



# IMSANITY 2

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## -ROUND 9-

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## Tossups

- (1) He was “white as a sheet” when taking a bow after a third act sex scene between Sergei and Katerina in his first major opera. Other operas by this composer include satirical takes on Gogol’s *The Nose* and *The Gamblers* in addition to *Lady Macbeth of the Mtsensk District*. He also set the poetry of Yevgeny Yevtushenko to the five movements of his thirteenth symphony, which is subtitled for the massacre of the Jews at *Babi Yar*. Perhaps his most famous symphony is one that builds around a rising “invasion theme” as the Germans besiege the title city. For ten points, name this Soviet composer of the *Leningrad Symphony*.

**ANSWER:** Dmitri Shostakovich

- (2) One work by this author describes inaccurate images of an animal, concluding that only the French and their hunters can depict them with accuracy. Another features an initially helpful worker who prefers to do less and less and starves to death because he won’t eat. In another of this writer’s works, Captain Vere is forced to hang the titular character after he kills John Claggart on the Rights-of-Man. His most famous work features the first mate Starbuck and the cannibalistic Queequeg, and follows Captain Ahab’s quest to kill a white whale. For ten points, name this author of *Bartleby the Scrivener*, *Billy Budd*, and *Moby Dick*.

**ANSWER:** Herman Melville

- (3) One form of this quantity arises due to closeness of electronic components to each other, that is the parasitic form. The inverse of this quantity is measured in darafs and is elastance. This quantity can be found by multiplying plate area and permittivity of free space and dividing the resulting product by the separation distance of two parallel plates that make up the measuring device. This quantity can also be computed by dividing charge by voltage. The earliest known versions of entities associated with this quantity were invented by Pieter van Musschenbroek and were named Leyden jars. For ten points, name this quantity commonly expressed in units of coulombs per volt whose SI unit is the farad.

**ANSWER:** capacitance

- (4) This leader successfully crossed the Luding Bridge during a campaign that he took control of from Otto Braun at the Zunyi conference. After a failed coup attempt against this man called Project 571, his appointed successor died in a plane crash in Mongolia. This leader attempted to “let a hundred flowers blossom” with one program. Lin Biao collected this man’s sayings in one book, and supported this leader’s Great Proletarian Cultural Revolution. The Gang of Four, led by this leader’s wife, took power after his death. For ten points, name this Chinese hero of the Long March whose failures included the Great Leap Forward.

**ANSWER:** Chairman Mao Zedong (or Mao Tse-tung)

- (5) Two important texts in this religion include a work by Leonard Howell, *The Promise Key*, and a work by Robert Althlyi Rogers, the *Holy Piby*. The Nyahbinghi, Bobo Ashanti, and Twelve Tribes of Israel are three of this religion's sects, called "mansions." Adherents to this religion use "I and I" in place of the pronouns "me," "you," and "we" because they believe believe that the Holy Trinity, or Jah, lives within everyone. Marcus Garvey is the prophet for this religion, whose adherents smoke marijuana, called Ganja, and wear dreadlocks. For ten points, name this religion that regards Haile Selassie as God, practiced by Bob Marley and popular in Jamaica.

**ANSWER:** Rastafarianism

- (6) The stragglers named for this color are hypothesized to form from collisions in globular clusters. A negative result for Benedict's test gives this color. One pigment of this color is an iron-containing compound with cyanide ligands, called Prussian [this color]. Nuclear reactors give off light of this color due to Cherenkov radiation, and stars of type O spectral class emit this color of light. This color's namesake giants are found in the upper left hand corner of the H-R diagram, and this is the color of a solution of Copper 2+. For ten points, name this color that forms white light when combined with equal amounts of red and green light, and, because of Rayleigh scattering, is the color of the sky.

**ANSWER:** blue

- (7) It's not Virginia, but the Republican presidential candidate may have to petition to get on this state's presidential ballot in 2012, as this state's Secretary of State Charles White was recently ruled ineligible to run in the 2010 race due to voter fraud. In *Crawford v. Marion County Election Board*, the Supreme court upheld this state's law requiring all voters to show photo identification. Dan Coats won this state's 2010 Senate election to replace Evan Bayh, and a "truce" on social issues was called for by its Governor, Mitch Daniels. In 2008, Obama became the first Democrat to win this state since 1964 by sending campaign volunteers from neighboring Illinois. For ten points, name this midwestern state of the Hoosiers.

**ANSWER:** Indiana

- (8) This artist painted a figure with feline eyes on the left standing opposite a figure covered in mathematical calculations in his *Male and Female*. This artist painted five white horses pulling two trailers through swirling mountains and sky in his *Going West*. His better-known works include *Lavender Mist* and *No. 5*, the latter of which features a prominent layer of yellow paint dripped onto the canvas. Popular for his trademark "action painting" style, for ten points, name this American artist of the abstract expressionist movement affectionately known as "Jack the Dripper".

**ANSWER:** Paul Jackson Pollock

- (9) Early in this man's career, he was a supporter of Pasquale Paoli, but was later promoted for ordering Paoli's arrest and capturing the city of Toulon. He defeated one rebellion using "a whiff of grapeshot." At the Congress of Erfurt, he tried to preserve his alliance with Russia that had been established in the Treaty of Tilsit. One of this man's campaigns saw tactical victories at Berezina and Borodino, but he was eventually forced to retreat from Russia. He signed a concordat with Pius VII in 1801, and signed the Treaty of Pressburg after a victory at Austerlitz. For ten points, name this French Emperor who met his final defeat at Waterloo.

**ANSWER:** Napoleon I Bonaparte

- (10) One character in this work thinks he has traveled 2000 miles in a boat shortly before sailing the boat into mill-wheels. Gines de Pasamonte is freed by the protagonist and later becomes a puppet master who talks to his monkey. One character in this work thinks a wash basin is the helmet of Mambrino, and is defeated after Samson Carrasco disguises himself as the Knight of the White Moon. The main character rides Rocinante and proves his love for Dulcinea del Toboso by slaying windmills he believes are giants. The titular character travels with Sancho Panza in, for ten points, what book by Miguel de Cervantes?

**ANSWER:** The Ingenious Hidalgo Don Quixote of La Mancha (or El Ingenioso Hidalgo Don Quixote de la Mancha)

- (11) One drug used to treat this disease blocks NMDA glutamate receptors and is called memantine. The APOE4 gene is a genetic risk factor for this disease. Another drug used to treat this disease is an acetylcholinesterase inhibitor, Donepezil. One hypothesis for the cause of this disease is that hyperphosphorylated tau proteins form aggregates on microtubules, disrupting microtubule structure. Another hypothesis for the cause of this disease is the amyloid hypothesis, which ultimately leads to cell death. For ten points, name this neurodegenerative disease associated with older age and memory loss.

**ANSWER:** Alzheimer's disease

- (12) Whenever one of these polygons is inscribed in a conic section, Pascal's Theorem guarantees that the diagonals all meet in a common point. Among all polygons which compose regular plane tessellations, these polygons have the largest number of sides, and these have the smallest number of sides among polygons which are not faces of a Platonic solid. The regular variety of these is the only regular polygon that can be subdivided into a different kind of regular polygon, as it can be broken into equilateral triangles. When these are regular, their diagonals are twice as long as their sides. For ten points, name this type of polygon whose regular examples have interior angles of one hundred twenty degrees.

**ANSWER:** hexagons

- (13) One of this thinker's essays, *Reason in Religion*, claimed that he was an "aesthetic Christian."  
 △ He also described reason "in Science" and "in Society" in essays that make up his *The Life of Reason*. In another work, he split existence into four domains – essence, matter, truth, and  
 ▽ spirit. This author of *The Realms of Being* claimed that philosophy began "in medias res" and also noted that brief "instants of awareness" were useless since pragmatic belief trumped idealism in his *Skepticism and Animal Faith*. For ten points, name this Spanish-American philosopher who stated that "those who cannot remember the past are condemned to repeat it."

**ANSWER:** George Santayana

- (14) Tributaries of this river include the Drava and Prut, and in ancient times this river formed  
 △ the southern border of Dacia. One of this river's tributaries, the Sava, rises in the Julian  
 ▽ Alps before entering just south of Vojvodina. Lake Balaton drains into this river south of Budapest. Rising in the Black Forest in southern Germany, it historically formed the northern border of the Roman Empire. For ten points, name this second longest European river that empties into the Black Sea in Romania after passing through Bratislava, Belgrade, and Vienna.

**ANSWER:** Danube River

- (15) In Arthur Miller's play *All My Sons*, Joe Keller performs this action after Ann Deever reveals  
 △ Larry's letter to Chris. Another character who completes this action tells Sybil Carpenter  
 ▽ about a creature swimming into a hole and dying of banana fever; that character, Seymour Glass, does this while his wife Muriel sleeps in *A Perfect Day for Bananafish*. In *Crime and Punishment*, Svidrigailov does this after imagining tucking in a five-year old girl in the rain using an object given to him by Dunya. Yet another who eventually does this is "a gentleman from sole to crown," "richer than a king," and "glittered when he walked." For ten points, name this method of suicide used by Richard Cory.

**ANSWER:** shooting oneself in the head (accept equivalents; prompt on incomplete information; prompt on "suicide" before mentioned)

- (16) This figure's golden boar is forged by Brokk and Eitri, and his ship is notable for the fact  
 △ that it can be folded up when not in use. This figure sees his wife while sitting in a place  
 ▽ where he was not supposed to be, and he loses his weapon to his servant in the process. This figure lives in Alfheim, and will fight the fire demon Surtr at Ragnarok with a stag's antler because his sword was given to Skirnir. This deity owns the ship Skidbladnir, rides the boar Gullinbursti, and is given to the Aesir after a war with their Vanir along with his father and sister. For ten points, name this son of Njord, the Norse god of fertility and the harvest and the brother of Freyja.

**ANSWER:** Freyr

- (17) This was only the second act of Congress to be declared unconstitutional by the Supreme Court, as the authority of congress to create state governments did not extend past the Northwest Territory. John W. Taylor's amendment was a critical part of the final bill, but the Tallmadge amendment was excluded. The latter amendment would have freed children of slaves after the age of twenty-five, and the former prohibited slavery north of the thirty-six-thirty line. It was repealed by the Kansas-Nebraska Act and was declared unconstitutional in *Dred Scott v. Sandford*. For ten points, name this agreement supported by Henry Clay that admitted Maine and the namesake state into the union.

**ANSWER:** Missouri Compromise

- (18) One character in this novel is bitten by a dog, forcing her to stay with her future husband Edgar and his family for five weeks. Another character in this novel becomes frustrated while learning to read and throws books into a fireplace; that character is Hareton. After one character adopts a gypsy, Frances's future husband becomes jealous for his father's attention. Years later, that gypsy boy plans Hindley's daughter, Cathy, marriage to his son, Linton. This novel is narrated by Mr. Lockwood as he is told the story of Thrushcross Grange and the title estate by Nelly Dean. For ten points, name this novel about Catherine Earnshaw and Heathcliff, a work by Emily Brontë.

**ANSWER:** Wuthering Heights

- (19) This artist's *Amor Vincit Omnia* depicts musical instruments in the background while a nude boy holding arrows dominates the scene. The title figure holds grapes in this artist's *Boy with a Basket of Fruit*, and this man depicted a figure dressed in red embracing Jesus in *The Entombment of Christ*. He depicted a realization of the titular figure in his *The Conversion of Saint Paul*, while his most famous work is an example of chiaroscuro and depicts a light coming in from the right and the titular tax collector. For ten points, name this painter of *The Calling of St. Matthew*.

**ANSWER:** Michelangelo Merisi da Caravaggio

- (20) In the Manhattan Project, this element was used to form a compound with uranium useful for separating uranium-235 from uranium-238 through gaseous diffusion. Along with carbon, this element composes the polymer Teflon. The first noble gas compounds were synthesized with xenon and atoms of this element, and one of this element's isotopes with atomic mass 19 is used in NMR spectroscopy. Due to extensive hydrogen bonding, this element's anion forms the least acidic hydrogen halide, and its anion is present in drinking water to help prevent tooth cavities. For ten points, name this lightest halogen, the most electronegative element, with symbol F.

**ANSWER:** fluorine

(21) In one work by this author, after the town is infected with insomnia and memory loss, they put up signs to stop themselves from forgetting. This creator of Luis Alejandro Velasco in *Story of a Shipwrecked Sailor* wrote about a reclusive doctor being buried by the colonel and his daughter Isabel in *Leaf Storm*. In another of his works, after the death of Juvenal Urbino, childhood sweethearts Fermina Daza and Florentino Ariza get together, and his most famous work follows the Buendia family in Macondo. For ten points, name this magical realist, the author of *Love in the Time of Cholera* and *One Hundred Years of Solitude*.

**ANSWER:** Gabriel Garcia Marquez (do not accept or prompt on “Marquez”)

## Bonuses

- (1) He was the leader of the Southern Christian Leadership Conference. For ten points each:



[10] Name this man who gave the *I have a Dream* speech, a leader of the civil rights movement.



**ANSWER:** Martin Luther King Jr. (or MLK Jr.)

[10] King led a bus boycott in this Southern city after Rosa Parks was arrested. One march to this city led to Bloody Sunday.

**ANSWER:** Montgomery, Alabama

[10] After the process of racial steering was discovered in this Northern city, King led a 1966 campaign there against housing segregation.

**ANSWER:** Chicago, Illinois

- (2) Animals belonging to this phylum possess two main types of body shape, the polyp and the medusa. For ten points each:



[10] Name this phylum which includes animals such as jellyfish and hydras.



**ANSWER:** cnidaria

[10] Members of cnidaria possess this kind of symmetry. Echinoderms also display this kind of symmetry, except in their larvae.

**ANSWER:** radial

[10] The enterocoel theory posits that these structures were formed after evolution of cnidarians, which formed from the cnidarian's gastric pouches. Nematoda possess a so-called "pseudo" one of these, and members of the phylum platyhelminthes lack them, instead possessing a mass of mesodermal tissue.

**ANSWER:** coeloms or coelomates (or body cavities)

- (3) His *The Flaying of Marsyas* depicts a man hanging upside down. For ten points each:



[10] Name this painter who depicted a woman being whisked away on a bull in *The Rape of Europa*.



**ANSWER:** Titian (or Tiziano Vecellio)

[10] This Titian work depicts a girl in a white dress rummaging through a chest in the background while a nude woman reclines on a bed with a sleeping dog at her feet.

**ANSWER:** Venus of Urbino

[10] This painting by Titian showed Cupid reaching his hand into a sarcophagus of water between two women, one of which is dressed in white while the other is mostly nude, representing two forms of the titular emotion.

**ANSWER:** Sacred and Profane Love



- (4) Fix follows the protagonist of this novel because he looks like a bank robber, and at the end Aouda admits her love for him. For ten points each:



[10] Name this novel in which Phileas Fogg and Jean Passepartout make a 20,000 pound bet that they can perform the titular action.



**ANSWER:** Around the World in Eighty Days

[10] *Around the World in Eighty Days* was written by this author who also described Captain Nemo and the Nautilus in *Twenty Thousand Leagues Under the Sea*.

**ANSWER:** Jules Verne

[10] This other Verne novel follows Professor Lidenbrock, Axel, and Hans Bjelke as they travel deeper and discover more prehistoric creatures.

**ANSWER:** Journey to the Center of the Earth

- (5) Name the following Sun gods for ten points each.



[10] This Greek god rode the Sun across the sky in a chariot every day. He let his son Phaëton try it once, but Phaëton lost control and almost destroyed the Earth.



**ANSWER:** Helios

[10] This Incan deity of the sun was the son of Viracocha. The Incan emperors claimed their descent from him.

**ANSWER:** Inti

[10] This Egyptian deity with the head of a falcon was worshipped at Heliopolis. His name might mean “creator,” and he created all life forms.

**ANSWER:** Ra

- (6) Answer the following about a divided nation for ten points each.



[10] This country was reunified in 1990 following the fall of the Berlin Wall the previous year. Helmut Kohl was the first chancellor of the reunified country.



**ANSWER:** Germany (do not prompt on or accept “West Germany” or “East Germany”)

[10] This 1952 document issued by the Soviets to the Western powers proposed a model for German reunification. The Western powers refused it, however, preferring to have half of Germany on their side instead of a neutral Germany.

**ANSWER:** Stalin Note (or March Note)

[10] This first chancellor of West Germany rejected the Stalin Note. He wanted to integrate West Germany with the Western nations and worry about reunification later.

**ANSWER:** Konrad Adenauer

- (7) He dedicated the first half of his life to writing nine books of madrigals, the eighth of which is dedicated to madrigals of love and war. For ten points each:



[10] Name this Italian composer who marked the transition from Renaissance to Baroque styles of music and also wrote some of the earliest known operas, such as *L'Arianna*.



**ANSWER:** Claudio Monteverdi

[10] Monteverdi's best known opera is this one inspired by the legend of the title character as he travels to Hades in an unsuccessful attempt to bring his dead wife Eurydice back to life.

**ANSWER:** L'Orfeo

[10] This last of Monteverdi's operas was also the only one based in history and not mythology. It adapts the writings of Tacitus and Suetonius to recount how the titular character was crowned Nero's empress.

**ANSWER:** The Coronation of Poppea (or L'incoronazione di Poppea)

- (8) For zeroth order reactions, the rate of the reaction is independent of the concentration of reactants and is instead equal to this constant. For ten points each:



[10] Name this constant, whose units depend on the order of the reaction. For a first order reaction, it is in units of inverse seconds.



**ANSWER:** rate constant

[10] Catalysts increase the value of the rate constant because they decrease the value for this quantity, the energy that reactants must reach to carry through with a chemical reaction.

**ANSWER:** activation energy

[10] This equation describes the dependence on the value for the rate constant based on temperature and activation energy. Its pre-exponential factor depends on the number of collisions.

**ANSWER:** Arrhenius equation

- (9) The speaker of one of this man's poems "drink[s] alone, for no friend is near" and notes that "the moon, alas, is no drinker of wine," and another poem features the speaker thinking of home when he lowers his head. For ten points each:



[10] Name this Tang-era poet of *Drinking Alone by Moonlight*, *Quiet Night Thoughts*, and *Autumn Air*.



**ANSWER:** Li Bai (or Li Po or Li Bo)

[10] This contemporary of Li Bai wrote three versions of the poem *Sighs of Autumn*, and he also wrote that "the wagons rumble and roll/the horses whinny and neigh" in his *Song of the Wagons*.

**ANSWER:** Du Fu (or Tu Fu)

[10] Both Li Bai and Du Fu are poets of the Golden Age of poetry in this nation.

**ANSWER:** Zhongguo (or China)

- (10) It can be formed by gluing together both pairs of opposite sides of a rectangle. For ten points each:



[10] Name this mathematical surface which can be obtained by revolving a circle around a line outside the circle. It describes the shape of a donut.



**ANSWER:** torus

[10] When a circle is revolved around a line through its center, this is the resulting shape.

**ANSWER:** sphere

[10] In calculus, this method can be used to compute the volume of shapes obtained by revolution. It works by integrating the areas of concentric circles along the axis of revolution.

**ANSWER:** washer method (accept word forms)

- (11) The title character of this work has an affair with Mrs. Waters, who turns out to be his mother. For ten points each:



[10] Name this work about “a foundling” who has a rivalry with Blifil and loves Sophia Western.



**ANSWER:** The History of Tom Jones, a Foundling

[10] This author of *Tom Jones* also satirized Robert Walpole in his *Jonathan Wild* and parodied Samuel Richardson’s *Pamela* in his *Shamela*.

**ANSWER:** Henry Fielding

[10] This novel by Fielding features the title character’s friend, Abraham Adams, and Lady Booby’s attempts to seduce the title character.

**ANSWER:** Joseph Andrews

- (12) Most of its adherents live in the Punjab. For ten points each:



[10] Name this Indian religion founded by Guru Nanak. Its Golden Temple is located in Amritsar.



**ANSWER:** Sikhism

[10] Traditional practitioners of Sikhism wear this collection of objects, which include a comb, short dagger, cotton underwear, an iron bangle, and uncut hair. The practice of wearing them was instituted by the tenth Sikh Guru, Gobindh Singh.

**ANSWER:** Five Ks (or Kesh, Kanga, Kipran, Kara, and Kachera in any order)

[10] Guru Gobindh Singh dictated upon his death in 1708 that this Sikh scripture would be the perpetual Guru.

**ANSWER:** Adi Granth

- (13) Materials exhibiting this phenomenon have zero electrical resistance underneath their critical temperature. For ten points each:



[10] Name this phenomenon, displayed by compounds such as YBCO, which, along with some cuprate-perovskite ceramics, display the high-temperature version of this phenomenon.



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

[10] Superconductors exhibit perfect diamagnetism and expel a magnetic field in this effect, causing them to levitate about a magnet when in the superconducting state.

**ANSWER:** Meissner effect

[10] This was the first model of superconductivity. It describes superconductivity as a result of pairs of electrons behaving like bosons. One of the three namesakes formulated a theory that electrons bind together in pairs at low temperatures, and it is violated by high-temperature superconductors.

**ANSWER:** Bardeen-Cooper-Schrieffer theory

- (14) Answer the following about communism in Latin America for ten points each.



[10] This leader overthrew Fulgencio Batista to become dictator of Cuba. He recently passed control over to his brother Raul.



**ANSWER:** Fidel Castro

[10] This Chilean Marxist was elected president of Chile in 1970 and nationalized many industries, including copper mining. He was overthrown by Augusto Pinochet in a 1973 U.S.-backed coup.

**ANSWER:** Salvador Allende

[10] This Peruvian guerilla organization seeks to stage a Maoist revolution in Peru. Its leader Abimael Guzmán was captured in 1992.

**ANSWER:** Shining Path

- (15) He is known for his chamber music and lieder. For ten points each:



[10] This composer transformed the fourth movement of his earlier lied “Die Forelle” into a set of variations comprising his *Trout Quintet*.



**ANSWER:** Franz Schubert

[10] The title of this Schubert string quartet is taken from the theme of its second movement, a common motif of Renaissance art derived from the Danse Macabre.

**ANSWER:** Death and the Maiden (or String Quartet No. 14)

[10] Schubert selected text from Goethe’s *Faust* for this lied where the speeding and slowing of the piano represents the title character’s excitement and distraction while thinking of everything Faust has promised her.

**ANSWER:** Gretchen am Spinnrade (or Gretchen at the Spinning Wheel)

(16) Identify the following about the economics of the United Kingdom for ten points each.

△ [10] This British economist advocated the use of metal currency in his *The High Price of Bullion*, but is better remembered for developing the theory of comparative advantage in his *On the Principles of Political Economy and Taxation*.

▽ **ANSWER:** David Ricardo

[10] Ricardo differed with Thomas Malthus over these anti-free-trade laws. Malthus had argued that increasing the price of the eponymous commodity would alleviate stress on the poor, but the backfire effect helped spark the Peterloo Massacre.

**ANSWER:** Corn Laws (accept Importation Act of 1815)

[10] This Scottish economist took on the currency issue in *The Case Against Bimetallism*, but is better remembered as the namesake of goods whose quantity demanded increases as prices increase.

**ANSWER:** Robert Giffen

(17) Rosemary Hoyt finds the body of Jules Petersen on her bed. For ten points each:

△ [10] Name this novel in which Nicole Warren marries her doctor and psychoanalyst Dick Diver. Eventually she gets better, although he falls deeper into alcoholism.

▽ **ANSWER:** Tender is the Night

[10] In this other work by the author of *Tender is the Night*, the titular character rekindles a love affair with Daisy Buchanan several years after first meeting. It is narrated by her cousin, Nick Carraway.

**ANSWER:** The Great Gatsby

[10] *Tender is the Night* and *The Great Gatsby* were written by this American author. He also wrote *This Side of Paradise* and the unfinished *Love of the Last Tycoon*.

**ANSWER:** Francis Scott Fitzgerald

(18) Name the following regions of critical strategic importance in Risk for ten points each:

△ [10] This continent is the easiest to protect since its only entrance is through Southeast Asia. This continent is split into Eastern and Western halves, which lie just below Indonesia and New Guinea.

▽ **ANSWER:** Australia

[10] This Russian peninsula offers attack routes to Japan and Mongolia in addition to being Asia's gateway to North America through its attack route on Alaska.

**ANSWER:** Kamchatka

[10] In a memorable episode of Seinfeld, Kramer described this largest European region as "weak" and "feeble" in addition to being "a sitting duck".

**ANSWER:** Ukraine

(19) Answer the following about English Kings with odd nicknames for ten points each:



[10] This Duke of Normandy was known as “the bastard” until he conquered England in 1066.



**ANSWER:** William I or William the Conqueror

[10] This king of England is known as the Unready because he was not ready when the Danes came and installed Sweyn Forkbeard as king in 1013. Actually, his nickname does not mean that at all, instead meaning ill-advised, such as when he killed King Edward the Martyr.

**ANSWER:** Ethelred II the Unready

[10] His nickname “Longshanks” just means long legs, but it still sounds funny. This king also issued the Edict of Expulsion in 1290 kicking out the Jews, and he is known as the “Hammer of the Scots” because he hammered them at the Battle of Falkirk during their First war of Independence.

**ANSWER:** Edward I

(20) A misunderstanding of this concept can lead to the false positive paradox. For ten points each:



[10] Identify this measure of the likelihood of an event given that another event has already happened.



**ANSWER:** conditional probability

[10] If the conditional probability of  $A$  given  $B$  is the same as the probability of  $A$ , then  $A$  and  $B$  are in this relationship, which holds for events which do not influence each other.

**ANSWER:** independence or independent

[10] This formula relates the conditional probabilities of  $A$  given  $B$  and of  $B$  given  $A$  by multiplying by the quotient of the probabilities of  $A$  and of  $B$ . Its use in statistics is referred to as its eponymous inference.

**ANSWER:** Bayes's Theorem or Formula or Law (accept word forms like “Bayesian”)

(21) These genetic units are segments of DNA that, when mutated, have the ability to cause uncontrolled cellular division. For ten points each:



[10] Name these genetic units, the proto type of which has the potential to become one due to a mutation. The first one of these to be identified was Src.



**ANSWER:** oncogenes

[10] Mutations that create oncogenes often lead to this disease. Examples of this disease include leukemia, melanoma, and lymphoma.

**ANSWER:** cancer (or malignant neoplasm)

[10] Cancer often occurs due to modifications in this series of events controlling cellular division. In it, mitosis occurs after the G2 phase in this series of events, which is dominated by interphase. The other phases are the the G1 phase and S phase.

**ANSWER:** cell cycle