family mourning his sister, called (*) *Death in the Sickroom*. That painting, along with one depicting a couple dancing, appear in this artist's *Frieze of Life* series. Another painting by this author depicts a man standing on a bridge, holding his face against a swirling red and yellow sky. For 10 points, name this painter of *The Scream*.**

ANSWER: Edvard Munch

2. **The Stoner criterion must be fulfilled for this property to arise in a simplified model of a solid, and RKKY theory predicts oscillations in objects with this property. The noise in the output of an object with this property is called the Barkhausen effect, and this property arises in an object below the (*) Curie temperature. Objects with this property can induce it in other metals with contact, and alnico, rare earth metals like neodymium, and lodestone exhibit this property. Iron, nickel, and cobalt exhibit, for 10 points, what permanent, strongest kind of magnetism?**

ANSWER: ferromagnetism [prompt on "magnetism"]

3. **Two characters in this opera sneak onto a balcony with a ladder, but find it missing when they try to leave, causing them to bribe an approaching man to be witnesses to a marriage contract. At the end of the first act of this opera, the Officer of the Watch refuses to arrest a man pretending to be a drunken (*) soldier. That character later impersonates a music teacher, claiming that Don Basilio is sick. In the aria "*Largo al factotum*," the title character agrees to help a man disguised as Lindoro. For 10 points, Figaro helps Count Almaviva win the hand of Rosina in what comic opera by Gioachino Rossini?**

ANSWER: *The Barber of Seville*

4. **A 250 mile-long human chain was formed as a demonstration for this cause in 2013. Operation Anubis targeted supporters of this cause. Mariano Rajoy opposes Carles Puigdemont, a leader of this movement that largely began when the 2006 Statute of (*) Autonomy was challenged by the Spanish Supreme Court. Based on the results of an October 2017 referendum, a parliamentary majority signed a resolution affirming this cause, sparking a constitutional crisis. For 10 points, name this goal of nationalists in an autonomous Spanish region.**

ANSWER: Catalonian independence from Spain [accept obvious equivalents including Catalonian secession; accept just Catalonia before "cause"]

5. In Plutarch's *Parallel Lives*, this man is paired with the Spartan general and strategist, Lycander. While serving as pro consul to the province of Cilicia, this man was the first Roman magistrate to meet a Parthian ambassador. Along with Crassus, this man defeated Samnite forces at the Battle of Colline Gate. Earlier, as quaestor, this man captured (*) Jugurtha. This general was elected consul for the first time in 88 B.C. after his success in the Social War. The proscriptions were issued by this man after his first march on Rome. For 10 points, name this rival of Marius, leader of the Optimates, and Roman dictator.

ANSWER: Lucius Cornelius Sulla

6. In one play by this author, a character goes to see the opera "The Valkyrie" in order to meet a love interest known as "The Girl." After a plan to open a hotel on Lake Como is discovered in another of his plays, a pet bird is decapitated on a chopping block. This playwright wrote about the journalist Arvid Falk in his only novel, *The (*) Red Room*. The Student is able to talk to the ghost of a milkmaid at the beginning of one play by him, while at the end of another, Jean gives the title character a razor blade. For 10 points, name this Swedish playwright of *The Ghost Sonata* and *Miss Julie*.

ANSWER: August Strindberg

7. This leader delivered a 1936 speech at the League of Nations in Amharic condemning Italian use of chemical weapons. This first chairman of the Organization of African Unity was deposed in a coup by the Derg and was succeeded by his son Amha. This leader was exiled in 1936 after an invasion by (*) Benito Mussolini. Marcus Garvey's words served as prophecy for the crowning of this member of the Solomonic Dynasty, who is known as the "Lion of Judah", as the emperor of his country. For 10 points, name this former emperor of Ethiopia whom the Rastafari Movement regards as the Messiah.

ANSWER: Haile Selassie I [accept Tafari Makonnen Woldemikael]

8. All the credits of one episode of this series were replaced with John and Jane Smith in order to avoid a lawsuit. That episode's portrayal of Scientology led Isaac Hayes to quit the role of Chef. In its pilot, one child asks (*) Mr. Garrison if he could be excused to find his alien-abducted brother, Ike. In a later episode of this show, Butters asks Mr. Garrison, now president, to fire a laser on Chip, one of Randy Marsh's friends. Created by Trey Stone and Matt Parker, for 10 points, what television series follows the lives of fourth graders Stan, Kyle, Kenny, and Cartman in its titular town in Colorado?

ANSWER: South Park

9. One type of this entity operates using tunnel magnetoresistance. The first example of this component was the Williams tube, which was implemented in the Manchester SSEM in 1947. Its magnetic-core type relies on magnetized rings, and (*) Corsair and Kingston have the largest market share for this computer component. It comes in static, dynamic, and non-volatile types, all of which only maintain data when power is applied. DDR3 and DDR4 are types of it, and four to eight gigabytes of this entity are included in most computers. For 10 points, name this type of storage that holds data currently in use.

ANSWER: Random-Access Memory [accept RAM]

10. **This nation's largest lake is Lake Alaotra, which provides irrigation for many of its rice paddies. Its highest point is at Maromokotro, in the Tsaratanana Massif, south of the Masoala Peninsula. Its island neighbors include (*) Réunion, Comoros, and Mauritius, and under French rule, it was known as the Malagasy Republic. Borneans crossing the Indian Ocean were the first to populate this fourth-largest island, and it is separated from Africa by the Mozambique Channel. For 10 points, name this island nation, with capital Antananarivo, that is the only native habitat of lemurs.**

ANSWER: Republic of Madagascar

11. **During this period, Shai'tan is said to be barred from influencing individuals participating in it. In this event, some individuals go into a period of seclusion, known as *Itikaf*. During this event, the meal of *suhoor* is eaten before the first prayer, while the final meal is not eaten until after (*) sunset; that meal is known as *iftar*. The pillar of *sawm* is observed during this holy month, although the elderly and sick are exempt from it. The angel Gabriel first revealed the Qur'an to Muhammad during this month. For 10 points, name this month of the Islamic Calendar that ends with the celebration of Eid al-Fitr.**

ANSWER: Ramadan

12. **In 1997, George Selgin found that a negative value for this quantity improved productivity, disputing Akerlof et. al.'s conclusion a year earlier that this phenomenon was like grease, and without it, economies would experience (*) wage and price stickiness.**

Keynesian economics attributes this phenomenon to three major causes: built-in, demand-pull, and cost-push varieties, and negative externalities of this phenomenon are called "shoe-leather costs". The tradeoff between this quantity and unemployment is depicted on the Phillips Curve. For 10 points, give this term, which denotes the rate at which the general level of prices in an economy is increasing.

ANSWER: inflation

13. **During one scene in this novel, the officer Tommy Dukes argues that individuality is overdeveloped, describing Arnold Hammond's wife as "luggage." A fake marriage between John Thomas and Lady Jane occurs in this novel, whose protagonist travels to Venice to see the artist (*) Duncan Forbes and secure a divorce. An affair with the playwright Michaelis happens early in this novel, before the title character is seen looking at the Wragby estate by the nurse Mrs. Bolton. Constance cheats on her husband Clifford with the gamekeeper Oliver Mellors in, for 10 points, what novel by D.H. Lawrence?**

ANSWER: Lady Chatterley's Lover

14. **James K. Polk offered this man the ambassadorship to London after unexpectedly defeating him for the Democratic nomination. This man's presidency witnessed a conflict known as the Battle of Caribou on the Maine-New Brunswick border. This man's posh lifestyle was attacked by a political opponent in the "Golden Spoon" oration, and this man (*) resigned as secretary of state following the Petticoat Affair. This principal founder of the Democratic party ran on the Free Soil ticket in 1848. The Panic of 1837 struck during the presidency of, for 10 points, what man who succeeded Andrew Jackson?**

ANSWER: Martin Van Buren

15. **This composer based a pantomime ballet on a short story by Melchior Lengyel. This composer wrote an extensive collection of piano etudes which included movements such as “Thirds Against a Single Voice” and “Dragons’ Dance”. He collaborated with (*) Zoltan Kodaly to collect folk melodies which he incorporated into his own music. This composer’s first major orchestral work, *Kossuth*, honored the Hungarian Revolution of 1848. For 10 points, name this Hungarian composer of *The Miraculous Mandarin* and the opera *Duke Bluebeard’s Castle*.**
ANSWER: Bela **Bartok**

16. **A graph of pressure in this structure displays a “dicrotic notch” followed by a “dicrotic wave”. The congenital heart defect TGA transposes this structure with the pulmonary artery. Turner syndrome causes its coarctation, or narrowing, and (*) Marfan syndrome increases the likelihood of developing aneurysms in it. Its descending portion leads to its namesake arch, which branches out into the the carotid and subclavian arteries. This vessel’s namesake semilunar valve separates it from the left ventricle. For 10 points, name this largest blood vessel of the body.**

ANSWER: **aorta**

17. **A story from the “Manners of Kings” chapter of a novel in this language contains the lines “Human beings are members of a whole, In creation of one essence and soul.” In addition to *The Rose Garden*, one poem written in this language states that “this being human is a guest house.” A national epic in this language includes the story of (*) Rostam and Sohrab, and a collection of quatrains in this language states “The Moving Finger writes and, having Writ, moves on.” For 10 points, Rumi wrote his *Spiritual Couplets* in what language also used by Omar Khayyam in the *Rubaiyat*?**

ANSWER: **Persian** [accept **Farsi**]

18. **One character in this work feeds apricots to a baby and later puts a dime into a jukebox to play “Tennessee Waltz” at a barbecue restaurant called “The Tower”, whose owner has a pet monkey. This story ends with a character saying “It’s no real pleasure in life” to his criminal accomplice (*) Bobby Lee after picking up the cat Pitty Sing. John Wesley and June Star throw a tantrum before a car crash in this story and are later shot along with their father Bailey. The Grandmother cries for Jesus while pleading with the Misfit in, for 10 points, what short story by Flannery O’Connor?**

ANSWER: **“A Good Man is Hard to Find”**

19. **One member of this family was the last ruler of Parma before it was annexed during Italian Unification. Another member faced criticism for an elephant hunting trip and oversaw the Spanish transition to democracy. A member of this house took power by executing Concino Concini and exiling his regent, (*) Marie de’ Medici. Another ruler of this family would oversee the construction of the Palace of Versailles. During the French Revolution, King Louis XVI, another member of this family, was guillotined. For 10 points, name this French royal house whose members are descendants of Saint Louis through his grandson, Henry IV.**

ANSWER: House of **Bourbon** [prompt on “Capetian dynasty”]

20. **The Principle of Carathéodory is one formulation of this statement, and Loschmidt's paradox and Poincare recurrence reveal flaws in Boltzmann's H-theorem regarding this statement. An expression of this law states that heat cannot move from a cold to hot body by (*) itself; that expression is the Clausius statement. A hypothetical creature capable of separating fast and slow molecules, called Maxwell's demon, would violate this law. For 10 points, name this law stating that, for a closed system, entropy always increases.**

ANSWER: Second Law of Thermodynamics

TIEBREAKER

21. **During one campaign in this war, Count Minuzzi was dealt a defeat at Simbach by Prince Charles of Lorraine. Louis XV voluntarily relinquished territories won during this war back to the defeated enemies, saying he was "King of France, not a merchant". This war began based on a dispute over (*) Salic Law, and saw France and Prussia pitted against the Dutch Republic and Great Britain. This war ended with the treaty of Aix-la-Chapelle and included the First and Second Silesian Wars. For 10 points, name this war over Maria Theresa's accession to the Habsburg throne in Vienna.**

ANSWER: War of the Austrian Succession

BONUSES

1. Answer some questions about Youtube drama, for 10 points each:

[10] This British Youtuber, who included songs like Lamborghini and Kilimanjaro on his 2016 EP *Keep Up*, released diss tracks such as “Little Boy” and “Earthquake” featuring RiceGum as part of fake beef with the Sidemen, a group he helped create.

ANSWER: **KSI**Olajidebt

[10] Nick Crompton proudly declares “England is my city” in the song “It’s Everyday Bro” by this former star of the Disney show *Bizaardvark*, who rose to fame with his brother Logan on Vine.

ANSWER: Jake **Paul**

[10] A remix of “It’s Everyday Bro” features a rapper with this designer brand in his name who was released from prison in 2016. A song by Lil Pump repeatedly refers to this fashion designer.

ANSWER: **Gucci** [accept **Gucci** Mane; accept “**Gucci** Gang”]

2. Known as El Libertador, this man is considered a hero of the Latin American independence movements. For 10 points each:

[10] Name this leader who became the first president of Gran Colombia as well as the first president of a namesake South American country.

ANSWER: Simón **Bolívar**

[10] At the Battle of Boyaca, Bolivar enlisted the crucial help of these Latin American cattle herders, who comprised most of the cavalry units of the independence movements.

ANSWER: **Llaneros**

[10] One of Bolivia’s capitals is named after this Venezuelan lieutenant of Bolivar, who helped him win at the Battle of Ayacucho and succeeded him as President of Bolivia.

ANSWER: Antonio José de **Sucre**

3. This man served with the King’s African Rifles and assisted in quelling the Mau Mau Rebellion in Kenya, for 10 points each:

[10] Name this politician, who conducted a coup to become the dictator of Uganda. While in office, he granted himself several titles, claiming he was the uncrowned King of Scotland.

ANSWER: Idi **Amin**

[10] As major general of the army, Amin conducted the coup as because he suspected that this Ugandan president was on the verge of arresting him for misappropriating army funds.

ANSWER: Milton **Obote**

[10] As dictator, Amin waged an economic war against and expelled immigrants and Ugandans from this country, also a British colony.

ANSWER: **India**

4. The title character of this play is given a gift of tennis balls by an ambassador from France before he declares war. For 10 points each:

[10] Name this play by Shakespeare, in which the titular King of England delivers a speech on St Crispin's Day, before leading a successful conquest of France.

ANSWER: **Henry V** [prompt on just **Henry**]

[10] In *Henry V*, a eulogy is given for this character, who appeared in both parts of *Henry IV* as a companion to Prince Hal. This character also appears in *The Merry Wives of Windsor*.

ANSWER: **Falstaff**

[10] In Act II of *Henry V*, Henry is betrayed by three traitors, whom he toys with and punishes after finding out about their treachery. Name one of the three.

ANSWER: Earl of **Cambridge** or Lord **Scroop** or Sir Thomas **Grey**

5. Answer the following about the strong heroines of Euripidean tragedy. For 10 points each:

[10] At the end of the play she appears in, this character confronts her husband Jason after killing their children, and then escapes to Athens in the chariot of the sun god Helios.

ANSWER: **Medea**

[10] In a play set in Egypt, the brothers Castor and Polydeuces prevent king Theoclymenus from murdering his sister after this woman runs off with her husband Menelaus.

ANSWER: **Helen**

[10] Euripides also wrote about this virtuous woman, who chose to die so that her husband Admetus could live, and was later rescued from Hades by Heracles.

ANSWER: **Alcestis**

6. This dialogue, which takes its name from the Latin for 'public affair', contains an extended discussion on the definition of justice, for 10 points each:

[10] Name this dialogue, which contains the Allegory of the Cave and lays out four forms of government, including timocracy.

ANSWER: The **Republic**

[10] Plato wrote *Republic* to represent the views of this speaker and thinker, who was sentenced to death by drinking hemlock.

ANSWER: **Socrates**

[10] Another of Socrates' dialogues is this one, in which Socrates tells his eponymous friend that two wrongs do not make a right, rejecting his friend's attempts to break him out of prison.

ANSWER: **Crito**

7. Answer some questions about the British Reform Acts, for 10 points each:

[10] The First Reform Act granted wider representation by eliminating these districts, in which voters numbered as few as seven and were easily bribed into voting for the highest bidder.

ANSWER: **rotten boroughs**

[10] The Fifth Reform Act extended the franchise to this group of people. These people received the franchise in the US as a result of the Nineteenth Amendment to the Constitution.

ANSWER: **women**

[10] This Tory served as Prime Minister while the Fifth Reform Act made its way through Parliament. He also oversaw Edward VIII's abdication and dominated the interwar government.

ANSWER: Stanley **Baldwin**

8. In this poem, the title figure and the speaker ride in a “Carriage [that] held but just [themselves] - and Immortality.” For 10 points each:

[10] Name this poem in which the speaker rides past “the Setting Sun” after the title figure “kindly stopped” for her.

ANSWER: “**Because I could not stop for Death**”

[10] “Because I could not stop for Death” was written by this reclusive American poet.

ANSWER: Emily **Dickinson**

[10] In this poem by Dickinson, the speaker compares the title idea to a bird that “perches in the soul” and states that she “heard it in the chilliest land - And on the strangest Sea.”

ANSWER: “**‘Hope’ is the thing with feathers**”

9. Answer the following about cool physics toys, for 10 points each:

[10] Name these devices that are spinning discs or wheels whose axes of rotation are unaffected by tilting or rotation. They are mounted in two or three gimbals.

ANSWER: **gyroscopes**

[10] These machines, often found in physics classrooms, utilize a moving belt to build electric charge on a metal globe, thus generating high voltage with low current.

ANSWER: **Van de Graaff** generators

[10] These novelty toys generate tendrils of colored light within a clear plastic orb. When they are touched with a conductive object, like a hand, the energy flow to the contact point intensifies.

ANSWER: **plasma globes** [accept **plasma balls** and **plasma lamps**]

10. The last play by this author centers around a dominant matriarch, who imposes an eight-year mourning period on her daughters. For 10 points each:

[10] Name this author who wrote about Adela’s suicide after the death of Pepe el Romano in his play *The House of Bernarda Alba*.

ANSWER: Federico **García Lorca**

[10] Garcia Lorca was an author from this European country. Lope de Vega was a leading author of this country’s Golden Century of Baroque literature.

ANSWER: **Spain**

[10] Lorca wrote this poem, which repeats “I will not see it!” as well as a refrain in the first section describing the title event taking place “at five in the afternoon.”

ANSWER: “**Lament for the Death of a Bullfighter**”

11. Answer the following about bodies of water in Central Asia, for ten points each:

[10] Name this largest enclosed body of water in the world. This lake is fed by the Volga River and lies east of the Caucasus Mountains.

ANSWER: **Caspian** Sea

[10] This sea that lies between Kazakhstan and Uzbekistan is primarily fed by the Syr Darya river. It has shrunk by nearly 95 percent since 1960.

ANSWER: **Aral** Sea

[10] Like the Aral Sea, this salt lake in Iran has been shrinking. In 2016, its color changed from green to red due to red algae.

ANSWER: Lake **Urmia**

12. This man captured and sacrificed the Marathonian Bull, and then reunited with his father Aegeus after Medea failed to poison him. For 10 points each:

[10] Name this hero of Athens who traveled to Crete to slay the Minotaur, but forgot to change his sails from black to white, causing King Aegeus to commit suicide.

ANSWER: **Theseus**

[10] Before meeting his father, Theseus traveled the dangerous land route to Athens, on which he killed this last bandit, known as the Stretcher, who had two beds and made his guests fit them.

ANSWER: **Procrustes**

[10] Theseus' best friend was this prince of the Lapiths, who joined Theseus in the hunt for the Caledonian Boar, and later tried to abduct Persephone, resulting in the two being stuck in the Underworld.

ANSWER: **Pirithous**

13. This film opens with a the protagonist floating through the air after escaping from a trapped car in a traffic jam. For 10 points each:

[10] Name this film, in which all the women in the protagonist's life appear in a harem scene, a depiction of the director Guido's creative block.

ANSWER: **8 1/2**

[10] *8 1/2* was directed by this filmmaker, who also made the films *La Dolce Vita* and *Nights of Cabiria*.

ANSWER: Federico **Fellini**

[10] Fellini was a director from this country, who started making films in the style of this country's neorealist genre, writing the screenplay for *Rome, Open City*.

ANSWER: **Italy**

14. This shape's namesake coordinate system is based on rho, theta, and phi, and its equation in Cartesian coordinates is "x squared plus y squared plus z squared equals r squared." For 10 points each:

[10] Name this 3D version of a circle, a shape constructed using all points the same distance from a given center.

ANSWER: 2-**sphere**

[10] This theorem in topology states that any simply-connected, closed 3-manifold is homeomorphic to the 3-sphere. Grigori Perelman solved this conjecture using Ricci flow.

ANSWER: **Poincaré** conjecture

[10] The Poincaré conjecture is the only solved problem in this list from the Clay Mathematics Institute. Other important problems in this list include P versus NP and the Riemann Hypothesis.

ANSWER: **Millennium prize** problems

15. Answer the following about hunger regulation in the brain. For 10 points each.

[10] This structure controls the pituitary gland to regulate homeostatic functions like thirst, body temperature, and hunger.

Answer: **hypothalamus**

[10] This hormone activates the arcuate nucleus to increase feeding behaviours by releasing neuropeptide Y and AgRP. This “hunger hormone” counteracts the satiating effects of leptin.

Answer: **ghrelin**

[10] This other hormone and neurotransmitter opposes ghrelin by stimulating the vagus nerve to suppress hunger. In the digestive system, it is released from I cells in the small intestine.

Answer: **cholecystokinin** [accept **CCK**]

16. Answer the following about the 1988 presidential election, for 10 points each:

[10] Name this winner of the election, Ronald Reagan’s vice president and former director of the CIA.

ANSWER: George **H. W. Bush** [accept **Bush 41** and **Bush Sr.**]

[10] This Greek-American governor of Massachusetts was the Democratic nominee for president. He exonerated Sacco and Vanzetti and took an embarrassing tank photo.

ANSWER: Michael **Dukakis**

[10] This man, the subject of an brutal Bush attack ad, participated in Gov. Dukakis’s weekend prison pass program but failed to return to prison, committing armed robbery, assault, and rape instead.

ANSWER: Willie **Horton**

17. For 10 points each:

[10] This Renaissance sculptor of *Gattamelata* created the first free-standing nude since antiquity with his bronze *David*.

ANSWER: **Donatello**

[10] Donatello’s *Gattamelata* is a bronze example of one of these sculptures, because the title character rides a horse. Another example of these statues is one of Marcus Aurelius on Rome’s Capitoline Hill.

ANSWER: **equestrian** statue

[10] *Gattamelata*’s horse’s front left hoof rests on one of these objects that represent *Gattamelata*’s military power over the Venetian army.

ANSWER: **cannon balls** [prompt on “orbs”, “spheres” and obvious equivalents]

18. In this compositional practice, the notes of the chromatic scale are used with approximately equal frequency. For 10 points each:

[10] Name this technique which uses its namesake rows to avoid a sense of tonality.

ANSWER: **twelve-tone** technique [accept **dodecaphony**]

[10] This composer invented twelve-tone technique. This Austrian composed “Transfigured Night” and “Pierrot Lunaire”.

ANSWER: Arnold **Schoenberg**

[10] Schoenberg was a member of the Second School of this Austrian city. Mozart and Beethoven composed for much of their careers in this city.

ANSWER: **Vienna**

19. Answer the following about a certain alkali metal. For 10 points each:

[10] Name this element with symbol K and atomic number 19.

ANSWER: **potassium**

[10] This scientist discovered potassium by deriving it from caustic potash. He also discovered calcium and magnesium.

ANSWER: Humphry **Davy**

[10] Davy employed this technique to isolate alkali and alkali earth metals. Michael Faraday names two laws governing this process.

ANSWER: **electrolysis**

20. The angel Jibril relayed the word of God to the Last Prophet in 609 CE. For 10 points each:

[10] Name this holy text of Islam, the revelation given to the prophet Muhammad. The text is divided into suras.

ANSWER: al-**Qur'an**

[10] The Throne Verse is found in this second and longest surah of the Qur'an. With the exception of verse 281, this sura was revealed to Muhammad while he was in Medina.

ANSWER: Sūrat **al-Baqarah** [accept **Cow** Sura]

[10] Mufassirin are the authors of these interpretations of the Qur'an, which elucidate the meaning of God's will. Muhammad al-Tabari established the Sunni tradition of these texts.

ANSWER: **tafsir**

TIEBREAKER

21. The roots of this shape can be found using the quadratic formula, for 10 points each:

[10] Name this shape traced by degree-two polynomials like y equals x squared.

ANSWER: **parabola**

[10] Parabolas are also defined as the set of points where the distance from the focus to the point equals the distance from this line to the point.

ANSWER: **directrix**

[10] Parabolas, along with ellipses and hyperbolas, are examples of this class of shapes. They are all obtained through the intersection of a plane with its namesake shape.

ANSWER: **conic sections**