Round 4

2015 Potatoville Varsity

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Tossups

1. **In one of this author’s short stories, the guide Robert Wilson sleeps with the title character’s wife. In another short story, a character drinking Anis del Toro tries to convince Jig to have an abortion. Margot shoots the title character in the face in “The (\*)** Short Happy Life of Francis Macomber,” a story by this author of “Hills Like White Elephants.” In another of his works, Brett Ashley seduces the  matador Romero, which upsets Jake Barnes. He created a character who likes to discuss “the great DiMaggio” with Manolin, the fisherman Santiago. For 10 points, name this author of *The Sun Also Rises* and *The Old Man and the Sea*.

**Answer:** Ernest Miller **Hemingway**

2. **This philosopher labeled the “agreeable,” the “beautiful,” the “sublime,” and the “good” as his “reflective judgments.” He opposed the subjective nature of other philosophies, claiming that one should only act if you would be comfortable making that act a universal law. (\*)** "Man's emergence from his self-imposed immaturity" answers the title question of his essay "What is Enlightenment?" For 10 points, name this philosopher, who described the "categorial imperative" in *Groundwork for the Metaphysics of Morals* and argued that synthetic *a priori* [“A” pry-oh-ree] judgments exist in his *Critique of Pure Reason*.

Answer: Immanuel **Kant**

3. **One leader of this country was declared dead after he disappeared while swimming at Cheviot Beach; that leader was Harold Holt. In 1932, this nation lost the Emu War. Daisy and Molly traveled along a rabbit-proof fence in this country to return to their hometown of (\*)** Jigalong, and were part of this country's "Stolen Generation.” In 2013, after deposing Julia Gillard to become Prime Minister of this country, Kevin Rudd was defeated by Tony Abbott. For 10 points, name this former prison colony of Britain, whose capital is Canberra [KAN-brah].

Answer: Commonwealth of **Australia**

4. **It’s not wavenumber, but this quantity’s space is given by taking the Fourier transform of an expression in position space. In one dimension, this quantity’s quantum mechanical operator is i times h-bar times the partial derivative with respect to x. The de Broglie [duh broy] wavelength equals (\*)** Planck's constant over this quantity. For a photon, this quantity is equal to its energy over the speed of light. This quantity squared over two times the mass is the kinetic energy. The derivative of this quantity with respect to time gives net force by Newton’s Third Law, and a change in this quantity is called the impulse. It is conserved in all collisions. For 10 points, name this quantity, the product of mass and velocity.

Answer: **momentum**

5. **Anton Schindler erroneously claimed that this composer’s opus 31 was inspired by *The Tempest*. This composer wrote the word “Lebewohl” [LAY-beh-vohl] over the first three chords of a sonata nicknamed after the French translation of that word, “Les Adieux.”  One of his symphonies, featuring a second-movement funeral march in C minor, had its dedication to (\*)** Napoleon withdrawn in 1804, while a “G-G-G-E flat” motif opening another of his symphonies was described as “fate knocking at the door.” For 10 points, name this German composer of the “Pastoral” and “Eroica” symphonies, whose Ninth Symphony includes a choral finale featuring the “Ode to Joy.”

Answer**:** Ludwig van **Beethoven**

6. **One document compiled by this man’s Special Counsel, Charles Colson, was leaked by Daniel Schorr. This man made use of a group of special investigators who were labeled “The Plumbers."  During one event, this man offered the Stennis compromise, which led to a dispute with (\*)** Archibald Cox culminating in the Saturday Night Massacre. That compromise was aimed at avoiding incriminating evidence found on The White House tapes. For 10 points, name this President of the United States who resigned after his role in the Watergate Scandal.

Answer: Richard Milhous **Nixon**

7. **In one section of this text, a King encounters a talking ant. When performing exorcisms, this text's "Throne Verse" is sometimes recited. The first section of this text contains the line “guide us on a straight path." The ninth section of it says to fight non-believers “until they pay the tax in acknowledgment of superiority” and contains (\*)** "The Opening" and “Sword” ayat. All but the 9th section of this text’s sections begin with the word “Bismillah.” The 114 sections in this text are known as suras. It was revealed by the archangel Jibreel to the Prophet Mohammad. For 10 points, identify this sacred text of Islam.

**Answer:** Al-**Qur’an**

8. **The virial equation of state is a power series with increasing powers of this quantity in the denominators of the terms. The Clausius-Clapeyron relation sets the slope of the coexistence curve equal to the change in entropy over the change in this quantity for a phase change. When assuming incompressibility, one assumes that pressure can’t change density or, by extension, this quantity. The (\*)** “b” term in the van der Waals equation accounts for this quantity for each particle, and isochoric processes hold this quantity constant. The ideal gas law sets nRT equal to pressure times this quantity. For 10 points, name this quantity, which for an ideal gas is 22.4 liters, and can also be measured in meters cubed.

Answer: **volume**

9. **This quantity is the first moment of a probability density function. A form of this quantity can be calculated for a function by dividing the definite integral from a to b of the function by the quantity b minus a. Another type of this quantity is found by taking the nth (\*)** root of the product of n values. The most commonly used type of this quantity is, for a right-skewed distribution, generally greater than the median due to the effect of the outliers. For 10 points, name this mathematical concept, a measure of central tendency whose arithmetic type calculates the average of a set of numbers.

Answer: **mean** (accept “geometric **mean**” or “arithmetic **mean**;” accept **average** before it is read)

10. **In one section of this work, a gauntlet placed by the “Last Survivor” is stolen; that “Survivor” is the subject of the fourth of this work’s funerals, which also honor Hildeburh’s [HILL-duh-burg’s] family and the Danish king Scyld Scefing [SHILD SHEH-fing]. This work’s title character loses a (\*)** swimming contest to Breca and battles a dragon with Wiglaf years after aiding King Hrothgar in defending the mead-hall Heorot [HAY-oh-roht] against a descendent of Cain. For 10 points, name this Old English epic poem about a Geatish [“gate”-ish] warrior who defeats Grendel and his mother.

**Answer: Beowulf**

11. **One of this author’s characters is frustrated after Aslaksen prevents him from giving a lecture on the public baths. This author created Dr. Stockmann, and Regina Engstrand, the half sister of Oswald, the son of Helene Alving. This author wrote (\*)** *An Enemy of the People* and *Ghosts.* In one of his plays, Mrs. Linde informs of the protagonist of Dr. Rank’s terminal illness. In that play, the protagonist acquires money from Krogstad, and eventually leaves her husband Torvald. For 10 points, name this author who created Nora Helmer in *A Doll’s House*; a Norwegian playwright.

**Answer:** Henrik **Ibsen**

12. **An admiral under this ruler caused a namesake revolt among the Greeks in order to weaken the Ottoman Empire. That admiral, Alexei Orlov, also won the Battle of Chesma, which gave control of the Aegean Sea to this leader’s country. One rebellion against this ruler, despite initially capturing the city of (\*)** Kazan, was crushed at Tsaritsyn. That rebellion which was mainly composed of Cossacks was lead by Pugachev. In an attempt to show prosperity, Grigory Potemkin created a series of fake villages for this monarch. With the help of one of her lovers, this woman overthrew her husband Peter II. For 10 points, name this Russian empress.

Answer: **Catherine the Great**

13. **This Senator proposed a bill that would set student loan interest rates at the same rates as banks, whose only fault Senator Bernie Sanders could find was that “[he] did not propose it.” She was one of five members appointed to Congressional Oversight Panel to oversee the TARP act. This former (\*)** Harvard professor of law wrote a book that discusses the role of the loss of the American dream for middle class families, and  is entitled *A Fighting Chance*.  For 10 points, name this progressive female Democratic Senior Senator from Massachusetts.

Answer: Elizabeth Ann Herring **Warren**

14. **This man’s investigations into male parasites on hermaphroditic barnacles earned him a Royal Medal. In one of his earlier works, he used the peacock as an example of sexual selection in his Descent of Man. Birds named for this scientist had different beaks shapes and food sources while still being in close proximity. That study of speciation was conducted on the (\*)** Galapagos Islands with this man’s namesake finches. He coined the phrase “descent with modification,” but he didn’t describe his controversial theory as “survival of the fittest.” For 10 points, name this British scientist who discussed evolution in his *On the Origin of Species*.

Answer: Charles Robert **Darwin**

15. **This actor proclaimed "You must always enjoy the yellow mustard" as host of The Old Blue Rock Palace Show. This author of *Paddle Your Own Canoe* is most famous for playing a character who carries a permit that simply says (\*)** "I can do what I want" and believes that crying is acceptable only at funerals and the Grand Canyon. Upon learning that Charles Mulligan's Steakhouse closed a character played by this actor goes to a diner and orders "all the bacon and eggs you have." For 10 points, name this actor, who co-starred with Aziz Ansari, Chris Pratt, and Amy Poehler as his character Ron Swanson on NBC's *Parks and Recreation*.

Answer: Nick **Offerman**

16. **The title girls of one of the poet’s works “went down to the beach(to play one day)” in his poem “maggie and milly and molly and may.” The title character of one of his poems “responds, without getting annoyed, I will not kiss” your flag. That that title character is a (\*)** “conscientious object-or” “whose warmest heart recoiled at war.” The speaker of one of his poems says “ sun moon stars rain” and notes that “someones married their everyones” in his poem “anyone lived in a pretty how town.” For 10 points, name this poet of “i sing of Olaf glad and big,” noted for his idiosyncratic punctuation and capitalization.

**Answer:** E(dward) E(stlin) **Cummings**

17. **Hera once disguised herself as an old woman and asked this hero to help carry her across a river. Hypsipyle bore this figure's twin children, and he left all three on the isle of Lesbos. Two of his crew, sons of the North Wind, helped rid Phineus of the Harpies. In return, Phineus gave him advice to use a (\*)** dove to navigate through two clashing rocks known as the Symplegades.His most famous deed was nearly stopped by King Aeetes before his future wife Medea intervened. For 10 points, name this hero who sailed from Colchis on the bidding of his Uncle Pelias to retrieve the Golden Fleece with the crew of the Argo.

Answer: **Jason** (accept **Iason**)

18. **This architect began his career in Potsdam, Germany where he designed homes for the Riehl and Urbig families. He created a chair for the King and Queen of Spain, which debuted at the International Exhibition in Barcelona. His works in Chicago include his tallest design which incorporated black aluminum and grey-tinted glass, the (\*)** IBM Building, as well as the Lake Shore Drive Apartments. For 10 points, name this last director of the Bauhaus who popularized the phrase, “less is more.”

Answer: Ludwig **Mies van der Rohe** (prompt on partial last name)

19. **Operation Plunder was an attempt to perform this action by Allied forces. During the Battle of Fredericksburg, Union forces performed this action while under fire from sharpshooters. While retreating from Russia, Napoleon performed this action during the Battle of Berezina. During the Third Crusade, (\*)** Frederick Barbarossa died while attempting this action. When Julius Caesar performed this action, he violated Roman law and started the Roman Civil War. For 10 Points, name this action which George Washington undertook to reach the city of Trenton.

Answer: **crossing** a **river** (both underlined words required; accept logical equivalents to “crossing,” such as “traveling across;” accept **crossing** the Rhine; accept **crossing** the Rappahannock; accept **crossing** the Berezina; accept **crossing** the Saleph; accept **crossing** the Goksu; accept **crossing** the Rubicon; accept **crossing** the Delaware; prompt on answers that describe “building boats” or “building bridges”)

20. **This man painted a misty *Grand Canal* in Venice and created studies of poplar trees along the River Epte. He painted an “Effect of Fog” over the Houses of Parliament, and studied the effects of light in several paintings of the (\*)** Rouen Cathedral. This artist of *Haystacks* suffered from cataracts, causing this resident of Giverny to infuse some paintings of *Water Lilies* with red tones. A shadowy man in a rowboat appears in the harbor of Le Havre in a work by this man that inadvertently named the Impressionist movement. For 10 points, name this French artist of *Impression, Sunrise*.

Answer**:** Claude-(Oscar) **Monet**

Bonuses

1. A series of these occurred in, at the time, the Russian city of Odessa. For 10 points each,

[10] Name these massacres of  Jews, which plagued Russia in the 19th and 18th centuries.

Answer: **Pogrom**

[10] During pogroms, gates to these parts of a city were closed. During World War II,  Jewish residents of one of these places in Warsaw rebelled.

Answer: **Ghetto**

[10] Rather than put Russian Jews in ghettos, this portion of Russia was dedicated for the Jews to live in.  During World War I Jews fled this area in order to escape the German army, and it was abolished soon after.

Answer: **Pale of Settlement**

2. This artist depicted a sphinx with Shirley Temple’s head in one of his paintings. For 10 points each,

[10] Name this artist who depicted three elephants as the reflections of three swans in his *Swans Reflecting Elephants*.

Answer: Salvador Domingo Felipe Jacinto **Dalí** i Domènech, 1st Marqués de Dalí de Pubol)

[10] Dali also painted *The Persistence of Memory*, which depicts many soft-textured versions of these objects in the desert, such as one slung over a tree branch.

Answer: **Clock**s (Accept: **Watch**es)

[10] Dali frequently painted this woman, his wife, who posed for works like *The Madonna of Port Lligat*.

Answer: **Gala**rina Dali (accept **Elena** Ivanovna Diakonova Dali)

3. The protagonist of this novel is often mistaken for Captain Kopeikin. For 10 points each,

[10] Name this novel, in which Pavel Chichikov purchases the title entities from Sobakevitch and Manilov, and bets them with Nozdrev.

Answer: **Dead Souls** (accept **Mertvye dushi**)

[10] In this short story by the  author of *Dead Souls*, the tailor Petrovich sells the title garment to Akaky Akakievich for eighty rubles. Akaky dies after losing the title garment of this short story.

Answer: The **Overcoat**  (accept **Shinel** or The **Cloak**)

[10] This author wrote *Dead Souls* and “The Overcoat.”

Answer: Nikolai Vasilievich **Gogol**

4. This city’s residents are known as Cariocas. For 10 points each,

[10] Name this city that sits on the western coast of Guanabara Bay. It will play host to the 2016 Summer Olympic Games.

Answer: **Rio** de Janeiro

[10] This landmark of Rio de Janeiro sits on top of Corcovado hill. It is a depiction of Jesus with open arms symbolizing peace.

Answer: **Christ the Redeemer** (accept **Christo Redentor**)

[10] This stadium is the largest stadium in the world by capacity. It is located in Rio, and hosted the 1950 and 2014 FIFA World Cup Finals.

Answer: **Maracanã** Stadium (accept **Estádio Jornalista Mário Filho**)

5. This figure broke through two bindings before finally being restrained by Gleipnir. For 10 points each,

[10] Name this creature from Norse mythology, a wolf of tremendous power.

Answer: **Fenrir** (accept **Fenrisulfr**; accept **Hrodvitnir**; accept **Vanagandr**

[10] To allow the gods to bind him, Fenrir required this God of justice to put his hand in his mouth. After realizing the he was stuck, Fenrir shut his mouth taking this god’s hand off in the process.

Answer: **Tyr**

[10] Fenrir’s sons will eat the Sun and the Moon, which cause massive earthquakes and will start this event. During this event, a now freed Fenrir will grow to immense size and kill Odin in battle.

Answer: **Ragnarok**

6. Primitive forms of this structure were known as prokaryote. For 10 points each:

[10] Name this structure where eukaryotes types are known to contain organelles. It is the smallest functional unit in biology.

Answer: **cell**

[10] According to this cellular theory, double-membraned organelles were formed due to prokaryotic cells being engulfed by larger cells. It was established by Lynn Margulis.

Answer: **endosymbiotic** theory

[10] By the endosymbiotic theory, DNA in this organelle and DNA in the mitochondria were thought to have evolved separately, as mitochondrial DNA is thought to be a relic of the prokaryotic genome.

Answer: **nucleus**

7. He was known as the Iron Chancellor. For 10 points each,

[10] Name this Prussian statesman who served under Wilhelm I. This man, while chancellor, edited the Ems Dispatch which lead to the Franco-Prussian War.

Answer: Otto von **Bismarck**

[10] Otto von Bismarck oversaw this series of policies aimed at reducing the power of the Catholic Church.

Answer: **Kulturkampf**

[10] During the Kulturkampf, these laws were passed which allowed the state to train the clergy. These laws, named for a spring month, caused the closure of many seminaries.

Answer: **May** Laws (accept **Falk** Laws)

8. D.J. Enright translated this novel to English, and gave it its proper title. For 10 points each,

[10] Identify this seven volume novel whose first section is titled after Charles Swann. In this massive novel, Charles ate a madeleine that reminded him of his childhood in Combray.

Answer: **In Search of Lost Time** (accept **Remembrance of Things Past**; accept **À la recherche du temps perdu**)

[10] This French author wrote *In Search of Lost Time*.

Answer: Marcel **Proust**

[10] Charles has an affair with, and later marries, this former courtesan in *Swann’s Way*. The narrator of *In Search of Lost Time* later falls in love with Gilberte, this character’s daughter.

Answer: **Odette** de **Crecy** (accept either or both underlined names)

9. These particles come in flavors, the heaviest of which was observed in 1995. For 10 points each:

[10] Name these elementary fermions, whose flavors include charm, strange, and top. A pair of one with its antiparticle is a meson, and, like gluons, they have a color charge.

Answer: **quark**s

[10] All or nothing: these two first-generation quarks make up protons and neutrons. Both protons and neutrons have a total of three of these two lightest quarks.

Answer: **up** and **down** quarks

[10] Because they are each made up of three quarks, protons and neutrons are both these composite particles. An imbalance between the creation these particles and their antiparticles is dictated by the Sakharov conditions.

Answer: **baryon**s

10. This song only reached #2 on the British charts, getting stuck behind Engelbert Humperdinck's cover of the country standard "Release Me." For 10 points each,

[10] Name this 1967 song, released as a single with "Penny Lane." It notes that "Living is easy with eyes closed/misunderstanding all you see."

Answer: **Strawberry Fields Forever**

[10] This musician wrote Strawberry Fields Forever while on the set of the film *How I Won the War*, though it's credited to him and Paul McCartney, as were all of his songs for the Beatles. He was assassinated in 1980.

Answer: John **Lennon**

[10] This bonus was not just an excuse to write about the Beatles, but also to say the name Engelbert Humperdinck! The '60s singer took his stage name from an earlier German composer, most famous for an opera about these two fairy tale siblings.

Answer: **Hansel and Gretel** (or **Hansel und Gretel**, the Humperdinck opera)

11. This man succeeded his father Emperor Taisho. For 10 points each,

[10] Name this Emperor of Japan who reigned during World War II. After his death, a he was given the name Showa.

Answer: **Hirohito**

[10] After the bombings of Hiroshima and Nagasaki, Hirohito delivered this broadcast, which announced Japan’s surrender to the allies by stating their acceptance of the Potsdam Declaration.

Answer: **Jewel Voice** Broadcast (accept **Gyokuon-hoso**; accept **Imperial Rescript on the Termination of the War**)

[10] During most of World War II, Hirohito’s Prime Minister was this man. He was arrested and sentenced to death after the war.

Answer: Hideki **Tojo**

12. There is debate over whether this term is its own genre. For 10 points each,

[10] Name this style of film whose key features include flashbacks and low lighting. Typical versions of these films usually focus on a hardboiled urban detective and his quest to solve a crime.

Answer: **film noir**

[10] A common stock character in film noir is this type of woman who is both mysterious and seductive. Her role in the film is usually, but not always, to manipulate a lover into doing her bidding.

Answer: **Femme Fatale**

[10] The femme fatale in this film, Phyllis Dietrichson, manipulates Walter Neff into killing her husband. In order to fulfill a namesake clause in his life insurance, Walter pushes him off a train to make it look like an accident.

Answer: **Double Indemnity**

13. An older name for this acid is oil of vitriol, and it is the acid in lead-acid batteries. For 10 points each,

[10] Name this acidic component of acid rain with chemical formula H2SO4. It can be formed by the lead chamber and contact processes.

Answer: **sulfuric** acid

[10] Sulfuric acid is one of these acids which is able to dissociate one hydrogen almost completely. Titrating one of these with a strong base yields a neutral equivalence point.

Answer: **strong** acid

[10] When a weak acid is titrated, the pKa of the acid can be approximated as the pH at this fraction of the volume of the equivalence point because the acid and base concentrations in the Henderson-Hasselbach equation are equal.

Answer: **1/2** [or **0.5**]

14. The longest one of these was conducted by Strom Thurmond for 24 hours and 18 minutes. For 10 points each,

[10] Name this process in which a U.S. Senator talks and talks and talks to delay a vote.

Answer: **filibuster**

[10] This procedure, outlined in Rule 22 of the Senate, may stop a filibuster. Woodrow Wilson pressured the Senate to adopt this process, which currently requires sixty votes to enact.

Answer: **cloture**

[10] In November 2013, the Senate voted to override the use of the filibuster in the case of judicial appointees using a parliamentary procedure commonly known by this two-word phrase.

Answer: **Nuclear option** (accept **constitutional option**)

15. This character is hanged for attempting to burn down the title structure of the poem he appears in. For 10 points each,

[10] Identify this character who imagines himself escaping and swimming through a river to meet his wife. His dream is interrupted by a “sudden blow on his neck” as he is hanged in "An Occurrence at Owl Creek Bridge."

Answer: **Peyton** **Farquhar** (accept either underlined name)

[10] This author wrote about Peyton Farquhar in “An Occurrence at Owl Creek Bridge.” He wrote about a deaf and mute boy in “Chickamuaga.”

Answer: Ambrose **Bierce**

[10] Bierce wrote a satirical “Devil’s” version of this kind of work. Samuel Johnson and Noah Webster also wrote this kind of work.

Answer: **Dictionary**

16. When this piece was first performed, the performer closed the piano lid at the beginning of each movement. For 10 points each,

[10] Identify this three movement avant-garde work, whose music consists only of the ambient sound in the room. Its title is the duration of the piece.

Answer: **4’33’’** [**Four minutes, thirty-three seconds]**, (accept **Four Thirty-three**)

[10] *4’33’’* was composed by this American composer of the *Imaginary Landscape* series.

Answer: John **Cage**

[10] A performance of this Cage piece in Halberstadt, Germany, began in 2001. This piece opens with a rest, so the first note wasn’t played until 2003, and it’s schedule to finish in the year 2640.

Answer: Organ²/**ASLSP** (or **As SLow aS Possible**)

17. This poem speaks of an unravish’d bride of quietness. For 10 points each,

[10] Identify this poem that ends, “Beauty is truth, truth beauty. That is all ye know on earth, and all ye need to know.”

Answer: **Ode on a Grecian Urn**

[10] This poet wrote “Ode on a Grecian Urn.” The speaker of another of his poems exclaims “Thou wast not born for death, immortal Bird!” in *Ode to a Nightingale*.

Answer: John **Keats**

[10] The speaker of this Keats poem feels “like some watcher of the skies/When a new planet swims into his ken.” The speaker of this poem also says he feels “Stout like Cortez, when with eagle eyes/He stared at the Pacific.”

Answer: **On first looking into Chapman’s Homer**

18. This event occurred in response to the Tariff of Abominations, and occurred during Andrew Jackson’s Presidency. For 10 points each,

[10] Name this event, in which a southern state rejected the Tariffs of 1828 and 1832 within its borders. This event ended when Henry Clay was able to negotiate a compromise.

Answer: **Nullification** Crisis

[10] This state was the location of the Nullification crisis. Andrew Jackson, due to the Force Bill, custom houses in this state’s city of Charleston to Federal Government locations.

Answer: **South Carolina**

[10] Nullification was supported by this South Carolina politician. He published the South Carolina Exposition and Protest and ran for US Senate after his term as Jackson’s vice president was over.

Answer: John Caldwell **Calhoun**

19. In Christianity, God is said to have rested on this day. For 10 points each,

[10] Identify this day on which God rested. In many denominations of Christianity, this day is Sunday.

Answer: **Sabbath**

[10] After this ritual is performed, the participant is considered a full member of the Catholic congregation. It seals the covenant created when the participant was baptized.

Answer: **Confirmation** (accept word forms)

[10] During this part of Mass, the celebrant preaches the homily. It concludes with the Universal Prayer.

Answer: **Liturgy of the Word**

20. This operation was described by Bernhard Riemann's summing of the areas of constructed rectangles, as those rectangles were forced to become thinner and thinner. For 10 points each,

[10] Name this mathematical operation, the inverse of differentiation. For an always non-negative function on the interval a to b, this operation gives the area under the function and above the x-axis.

Answer: (Definite) **Integration** (accept word forms, such as "finding the **integral** of a function")

[10] The Fundamental Theorem of this branch of mathematics notes that differentiation and integration are inverse operations. This branch of math was independently developed by Newton and Leibniz.

Answer: (Fundamental Theorem of) **Calculus**

[10] The definite integral of this type of function, on any interval symmetric about the origin, is zero, because this type of function's symmetry about the origin gives it paired regions of equal area, one below and one above the x-axis.

Answer: **odd** functions