

ROUND 13

Tossup 1. **The protagonist of this novel remarks to his doctors that he would rather have his leg amputated than wait 6 months before operating. Later in this novel, the protagonist goes to the races with Meyers and loses money betting on a purple-ish horse. Aymo is shot in the rain in this novel, and Miss (*) Van Campen accuses the protagonist of being an alcoholic when he gets jaundice. The protagonist of this novel later deserts the army and rows his girlfriend to Switzerland. Catherine Barkeley dies during childbirth in, for 10 points, what novel about Frederick Henry by Ernest Hemingway?**

ANSWER: A **Farewell to Arms**

Bonus 1. The Eightfold Way frees people from from this concept.. For 10 points each,

[10] The first of Four Noble Truths teaches the truth of this concept, which is often translated as “suffering” or “anxiety”, while the other three Noble Truths are the cause of, end of, and path that frees one from this concept.

ANSWER: **dukkha**

[10] The Four Noble Truths and the Eightfold Way are tenants of this religion, which is subdivided into Mahayana and Theravada sects. The Zen school which is popular in China is a subset of the Mahayana sect of this religion.

ANSWER: **Buddhism**

[10] If a person successfully follows the Eightfold Path and frees themselves from *dukkha*, they become an *arhat*, or a figure who has wholly escaped *samsara* and reached this highest stage of Buddhist enlightenment.

ANSWER: **nirvana**

T2. **This musical work features hunting calls from, notably, three French horns, and this work’s extremely long first movement begins with two *tutti* E-flat chords. The Boston Symphony orchestra played this work impromptu after hearing of the assassination of John F. Kennedy. Ferdinand Ries thought the English horn’s premature (*) entrance four bars before the first movement’s recapitulation in this work was a mistake. Melodies from this work were later reused in the composer’s *Creatures of Prometheus*. Rededicated “to the memory of a great man”, for 10 points, name this symphony, composed by Beethoven originally for Napoleon.**

ANSWER: **Symphony No. 3** in E flat major, “Sinfonia **Eroica**” [Accept either nickname of number; accept logical equivalents like “**Beethoven’s Third Symphony**”]

B2. A man with white gloves carries a depiction of Christ on the cross in this painting, which features two beadles in red standing at center. For 10 points each,

[10] Name this work in which a white dog and a man in a black vest are among many mourners surrounding a preacher who reads in front of the open grave of the artist’s great-uncle.

ANSWER: A **Burial at Ornans** [or *Un enterrement à Ornans*, accept A **Funeral at Ornans**]

[10] This realist artist of *A Burial at Ornans* depicted one man carrying a basket as another man prepares to drive a hammer into the ground in his work *The Stone Breakers*.

ANSWER: Gustave **Courbet**

[10] This other realist work by Honoré Daumier depicts a boy sleeping against an old woman with her arms clasped over a basket sitting next to a woman cradling a baby as they travel in the title conveyance.

ANSWER: *The* **Third-Class Carriage** <GG>

T3. This organ produces opsonin, which catalyzes phagocytosis, and tuftsin, which controls macrophage activity. Unlike the rest of the gut, this organ is produced by mesenchymal tissue. It's not the liver, but bilirubin is produced in this organ as a byproduct of one of its main bodily functions. This organ is enlarged in Banti's syndrome. Half of the body's (*) monocytes are housed in the Cords of Billoth in the "red pulp" of this organ, while the lymphocyte-rich Malpighian corpuscles are found in its "white pulp". For 10 points, give his organ in the lymphatic system which filters blood and destroys red blood cells.

ANSWER: spleen

B3. Its namesake "Zen" uses such phrases as "Beautiful is better than ugly". For 10 points each, [10] Name this programming language that focuses on readability. It uses whitespace instead of curly brackets and allows for dictionaries, lists, and tuples. It is also named after a type of snake.

ANSWER: Python

[10] Python is this type of language, which is not compiled. It rather parses and executes the source code directly at runtime.

ANSWER: Interpreted

[10] Along with being "dynamic-typed", Python also uses this style of typing, which allows objects to be used regardless of their class or interface as long as they have the methods or properties needed to fulfill the program.

ANSWER: Duck Typing

T4. This man founded the Keystone Bridge Company a few years after he began work under J. Edgar Thompson's Pennsylvania Railroad Company. A deal to sell of one of this man's companies was negotiated in secret by Charles M. Schwab. A strike by workers of this man's company was (*) suppressed using Pinkerton Detectives by Henry Clay Frick. He wrote "The Gospel of Wealth" and fueled philanthropy on a scale unseen before his time, but his workers still revolted during the Homestead Strike. For 10 points, name this businessman who sold his namesake steel company to J.P. Morgan and who founded a namesake university in Pittsburgh.

ANSWER: Andrew Carnegie

B4. Väinämöinen [vey-neh-MOY-nen] is born after this event. For 10 points each,

[10] Name this action that occurred when a bird dropped a nest of eggs on Ilmatar. That nest rested on her knee after she was fertilized by the sea.

ANSWER: Creation of the world [accept clear-knowledge equivalents]

[10] This Finnish text that features the Sampo, a magical artifact, tells the story of how Väinämöinen became the first man after the creation of the world. It was compiled by Elias Lönnrot.

ANSWER: Kalevala

[10] In the *Kalevala*, Lemminkäinen tries to find this animal of death. Zeus came to Leda in the form of this long-necked white bird, which also names the constellation Cygnus.

ANSWER: Swan

T5. In one work, this man asks, “has’t thou since purpled thy nail in blood of innocence?” He’s not Christopher Marlowe, but this man wrote a poem that begins, “Come live with me and be my love”, titled “The Bait”. One poem by this man begins, “For God’s sake hold thy tongue, and (*) let me love” while another poem by him gives the consequences after “virtuous men pass mildly away”. The title entity is a slave to “Fate, chance, kings and desperate men” in one poem by this man. For 10 points, name this Metaphysical poet of “The Canonization” and “The Flea”, who included “Death, be not proud” in his *Holy Sonnets*.

ANSWER: John **Donne**

B5. Answer the following about the family-drama-filled 18th dynasty of Ancient Egypt. For 10 points each, [10] The discovery of the tomb of this boy king by Howard Carter in 1922 led to this pharaoh’s so-called “curse”. He was the son of Akhenaten and ended the cult of Aten that had been forcibly imposed on the populace.

ANSWER: (King) **Tutankhamen**

[10] This female pharaoh of the 18th Dynasty ruled for her nephew Thutmose III until her sketchy death, after which Thutmose attempted to erase all inscriptions of her. She is reported to have worn a fake beard.

ANSWER: **Hatshepsut**

[10] Akhenaten moved his capital to a new city he called Akhetaten, which is today referred to by this name. This city names the period of Akhenaten’s rule, and also names a series of Egyptian diplomatic correspondences written in Akkadian.

ANSWER: **Amarna**

T6. In a so-called revolution of this color, Shah Reza Pahlavi advocated for land reform and the enfranchisement of women. A Finnish sniper with the most confirmed kills ever was named for this color, as was the shipping company who owned the RMS *Titanic*. During the Russian Civil War, a faction of this color fought against the (*) Red Bolsheviks. Erich von Falkenhayn attacked Verdun in order to “bleed the French [this color]”, and during the Battle of Bunker Hill, American troops were told not to shoot until they could see this color in the enemy’s eyes. For 10 points, name this color of the flag of surrender.

ANSWER: **White**

B6. The titular city “brag[s] and laugh[s] that under his wrist is the pulse/ and under his ribs the heart of the people”. For 10 points each,

[10] Name this poem which famously calls the title city, “Hog Butcher for the world,/ Tool maker, Stacker of Wheat” and coined it’s nickname, “City of the Big Shoulders”.

ANSWER: **“Chicago”**

[10] This American poet of “Chicago” and biographer of Abraham Lincoln wrote “The fog comes on little cat feet” in his poem “Fog”. He also wrote the *Rootabaga Stories*.

ANSWER: Carl **Sandburg**

[10] In this other poem, Sandburg personifies the title plant which says, “Pile the bodies high at Austerlitz and Waterloo” and asserts, “I cover all...Let me work.”

ANSWER: **“Grass”**

T7. Iterations of this operation can be performed in any order according to Fubini's theorem, while a generalized form of this operation is named for Lebesgue [le-BAY]. If one of the bounds is infinity, this operation is termed "improper" and limits are used to solve it. Performing this operation on products that include logs or inverse trigonometric functions is more easily done (*) "by parts".

Riemann sums are a simple way to approximate this operation. Isaac Newton used a bar or box to indicate this operation, although the more common notation for it was derived from the long "s" by Leibniz. For 10 points, name this operation, the inverse of differentiation, sometimes defined as taking the area under the curve.

ANSWER: integration [accept word forms]

B7. In contrast to heat, this quantity is path-independent. For 10 points each,

[10] Name this quantity equal to internal energy plus pressure times volume. Gibbs free energy is equal to this quantity minus temperature times entropy.

ANSWER: enthalpy

[10] This law depends upon the fact that enthalpy is a state function, and states that the total enthalpy change of a reaction is independent of the path taken to get from reactants to products.

ANSWER: Hess's law [accept law of constant heat summation]

[10] This process applies Hess's law in order to calculate the lattice enthalpy of ionic compounds. The enthalpy of formation of an ionic compound is subtracted from that of its constituent ions in this cycle.

ANSWER: Born-Haber cycle

T8. As a response to questions regarding the actions of this man's wife, Beverly Gooden started the #WhyIStayed campaign. A claim that this man had been "ambiguous" at a June 16th hearing regarding his actions was contradicted by four different sources in a report by *Outside the Lines*.

This man was originally given a (*) two-game suspension before TMZ released footage of him punching his then-fiancée inside of an elevator. For 10 points, name this Baltimore Ravens running back who was suspended indefinitely and had his contract terminated by the NFL after a domestic abuse incident.

ANSWER: Raymell Mourice "Ray" Rice <BK>

B8. It was the first major naval loss for Japan in World War II. For 10 points each,

[10] Name this battle, occurring one month after the Battle of Coral Sea, during which the USS *Yorktown* incurred heavy damage and the US Navy sank four Japanese fleet carriers and a heavy cruiser.

ANSWER: Battle of Midway Atoll

[10] This Fleet Admiral at Midway was the Commander in Chief of the United States Pacific Fleet during World War II and signed for the US on the USS *Missouri* during the surrender of Japan.

ANSWER: Chester William Nimitz

[10] This raid on the Japanese Home Islands, a few months before Midway, saw sixteen B-25 bombers launched from the USS *Hornet*. It contributed to American morale as the first attack on the Japanese Home Islands.

ANSWER: Doolittle Raid

T9. This thinker stated in a work of political philosophy that "the civil constitution of every state should be republican". Another work by this author of *Perpetual Peace* answers the title question by invoking "man's emergence from his self-incurred immaturity". This thinker separated linguistically self-evident propositions from those that are not, called (*) "analytic" and "synthetic" respectively in his most famous work. For 10 points, name this German philosopher who formulated the categorical imperative in the work *Groundwork on the Metaphysics of Morals* and wrote the *Critique of Pure Reason*.

ANSWER: Immanuel **Kant**

B9. The second title character is hired by Radio Panamericana. For 10 points each,
[10] Name this work which alternates between serials of the eccentric Pedro Camacho and the real-life affair of Mario and the first title character.

ANSWER: **Aunt Julia and the Scriptwriter** [accept **La tía Julia y el escribidor**]

[10] *Aunt Julia and the Scriptwriter* is by this Peruvian Nobel laureate, who also wrote *The Time of the Hero* and *The War at the End of the World*.

ANSWER: Mario **Vargas Llosa**

[10] *The War at the End of the World* recreates the War of Canudos which took place in this country. Alexander Cold meets the titular group while touring this country's Amazon rainforest in Isabel Allende's *City of the Beasts*.

ANSWER: Federative Republic of **Brazil**

T10. In one work by this author, the titular brothel is "Closed on account of the Confirmation". The title "being" in another work by this man subsists off water and milk and survives despite being locked in a burning house. Those works by this author are "Madame Tellier's [tell-ee-EYZ] Establishment" and "The (*) Horla". Rachel stabs the Count von Eyrick, who uses the French expression "fi fi donc", in one story by this man. In another story by him, Mathilde Loisel loses the titular piece of jewelry and works for 10 years to pay back the debt to Madame Forestier [foh-rehs-TYEEY]. For 10 points, name this French author of "Mademoiselle Fifi" and "The Necklace".

ANSWER: Guy de **Maupassant**

B10. Answer the following about the real-life Count Dracula, Vlad the Impaler. For 10 points each,
[10] While Vlad Dracula is commonly associated with Transylvania, he actually ruled over this region, which was combined with Transylvania and Moldavia to form the modern Romania.

ANSWER: **Wallachia**

[10] Vlad the Impaler fought numerous conflicts against this empire, which ruled over what is now Turkey as well as other Middle Eastern lands from the end of Byzantine Empire until 1919.

ANSWER: **Ottoman Empire**

[10] Vlad led this famous attack at Târgoviște against the Ottoman sultan Mehmet II after refusing to pay the *jizya* tax. In total, he impaled over 20,000 Turkish prisoners after this attack.

ANSWER: **Night Attack at Târgoviște**

11. According to the Gospels, Jesus healed this figure's mother in Capernaum by touching her hand. This man's Galilean accent was called out during one incident, and he argued with Paul about the treatment of the Gentiles. This man said, "I have no silver or gold, but what I have, I give you", before healing a lame beggar. Jesus set out to convert this man and his brother (*) Andrew into "fishers of men". He was nicknamed Cephas and was the "rock" upon which the first church was built. Upon his request, this man was crucified upside down by Nero. For 10 points, name this apostle and first Pope who famously denied Jesus three times.

ANSWER: St. Peter [accept Simon Peter]

B11. Name some subjects of famous photographs. For 10 points each,
[10] During World War II, Yevgeni Khaldei photographed Red Army soldiers raising the Soviet flag over this building. Like the similar Iwo Jima photograph, it was staged to recreate an earlier event.

ANSWER: Reichstag [or Plenarbereich Reichstagsgebäude]

[10] Annie Leibovitz photographed this man naked kissing his clothed wife Yoko Ono for the cover of *Rolling Stone*. Hours later, this member of the Beatles was assassinated in New York City.

ANSWER: John Winston Ono Lennon

[10] During the summer of 1950, Hans Namuth took various photographs of this Abstract Expressionist working in his studio in East Hampton and eventually shot a film of this artist painting onto a glass.

ANSWER: Jackson Pollock <GG>

12. The derivative of the natural log of this quantity with respect to temperature equals the change in enthalpy over $R T^2$ in the van't Hoff equation, which can be derived by noting that the natural log of this quantity equals Gibbs free energy divided by negative $R T$. ICE (*) tables are often used to calculate this quantity, and the coefficients of gaseous substances can be directly used as exponents in the expression for it. According to the Law of Mass Action, when the rate of the forward reaction equals that of the reverse reaction, this quantity equals one. For 10 points, name this quantity given by the concentrations of products over reactants, symbolized K .

ANSWER: equilibrium constant [prompt "K" before mention]

B12. The "adult" type are multipotent and are used by the body to regenerate tissues. For 10 points each,
[10] Name this type of undifferentiated cell which has the potential to become any specialized cell. The embryonic variety of these cells is controversially the most sought after.

ANSWER: stem cells

[10] Shinya Yamanaka was awarded the 2012 Nobel Prize for reprogramming mature cells to become stem cells with this potency. These stem cells are able to differentiate into any cell type derived from the germ layers.

ANSWER: pluripotent stem cells

[10] Embryonic stem cells are harvested from the inner cell mass of this structure which is formed when there is fluid-filled cavity in the morula. When this structure is divided into germ layers it becomes the gastrula.

ANSWER: blastula [accept blastocyst which is the mammal-specific name]

13. This opera's protagonist sings that an image is "enchantingly lovely" in an early aria and is later told to "tremble not" after being saved by three women from a giant snake. That character and his lover must pass through fire, water, air, and earth to test their love. The notoriously difficult aria "Hell's Vengeance" is sung by (*) Sarastro's rival after she fails to convince her daughter Pamina to kill the high priest. That mother is the Queen of the Night. For 10 points, name this opera composed by Mozart in which Tamino is given the title enchanted instrument.

ANSWER: *The Magic Flute [Die Zauberflöte]*

B13. Let's test your knowledge of the ancients. For 10 points each,

[10] In addition to writing, "In my eyes he matches the gods" and "Ode to Anactoria", this female Greek poet from Lesbos implores, "dear Goddess...release me/ from my anguish" in "Hymn to Aphrodite".

ANSWER: Sappho of Lesbos

[10] This lyric poet called Athens the "bulwark of Greece", but is more famous for his "Victory Odes" which are divided into books named after the Pythian, Isthmian, Olympian and Nemean Games.

ANSWER: Pindar

[10] This Roman lyric poet praised, "whoever tries to rival Pindar,/ Flutters on wings of wax", although he is more famous for writing "Ars Poetica" and creating the phrases "in media res" and "carpe diem".

ANSWER: Horace [accept either underlined part of Quintus Horatius Flaccus]

14. Production of this commodity in Asia is usually done so in the Golden Crescent or the Golden Triangle, which includes Myanmar, Laos, and Thailand. One conflict related to the trade of silver for this commodity resulted in the Treaty of Nanking, the first of the Unequal Treaties. A ship called the (*) *Arrow* was held by Chinese authorities during another conflict named for this commodity. This substance, although illegal, is Afghanistan's largest export. For 10 points, name this drug created from poppies that names two wars fought between Great Britain and China.

ANSWER: Opium

B14. You thought you saw Olivia Wilde at the mall, but instead you met a lookalike. For 10 points each,

[10] After confusedly signing an autograph, the lookalike agrees to take a photo with you, and then to go to dinner with you, in an example of this phenomenon. It occurs when someone who agreed to smaller requests tends to agree to larger ones afterwards.

ANSWER: foot-in-the-door phenomenon

[10] You ignored the fact that the supposed-Wilde figure was just walking in the mall without any bodyguards, but cited her flashy clothing as proof that she was in fact the celebrity, an example of this type of bias where someone seeks out information that verifies their preconceived opinions.

ANSWER: confirmation bias

[10] After your best friend calls you out and laughs at you for being so gullible, you mumble, "Nah, I totally knew it wasn't really Wilde" and some other excuses, thus exemplifying this other kind of bias, where people falsely claim they "knew it all along" after results are revealed.

ANSWER: hindsight bias

15. **This author portrays life in the Asakusa entertainment district in one incomplete work. The orphan Kikuji drives Mrs. Ota to commit suicide in one novel by this author. In addition to *Thousand Cranes*, this author wrote a novel in which Shingo Ogata attributes his son Shuichi's infidelity to his own poor parenting. Otake beats Shusai, the titular (*) *Master of Go* in one novel by this author, while in another, Shimamura has an affair with the *geisha* Komako in the titular rural, hot-springs town. For 10 points, name this Japanese author of *The Sound of the Mountain* and *Snow Country*.**

ANSWER: Yasunari **Kawabata**

B15. Answer the following about a crazy Russian tsar, Ivan IV the Terrible. For 10 points each,
[10] Before Ivan became Tsar of All the Russias, he ruled over a Grand Principality named after this city, which in present day is the capital of Russia.

ANSWER: Grand Duchy of **Moscow** or Grand Principality of **Moscow**

[10] The death of Ivan's deranged son, Feodor, led to this infamous period of Russian history, which included the 3 false Dmitris. It was resolved when Michael Romanov took the throne.

ANSWER: **Time of Troubles**

[10] Ivan IV and his son were part of this dynasty which also ruled over the Kievan Rus. Its namesake was a Viking prince who established himself at Novgorod.

ANSWER: **Rurik** Dynasty or the **Rurikids**

16. **This deity is extolled in the text "Let Me Praise the Lord of Wisdom", and his name may be related to the sun-god Utu. This deity had a major temple at Esagila, and the animal depicted on the Ishtar gate is supposedly owned by this deity. From the crying eyes of one of his enemies, this deity created the (*) Tigris and the Euphrates, and he was called to fight against Kingu and his army as the son of the god Ea. This god, who was often known as Bel, received fifty names and usurped the position of Enlil as the chief god after he slew the ocean-goddess Tiamat. For 10 points, name this head god of the Babylonian pantheon.**

ANSWER: **Marduk**

B16. Answer the following about the geography of Paul Gauguin's travels. For 10 points each,
[10] Gauguin's most famous travels were to Tahiti, which is located within this major group of Oceanian islands. The culture of this group of islands is often contrasted with those of Micronesia and Melanesia.

ANSWER: **Polynesia**

[10] Gauguin earlier had stayed on this French island in the Caribbean whose capital is Fort-de-France. Along with Guadeloupe, it is the only French overseas region in the Caribbean.

ANSWER: **Martinique**

[10] Gauguin also lived in this South American city, which was founded by Francisco Pizarro and which is contiguous with the port of Callao.

ANSWER: **Lima**

17. **The product of a particle's Compton wavelength and Schwarzschild radius always equals two times a quantity named for this man squared. On that scale, spacetime is proposed to have a "foamy" structure. His namesake law approaches Wien's approximation for high frequencies and the (*) Rayleigh-Jeans' law for low frequencies. That law relates the intensity of blackbody radiation to temperature at a given frequency. Energy equals his constant times frequency according to this man's relation. For 10 points, name this German scientist whose constant, symbolized h, equals approximately 6.63×10^{-34} Joules per second.**

ANSWER: Max **Planck**

B17. In one novel by this man, George Bowling returns to Lower Binfield, while in another Gordon Comstock rejects his “anti-money” principles to marry Rosemary. For 10 points each,

[10] Name this author of *Coming Up for Air* and *Keep the Aspidistra Flying*.

ANSWER: George **Orwell**

[10] Orwell more famously wrote this work in which Winston Smith pursues an illegal love affair with Julia, but is caught by the Thought Police in world dominated by Big Brother.

ANSWER: **1984**

[10] Orwell also wrote this short essay about a particular experience he had as police officer in Burma. He concludes that he performed the title action “solely to avoid looking like a fool”.

ANSWER: “**Shooting an Elephant**”

18. This government started the Reichswehr [raiks-wehr] as its main Armed Forces, and one event opposing it was sparked by the firing of Walther von Luttwitz and used Wolfgang Kapp as a figurehead. Rosa Luxemburg and Karl Liebknecht [leeb-k'nekt] led the (*) Spartacist revolutionaries against the Freikorps [fry-kohr] early in this government's history, and its Ruhr region was occupied after it declared itself unable to pay off a debt. Gustav Stresemann oversaw the introduction of the Rentenmark by this government, which was to be equal to one trillion old marks. First led by Freidrich Ebert, for 10 points, name this German government that eventually transitioned into Hitler's Third Reich.

ANSWER: **Weimar Republic** [prompt **German Reich** or **Deutsches Reich**]

B18. Name some things related to the number 6 in video games, for 10 points each:

[10] The sixth iteration of this video game series was the first one which allowed players to use the Wii Wheel as a controller, adding courses such as the Luigi Circuit and Moo Moo Meadows on which players can race.

ANSWER: **Mario Kart**

[10] This series' sixth installment begins with the release of Terra Branford from Imperial control after an esper kills her captors. That iteration features the Active Time Battle system, a staple of this series.

ANSWER: **Final Fantasy**

[10] This iOS game consists mainly of text which tells the story of Anna, a woman who awakens in an unknown castle. Eventually she discovers that she's being tested by an organization known as HAT in this game.

ANSWER: **DEVICE 6**

19. In the bottom right of this painting, a transparent cloth covers the upper body of a dead man whose arms extend off the frame, while a man in the center of this work clutches his head in his hands behind a man wearing a red sash with his arm draped over the body of his dead (*) son.

Another figure in this painting clutches the arm and shoulder of a man reaching up toward a person standing on a barrel who waves a red and white handkerchief toward a faraway ship. For 10 points, name this painting depicting the corpses and last survivors of the shipwreck of the title frigate, a work by Théodore Géricault.

ANSWER: **The Raft of the Medusa** [or **Le Radeau de la Méduse**]

B19. It begins with an artist poisoning himself with opium. For 10 points each,

[10] Name this section of a larger work, which depicts an artist hallucinating after he tries to commit suicide and sees his own execution. Short pizzicato notes in this piece are meant to depict the artist's head bouncing down steps.

ANSWER: “**March to the Scaffold**” or “**Marche au Supplice**”

[10] “March to the Scaffold” is part of this larger orchestral work, which also includes the sections “Dream of a Witches’ Sabbath” and “A Ball”.

ANSWER: **Symphonie Fantastique**

[10] *Symphonie Fantastique* is by this French composer, who also wrote *Les Troyens* and a Requiem.

ANSWER: Hector **Berlioz**

20. **This country’s Agulhas [uh-GUHL-us] Bank is the area of the continental shelf under its southernmost point, Cape Agulhas. After flowing through the province of Northern Cape, this country’s major river empties into Alexander Bay. That river’s major tributary is the (*) Vaal river, which flows through the province of Gauteng. This country is partially bounded to the north by the Limpopo river, and another river that rises in the Drakensberg Mountains of this country is the Orange River. For 10 points, name this country with capitals at Bloemfontein, Pretoria, and Cape Town.**

ANSWER: **South Africa**

B20. Imagine a car parked on a hill. For 10 points each,

[10] The car does not roll down the hill because of this force that resists motion. The “dry” form of this force is given by its namesake coefficient times the normal force.

ANSWER: **friction**

[10] Given that tilt of the hill is 45° , the static friction coefficient would have to be at least this value to prevent the car from rolling down the hill.

ANSWER: **one [accept $\tan(45^\circ)$]**

[10] **If the static coefficient was less than one, the car would start rolling down the hill, regardless of the surface area of the car in contact with the road, according to the second of these laws. The first of them relates friction to mass.**

ANSWER: **Amontons laws**

TB. According to a study by George Sperling, the “iconic” type of this phenomenon lasts for about $1/20^{\text{th}}$ of a second, while Alexander Luria studied its “eidetic” form in *The Mind of a Mnemonist*. “Chunking” increases this ability, which is limited to (*) seven plus or minus two items based on a study by George Miller. Elizabeth Loftus showed that recovered ones are most likely constructed or false, and the context of major events such as 9/11 are encoded as “flashbulb” ones. The Atkinson-Shiffrin model of this includes “sensory”, “short term” and “long term” levels. For 10 points, name this mental function that is lost in amnesia and useful for quizbowlers.

ANSWER: **memory [accept photographic memory in the first sentence]**