**BATE Quizbowl Tournament**

**Round 8**

1 **Johann Strauss, Jr. composed pieces in this genre named “Egyptian” and “Napoleon.” Austrian audiences clap their hands and stomp their feet while listening to a piece in this genre named for Joseph Radetzky. The first movement of Shostakovich’s *Leningrad* symphony repeats an eighteen-bar one of these, which is known as the “invasion theme.” English examples of this musical genre include Elgar’s** *Pomp and Circumstance* and “The British Grenadiers,” while traditional American ones include “Semper Fidelis” and “The Stars and Stripes Forever.” For 10 points, name this genre of music often played by military bands, whose form was mastered by John Philip Sousa.  
ANSWER: **march**es

2 **Dr. Tamkin acts a therapist in work by this man, which centers on a failed actor who changes his name from Wilky Adler to Tommy Wilhelm. In one work by this author of *Seize the Day*, the title character travels with Romilayu into Africa and becomes friends with Chief Dahfu after moving a large statue. In another work, the title character is based on the author’s friend Delmore Schwartz. That work includes such characters as the Chicago gangster** Rinaldo Cantabile and writer Charlie Citrine. For 10 points, name this author of *Humboldt’s Gift* and *The Adventures of Augie March.*

ANSWER: Saul **Bellow**

3 **One side in this battle had been provoked following an alliance between Eudo and Othman. It took place near an abbey known for its great wealth; the week prior to this battle saw one side send off men to secure large amounts of loot. This battle consisted of one side charging with cavalry, unable to break through squares of disciplined** Frankish soldiers. Afterwards, the winning side established the Carolingian dynasty and the losing side fled through the Pyrennes. One side in this battle was led by Abd er-Rahman, an Umayyad governor who ruled in Spain. For 10 points, name this victory for Charles Martel, a 732 battle that halted Muslim expansion into Western Europe.

ANSWER: Battle of **Tours** or Battle of **Poitiers**

4 **Most of the speech this man gives at an Abby Hoffman rally is not heard after a military officer tampers with the sound equipment. He also drinks 15 Dr. Peppers while visiting the White House as an All-American football player and when we first see him, he puts a feather into a copy of *Curious George.* He also starts a** shrimping business, working with his Vietnam War comrade Lieutenant Dan and naming the line of ships after his longtime soul mate and eventually wife Jenny. For 10 points, name this Tom Hanks title character of a 1994 film that learns that “life is like a box of chocolates”.

ANSWER: **Forrest** **Gump** (accept either name)

5 **One definition of this quantity gives it as the square root of the product of the relative permittivity and the relative permeability. Birefringent materials are anisotropic, meaning their value for this quantity is different along different axes. This quantity, about 1.33 for water, is found in a law which states that the ratio of this value for two different materials is equal to the inverse of the ratio of the sines of the angles of** incidence; that law is called Snell’s law. For 10 points, name this quantity equal to the ratio of the speed of light in a vacuum to the speed of a light in a medium.

ANSWER: **index of refraction**

6 **The journal of Abacuk Pricket provides information about this man, while an earlier journey was chronicled by Robert Juet. His expedition was financed by the Muscovy Company and reached Greenland aboard the *Hopewell;* his final expedition went as far as James Bay. His voyage aboard the *Half Moon* was intended to discover the elusive Northwest Passage. In 1611 a mutinous crew left this man for dead in northern** Canada; earlier he led an expedition that traveled to the point of present day Albany. For 10 points, name this English explorer who names a large bay in northern Canada and a New York City river.

ANSWER: Henry **Hudson**

7 **One character in this novel uses the Stone Sentinel Maze to stop another character from advancing, and uses straw figures to retrieve ten thousand arrows upon Zhou Yu’s request. In this work, Lu Bu kills his father for the love of Diao Chan. A man who later imprisons Hua Tuo is defeated at the Battle of the** Red Cliffs by Zhuge Liang, while Guan Yu and Zhang Fei join Liu Bei in this work’s first chapter, which sees the three of them make the Oath of the Peach Garden. In this novel, Dong Zhou seizes Luoyang , prompting battles between himself and Cao Cao. For 10 points, name this ancient work by Luo Guanzhong about the feuding Shu, Wu, and Wei families.   
ANSWER: ***Romance of the Three Kingdoms*** [accept ***Sanguozhi Yanyi***]

8 **The upper boundary of this structure is the point where the lapse rate goes from positive to negative, forming what is known as an inversion layer. Air at the bottom of this layer is about 15 degrees Celsius and -55 degrees Celsius at the top. About 10 miles wide at the equator and 5 miles wide at the poles, this layer contains about 75% of the atmosphere’s total’s mass and nearly all of its water** vapor and is bounded on the bottom by the planetary boundary layer. For 10 points, name this layer of the atmosphere found below the stratosphere, the lowest layer of the atmosphere that is the site of most weather phenomena.

ANSWER: **troposphere**

9 **A “lesser” version of this event is called the “umrah”. Participants are said to be in a state of “ihram” whilst performing this event and its end is celebrated by the festival of Eid al-Adha. Locations where this event occurs include the Jamarat Bridge, the Zamzam** Well, and Mount Arafat, where participants must spend a night in prayer. This event features three tawafs, where participants circle the Kaaba and kiss the black stone. For 10 points, name this fifth pillar of Islam, an annual pilgrimage to the holy city of Mecca.

ANSWER: the **Hajj**

10 **This man sculpted a bust of a *Man with a Broken Nose* and created an armless torso in *The Walking Man*. He also created a *Monument to Balzac*. Another collection of scenes by this man includes a work that depicts an incident when Count Ugolino ate his children. Other works of this man include one with six wealthy figures from a French town facing imminent death. His unfinished work** *The Gates of Hell* features such sculptures as *The Kiss* and one of a seated figure with his chin on his hand. For 10 points, name this French sculptor of such bronze works such as *The Burghers of Calais* and *The Thinker*.

ANSWER: Auguste **Rodin**

11 **During development of the fetus, this structure begins at a duct in the foramen cecum region of the tongue. One condition where this structure is overactive is known as Graves disease. Parafollicular cells in this structure produce a substance that reduces the level of calcium two plus ions in the blood, while the two main hormones produced in this structure are derived from the amino acid tyrosine.** Iodine deficiency leads to a swelling of this organ known as a goiter. For 10 points, name this largest endocrine gland in the body found in the neck which produces the T3 and T4 hormones.

ANSWER: **thyroid** gland

12 **Members of the inaccurately named Ohio Gang were chiefly responsible for this event. Senator Thomas Walsh led an investigation of this event, which concerned transactions involving Edward Doheny and Harry Sinclair. It partially concerned an area in Elk Hills, California which had originally been under the jurisdiction of Secretary of the Navy Edwin Denby. This event led to the investigation of Secretary of the Interior Albert** Fall who had received bribes after leasing Wyoming oil fields. For 10 points, name this scandal of the 1920’s that rocked the Harding administration.

ANSWER: **Teapot Dome** Scandal

13 **Features of this type of situation include a negatively sloped average revenue curve with half the slope of the marginal revenue curve; equilibrium occurs when the marginal revenue equals the marginal costs. This is the only situation in which price discrimination can occur. Deadweight loss is one result of this situation which occurs when prices are set higher to maximize profits, leading to a decline in production. In this situation, the demand curve for a company is the same as the demand curve for the** market, and a common example of this situation is public utilities. For 10 points, name this situation in which a product is entirely produced by one company.

ANSWER: **monopoly**

14 **One work by this author concern the title relative of the composer of *Castor et Pollux.* Another work by this author, which was largely inspired by Sterne’s *Tristram Shandy,* describes a man who adheres to the philosophy that everything “is written up above” and who is traveling in Europe with his unnamed master. This author of *Rameau’s Nephew* and** *Jacques the Fatalist* led a project that included contributions from d’Alembert, Rosseau, and Voltaire and was written as dictionary for the sciences and arts. For 10 points, name this French writer who was the chief of editor of the *Encylopedie*.

ANSWER: Denis **Diderot**

15 **His father slept with Lady de Maris to father Hector, this man's half-brother, and his own mother was Lady Elaine of Benoic. His surname came from the fact that after that father, King Ban, was injured, the Lady of the Lake carried this man to safety. In one legend, he defeats the Copper Knight at the Dolorous Guard and discovers his true name under a metal slab. This figure is the father of a knight who succeeds in finding the** Holy Grail though he may be better known for an affair conducted at the behest of Galehaut. The father of Galahad is, for 10 points, what knight of the round table who had a notorious affair with Queen Guinevere?

ANSWER: Sir **Lancelot** du Lac

16 **A tour guide can be seen pointing at a house in this artist’s *The Birthplace of Herbert Hoover;* another work deliberately ignored history in favor of a popular poem by Henry Wadsworth Longfellow. Three women standing in front of *Washington Crossing the Delaware* are seen in his *Daughters of Revolution;* a much younger Washington standing next to a cherry tree is the subject of his *Parson Weems’ Fable.* One work by this man is shown on the** Iowa state quarter, while a house in Eldon, Iowa inspired a work that shows a man based on Byron McKeeby, this man’s dentist. For 10 points, name this artist of *American Gothic.*

ANSWER: Grant **Wood**

17 **This polity’s origins involved the assassination of Chimalpopoca and the formation of a namesake triple alliance which fought the Flower War. The conquest of this empire which spoke the Nahuatl language involved an incident called La Noche Triste. Cuauhtemoc ruled during the decline of this empire, whose demise began after a foreign expedition landed near modern day** Veracruz. This empire’s capital was located at the spot where an eagle was seen clutching a snake while perched on a cactus, a spot found at an island in Lake Texoco. For ten points, name this Central American empire ruled by Montezuma and conquered by Cortes.

ANSWER: **Aztec** Empire

18 **Compounds containing elements from this group are described by the crystal field theory and typically follow the 18 electron rule. Two members of this group are common examples of violations to the aufbau principles, placing one electron in their 4s orbital rather than completely filling their highest energy orbital as expected. The third and fourth rows of this group come after the** lanthanide and actinide series respectively. On the periodic table, this group of elements includes everything from the group 3 to group 12 elements. For 10 points, name this group of elements that have partially filled d orbitals, which include scandium, titanium and iron.

ANSWER: **transition metal**s (prompt on “metal”)

19 **Varney murders his employer’s wife Amy Robsart at the end of this author’s novel *Kenilworth*. This author of *The Fair Maid of Perth* wrote a novel in which Effie is saved from death row by her sister Jeanie Deans. In the title novel of a series by him, the central character is rejected by Flora Mac Ivor and ends up fighting with Bonnie Prince Charlie for the Jacobites. *The Heart of*** *Midlothian* was one of this author’s *Waverley* novels, as was a work in which the title character kills Rashleigh, allowing the marriage of Diana Vernon and Frank Osbaldistone. For 10 points, name this author of *The Bride of Lammermoor* and *Rob Roy*.   
ANSWER: Sir Walter **Scott**, 1st Baronet

20 **The central portion of this country contains the large Tademait Plateau. One portion of this country’s population was formally known as Pied-Noirs, or black foot. This country is the largest both in area and population in the Maghreb Union and the majority of the Tell Atlas Mountains are found in this country. This country’s northern portion is home to its largest cities like Constantine and** Oran and it has a name meaning the islands in Arabic, a similar etymological root to the television station Al Jazeera. For 10 points, name this North African nation west of Tunisia and Libya once ruled by France.

ANSWER: **Algeria**

**Extra Tossups**

21 **Benjamin Franklin wrote to the leader that struck up the Riot Act to congratulate him on his handling of this event. John Hancock decided to grant a large pardon that only caused Charles Rose and John Bly to be executed. This event co-lead by Luke Day saw a skirmish when a militia led by William Shepherd fired. The person who eventually put down this had previously surrendered to Cornwallis at Charleston. Benjamin Lincoln put down this event which included an attack on the** Springfield armory. For 10 points, name this 1780 uprising in Western Massachusetts that showed the true weakness of the Articles of Confederation.

ANSWER: **Shays**’ Rebellion

22 **In one novel by this man, Veraguth leaves his wife Adele to go to India with Burkhardt. This author of *Rosshalde* wrote about the drowning of Hans Giebenrath in one work, while he wrote about the god Abraxas under the pen name Emil Sinclair. This author of *Beneath the Wheel* and *Demian* wrote a work in which Joseph Knecht resigns from being Magister Ludi. Harry** Haller is the protagonist of one his novels while the title character of another work by this man seeks enlightenment on a journey with Govinda. For ten points, identify this author of *Siddhartha* and *Steppenwolf.*

ANSWER: Hermann **Hesse**

23 **There are electrical arc discharge and the so called “HiPco” varieties of producing these objects. When a small spherical like structured is fused on to their surface, they form a structure called a bud. These structures have recently been proposed as a possible material for space elevators and when unrolled they form the individual sheets of** graphite. There are single and multi-walled varieties of these objects, sometimes referred to as buckytubes since they possess the same composition as buckminster fullerenes. For 10 points, name this allotrope of carbon with a cylindrical structure.

ANSWER: carbon **nanotubes**

1 Originally known as Boulder Dam, this structure was built in the Black Canyon under the supervision of Frank Crowe. For 10 points each:

[10] Name this large dam on the Arizona-Nevada border.

ANSWER: **Hoover** Dam

[10] Water from the Hoover Dam forms this largest U.S. reservoir, about 30 miles south of Las Vegas.

ANSWER: Lake **Mead**

[10] Among the cities powered by the dam is this second largest city in Nevada, located to the southeast of Las Vegas.

ANSWER: **Henderson**

2 This law is written as n, an integer, times the wavelength, is equal to two times the atomic spacing times the sine of the angle of incidence. For 10 points each:

[10] Name this law used to describe diffraction patterns.

ANSWER: **Bragg’s** law

[10] Complicated diffraction patterns that demonstrated the wave-particle duality of light were observed in the double slit experiment performed by this English scientist.

ANSWER: Thomas **Young**

[10] Diffraction is also explained by this principle which states that each point on an advancing wave front can be considered as a secondary source of new waves.

ANSWER: **Huygens**-Fresnel Principle

3 This group negotiated with their government in the 1989 Round Table Agreement. For 10 points each:

[10] Name this trade union founded during a 1980 strike at the Gdansk shipyard.

ANSWER: **Solidarity** or International Self Governing Trade Union **Solidarity** or **Solidarnosc**

[10] Solidarity was originally led by this man, an electrician who served as President of Poland from 1990-1995 and won the Nobel Peace Prize in 1983.

ANSWER: Lech **Walesa**

[10] At the same as the Gdansk shipyard strikes, a strike occurred in this town of Eastern Poland, the sight of a 1569 union creating the Polish-Lithuanian Commonwealth.

ANSWER: **Lublin**

4 This work, whose fourth section is titled *La Rejouissance,* was performed in a building specifically designed by Servandoni. For 10 points each:

[10] Name that orchestral suite written to celebrate the signing of the Treaty of Aix-la-Chapelle.

ANSWER: ***Music for the Royal Fireworks*** (prompt on “HWV 351”)

[10] This other work by the composer of *Music for the Royal Fireworks* uses the music to mimic the lyrics, as seen during the phrase “ev’ry mountain and hill made low”. This work also contains the Hallelujah chorus.

ANSWER: ***Messiah*** (prompt on “HWV 56”)

[10] Both *Music for the Royal Fireworks* and *Messiah* were works by this 18th century English composer well known for his oratorios.

ANSWER: George Frideric **Handel**

5 For 10 points, answer the following questions about the author of *Harlot’s Ghost*.

[10] This author wrote about a platoon led by General Cummings in the South Pacific in *The Naked and the Dead*.

ANSWER: Norman **Mailer**

[10] Mailer also wrote this Pulitzer Prize winning novel about the death of Gary Gilmore, the first American to be administered the death penalty since it was reinstated in 1976.

ANSWER: ***The Executioner’s Song***

[10] In Mailer’s last novel, *The Castle in the Forest*, an employee of Satan named Dieter describes the life of this man, the focus of Jack Gladney’s studies in *White Noise*.

ANSWER: Adolf **Hitler**

6 Answer these questions about the current British government led by David Cameron, for 10 points each:

[10] Cameron succeeded this man as Prime Minister who himself had succeeded Tony Blair in 2007.

ANSWER: Gordon **Brown**

[10] Cameron is a member of this party, also the party of Winston Churchill.

ANSWER: **Conservative** Party

[10] This Liberal Democrat currently serves as Cameron’s Deputy Prime Minister.

ANSWER: Nick **Clegg**

7 The amino acid cysteine forms bridges using two atoms of this element. For 10 points each:

[10] Name this element, which when bonded to two atoms of hydrogen forms a compound that notably smells like rotten eggs.

ANSWER: **sulfur**

[10] Sulfur is also found in this other amino acid, encoded by the AUG codon, also known as the “start” codon.

ANSWER: **methionine** (prompt on “M” or “Met”)

[10] A disulfide bond is the sulfur equivalent of this type of compound containing an oxygen-oxygen single bond.

ANSWER: **peroxide**

8 This book is often recited during the Jewish holiday of Tisha b'Av. For ten points each:

[10] Name this book of the Hebrew bible which contains five poems of mourning following the destruction of Jerusalem.

ANSWER: Book of **Lamentations**

[10] The book chronicles the fall of Jerusalem by the armies of this Middle Eastern ruler credited with the destruction of the Hanging Gardens of Babylon.

ANSWER: **Nebuchadnezzar** II

[10] Jeremiah's prophecies were recorded by this man, who has an apocryphal book of the Bible attributed to him.

ANSWER: **Baruch** ben Neriah

9 2010 DNA tests proved the ancestry of this man buried in KV62. For 10 points each:

[10] Name this son of Akhenaten, an Egyptian ruler whose tomb was found remarkably intact by Howard Carter in 1922.

ANSWER: King **Tut**ankhamen

[10] Since King Tut was the son of Akhenaten, it is likely that his mother was this woman, the wife of Akhenaten responsible in part for the religious reforms he enacted.

ANSWER: **Nefertiti**

[10] Under Akhenaten and Nefertiti, a monotheistic religion was formed that worshipped this sun disc, an aspect of Ra who was elevated to the level of creator god. The worship of this god waned during the reign of King Tut.

ANSWER: **Aten** or **Aton**

10 Edward Casaubon is believed to be writing *The Key to All Mythologies* in this author’s *Middlemarch.* For 10 points each:

[10] Identify this author who wrote *The Mill on the Floss* as well as a work about a love triangle between Harold Transome, Esther Lyon, and Felix Holt.

ANSWER: George **Eliot** (accept Mary Ann **Evans**)

[10] In this novel by Eliot, the title “weaver of Raveloe” takes Eppie in as a child. It is later revealed that Eppie is the child of Godfrey Cass.

ANSWER: ***Silas Marner***

[10] Another novel by Eliot is this one in which the title character rescues the Jewish Mirah and marries her, breaking Gwendolyn’s heart in the process.

ANSWER: ***Daniel Deronda***

11 One work by this man located in the Piazza Navona was designed for Pope Innocent X. For 10 points each:

[10] Name this sculptor who designed a piece with gods representing the Nile, Ganges, Danube, and Plate titled “Fountain of the Four Rivers”.

ANSWER: Gianlorenzo **Bernini**

[10] In this other Bernini work, rays of light shine above an angel who holds a spear as she lies above a nun.

ANSWER: *The* ***Ecstasy of Saint Theresa*** (accept equivalents like ***Saint Theresa in Ecstasy***)

[10] Another Bernini work shows this nymph being transformed into a laurel tree as she is pursued by Apollo.

ANSWER: **Daphne**

12 A period of history known as the Reconquista saw Christian forces conquer Spain after centuries of Muslim rule. For 10 points each:

[10] The last area to fall to Christian forces was this southern Spanish city, the site of the Alhambra palace.

ANSWER: **Granada**

[10] From the 8th to 11th century, Muslim forces in Spain ruled from this other southern city in Andalusia. The caliphate ruling from this city formed following the collapse of the Umayyad dynasty.

ANSWER: **Cordoba**

[10] One of the few Spanish regions that was never under Muslim rule was this most northwestern province, famed for the pilgrimage site of Santiago de Compostela.

ANSWER: **Galicia**

13 These cells send information via special gaps called synapses. For 10 points each:

[10] Name this main cell of the brain that transmits electrical signaling.

ANSWER: **neuron**s

[10] Neurons contain this long, tail like structure used to transmit information to other neurons. They are composed in part by Schwann cells.

ANSWER: **axon**

[10] Axons are surrounded by a sheath of these fatty cells that serves a sort of insulation for the structure.

ANSWER: **myelin** sheath

14 One work in this collection tells of a man who straps a piece of meat to his back while stranded on an island and is thus able to obtain a huge fortune in diamonds. For 10 points each:

[10] Name this collection that contains works like “Ali Baba and the Forty Thieves” and “The Seven Voyages of Sinbad the Sailor”.

ANSWER: ***One Thousands and One Nights*** or ***Arabian Nights*** (accept “***Kitāb 'alf layla wa-layla****)*

[10] The stories are told by this woman to king Shahryar; she tells the stories to the king each night to keep him from killing her.

ANSWER: **Scheherazade**

[10] This man made reference to the tales with his work *The Last Voyage of Somebody the Sailor*. He also wrote about a man named Ebenezer Cooke who is made poet laureate of Maryland in *The Sot-Weed Factor*.

ANSWER: John **Barth**

15 In 1964 Kitty Genovese was stabbed repeatedly while at least 12 observers refused to help by calling the police. For 10 points each:

[10] Kitty’s death led to increased awareness of this phenomenon when people are less likely to act if they are part of a larger group.

ANSWER: **bystander effect**

[10] The bystander effect is an example of this scenario from game theory, in which a member from a group must make a sacrifice to benefit the rest of the group.

ANSWER: **volunteer’s dilemma**

[10] This scenario is a two person version of the volunteer’s dilemma. A classic scenario is two nations at the brink of the nuclear; the worst scenario is if neither one backs down while one side benefits if the other backs down.

ANSWER: **chicken** or **hawk-dove**

16 This artist did paintings of the Great Western Railway and another one showing the H.M.S. Victoryat a British naval battle. For 10 points each:

[10] Name this British watercolor artist of *Rain, Steam, and Speed* and *The Slave Ship*.

ANSWER: Joseph Mallord William **Turner**

[10] Another Turner showed this British ship which participated in the Battle of Trafalgar. The painting shows this shipped being tugged away in 1838 to be used for scrap.

ANSWER: The Fighting **Temeraire** or H.M.S. **Temeraire**

[10] Turner was heavily praised by this art critic, author of *Modern Painters* and a treatise on Italian architecture titled *The Stones of Venice*. Whistler sued this man for his criticism of *Nocturne in Black and Gold*

ANSWER: John **Ruskin**

17 In one work, this thinker condemned religion as being based primarily on fear and the “terror of the unknown”. For 10 points each:

[10] Name this author of *Why I Am Not a Christian*.

ANSWER: Bertrand **Russell**

[10] With Alfred Whitehead, Russell co-authored this scientific text which covered set and number theory.

ANSWER: ***Principia Mathematica***

[10] Russell was a teacher and mentor for this Austrian philosopher who described what one cannot speak, one must pass over in silence in his *Tractatus Logico –Philosophicus.*

ANSWER: Ludwig **Wittgenstein**

18 James Madison established this organization as a method to finance the costly War of 1812. For 10 points each:

[10] Name this financial institution headed by Nicholas Biddle.

ANSWER: **Second Bank of the United States** (prompt on less specific answers like “Bank of the United States”, do not accept “First Bank of the United States”)

[10] The authority of the bank was challenged by the state of Maryland in this 1819 Supreme Court Case. It ruled that the federal government has the right to establish a national bank.

ANSWER: ***McCulloch*** *v. Maryland*

[10] In an attempt to undermine the Second Bank of the United States, President Andrew Jackson gave money to these state banks, so named for their intense loyalty to the president.

ANSWER: **pet** banks

19 The natural numbers is one set typically defined using this method in a way similar to induction. For 10 points each:

[10] Name this method which defines a base case and then defines the rest of the set on the base case. For example, by saying one is a natural number and then by saying for all natural numbers n, n+1 is also a natural number, the entire natural number set can be defined.

ANSWER: **recursion** or **recursive** method or **recursively** defined

[10] One example of a set defined recursively is this sequence that begins 0,1,1,2,3,5,8.

ANSWER: **Fibonacci** sequence/numbers

[10] Recursion methods are employed in this form of programming in which a problem is broken down into simpler steps called overlapping subproblems.

ANSWER: **dynamic** programming

20 For 10 points each, answers these questions about plays written by French authors.

[10] In this Moliere play, Clèante and his father Harpagon both love Marianne. Clèante is allowed to marry Marianne only if he gives Harpagon his money box back.

ANSWER: ***The Miser***

[10] Botard doubts the existence of the disease that turns people into the title animals of this Eugène Ionesco play. Eventually, everyone but Berengér grows horns and transforms into one.

ANSWER: ***Rhinoceros***

[10] An army deserter, a lesbian postal clerk, and a flirtatious blonde are confined to a single room by the Valet in *No Exit*, a work by this playwright and existentialist.

ANSWER: Jean-Paul **Sartre**

**Tiebreaker Bonus**

21 Answer these questions about vectors, for 10 points each:

[10] Vectors describe both magnitude and direction, unlike these quantities which only describe magnitude. Examples include mass and temperature.

ANSWER: **scalar**

[10] Sometimes describes as the length or magnitude of the vector, in Euclidean space this quantity is found by taking the square root of the sum of the squares of each term in the vector.

ANSWER: vector **norm**

[10] For a multivariable function, this vector gives the direction of the greatest rate of change for the function. For the function f(x,y,z)=2x+2y+2z, it is equal to the vector <2,2,2>.

ANSWER: **gradient**