James Blair Bowl Packet 4

Buzzer Question: *"If you could be any animal, what would it be?"*

1. The outcome of this action can be quantitatively measured using the efficiency gap. Reassigning officials can lead to the "kidnapping" form of this practice. Other methods of undertaking this political action include packing, cracking, and hijacking. This was infamously done by Tom DeLay in Texas' 22nd district and in Franklin County Ohio. The name of this action derives from a Massachusetts politician creating a certain entity in the shape of a lizard. For ten points, name this action involving drawing electoral districts in ways favorable to certain politicians.
Answer: **gerrymandering** (prompt on "redistricting")

2. Triethylaluminum and ethylene react to form one of these compounds in the Ziegler Process. One of these compounds is known to precipitate DNA out of aqeous solutions and is usually oxidized into acetylaldehhyde in biological systems. When a ketone reacts with a Grignard reagent at least one of these compounds is formed. One of these compounds is added across an alkene during hydroboration. Fischer esterification creates esters from two of these functional groups. The simplest of these compounds can cause blindness if consumed in large enough quantities. For ten points, name this organic functional group, defined as a hydroxy group attached to an R group.
Answer: **alcohol**s

3. This book was originally published in two parts, with the subtitles "Her years of wandering and learning" and "How she used what she learned". Near the end of the novel, a boy pushes a wheelchair off a cliff but is given an allowance instead of being punished. After months of sleepwalking, a doctor recommends that the protagonist return home to the village of Dorfli. The protagonist is increasingly criticized by her friend Clara's governess, Fräulein Rottenmeier, and constantly asks to leave Frankfurt and go back to Switzerland. FTP, name this classic children's novel by Johanna Spyri about a girl who comes to live with her grandfather in the Alps
Answer**: *Heidi***

4. Whilst collaborating with his father, this architect designed the General Motors Technical Center. Other company headquarters designed by this man include those for Bell Labs and IBM, while his non-architectural contributions have included the designs of the "Womb" and "Tulip" chairs. This man created a concrete spine for an ice rink nicknamed "The Whale". Two wing-shaped thin concrete domes make up the JFK TWA Flight center designed by this man, while another of his designs consists of a inverted stee-clad catenary arch commemorating westward expansion. For ten points, name this Finnish-American architect who designed the terminal of the Dulles International Airport as well as the Gateway Arch.
Answer: Eero **Saarinen**

5. American philosopher Robert Nozick wrote a libertarian work titled Anarchy, State, and this concept. In one example of this concept, the citizens are placed into a rigid class structure of golden, silver, bronze and iron. This concept originally meant "no place", but conflation with another similar word led the meaning to shift to "good place". 1,600 communities were settled with this concept in mind, including Brook Farm in Boston and New Harmony Indiana. For ten points, name this philosophical concept, featured in

Plato's Republic and coined by Thomas More in his titular book, which is a community that is highly desirable or perfect for its citizens

Answer: **Utopia**

6. Thomas Walsh headed the committee to investigate this scandal. This scandal led to the resignation of Secretary of the Navy Edwin Denby. John Kendrick called for an investigation into this scandal in which Edward Doheny was indicted after leasing land at Elk Hills. Robert LaFollette led the investigation into this event which was begun when Secretary of the Interior Albert Fall accepted bribes in return for leasing oil-rich land to Mammoth Oil and American Petroleum. For ten points, name this Harding-era scandal named for an oil field in Wyoming.

Answer: **Teapot Dome** Scandal

7. In 2008, this man portrayed the Emperor of Japan in *Command and Conquer: Red Alert 3*. After the ruling in *Obergefell v. Hodges*, this man attracted controversy after calling Clarence Thomas a 'clown in blackface.' This actor portrayed Captain Nim alongside John Wayne in *The Green Berets,* and he played Hosato in *Kubo and the Two Strings.* This actor grew up in internment camps during World War II due to his ethnicity. For ten points, name this actor most famous for playing Hikaru Sulu on *Star Trek.*

Answer: George **Takei**

8. This quantity is inversely proportional to the first power of distance for an inverse square force. One value for this quantity is equal to the negative magnetic moment dotted with the magnetic B-field. Its Lagrangian is denoted by a capital V and work can be defined as the negative derivative of this quantity. The change in this quantity is equal to the negative of the work done and in a spring, it is equal to one-half times the spring constant times displacement squared. This quantity is equal to the product of mass, gravity and the y-position of the object. Symbolized U, for ten points, name this energy stored in an object, contrasted with kinetic.

Answer: **potential** energy

9. One of this man's daughters by his third wife married the son of the Byzantine Empress Irene of Athens. In one battle he defeated the father of his second wife Hildegard, and in another, he killed the Saxon rebel Widukund. Scholars at this man's court included "the most learned man in Europe" Alcuin of York as well as his court biographer Einhard. The *Song of Roland* discusses this man's retreat at the Roncevaux Pass. After the death of this man's son, Louis the Pious, his kingdom was split between Lothair I and Charles the Bald in the Treaty of Verdun. For ten points, name this man, crowned by Leo III as the first Holy Roman Emperor on Chirstmas day 800 CE.

Answer: **Charlemagne** or **Charles the Great** or **Charles I**

10. This poet addresses his lover, Emily, as "Spouse! Sister! Angel! Pilot of the Fate/Whose course has been so starless" in a poem concerning a little soul. In one ode, this Romantic poet exclaims, "I fall upon the thorns of life! I bleed!" This poet from the Satanic School weeps for Adonis whose soul "beacons from the abode where the Eternal are" in an elegy on the Death of John Keats. He describes a cloaked figure with "mask like Castlereagh" in his poem "The Masque of Anarchy".This poet famously asked "If winter comes can Spring be far behind?". For ten points name the husband of Mary and the author of "Ode to the West Wind."

Answer: **P**ercy Bysshe **Shelley** (prompt on "Shelley")

11. One opera in this language features a love triangle between Prince Golaud and the two titular figures in an adaptation of a Maurice Maeterlinck play. Aside from *Pelleas and Melisande*, this language was used to compose Giuseppe Verdi's *Don Carlos*. Another opera in this language famously features the "Legend of Kleinzach" and the "Doll Song" arias, while the famous "Flower Duet" was also composed in this language. Aside from *The Tales of Hoffman* and *Lakme*, this language was used by Giachino Rossini in *William Tell* and by the man who composed the opera *The Pearl Fishers* as well as the "Toreador Song" and the "Habanera". For ten points, name this Romance language which was predominantly used by composers Georges Bizet and Claude Debussy.
Answer: **French**

12. The epithet Kriophoros is given to this figure after he supposedly carried a ram around a city to ward off a plague. The murder of his son Myrtilus led this figure to place a curse on the House of Pelops and this god accompanied Zeus when he visited Baucis and Philemon. He notably protected Priam when he went to retrieve Hector's body and he likewise gave moly to Odysseus as a defense against Circe's magic. Another instance saw this god slay the one-hundred eyed monster Argus to help rescue Io. After this son of Maia was born on Mount Cyllene he snuck away to steal the cattle of Apollo. For ten points name this Greek god, wielder of the caduceus and patron of travelers, thieves, and messengers.
Answer: **Hermes** (accept **Mercury** until "Greek" is read)

13. Upon his arrest, a mayor of this city famously proclaimed "bitch set me up!" This city's subway system notoriously had an incident in January 2015 where a train car was filled with smoke, killing one. Its highest point is located at Fort Reno Park and much of this city's original layout was organized in the McMillan Plan. Important streets in this city include K Street and Florida Avenue, while many of its memorials are situated around the National Mall. For ten points, name this city on the banks of the Potomac and Anacostia rivers, the site of Pennsylvania Avenue.
Answer: **Washington, D.C.**

14. The predecessors of this clade replaced lycopsids due in part to their relationship with scorpionflies and early lacewings. One member of this clade is Ephedra, a sand dwelling organism in Subclass Gnetidae. Members of this clade are characterized by micro- and mega- strobili. This taxon also includes the biloba subclass, which includes only a single species commonly known as a Gingko. Its pollen usually contains more than sperms cells and its ovules usually possess only one integument. This clade's name means "naked seed" and includes Cycads and another subclass with flat narrow leaves. For ten points, name this taxon of vascular plants that includes cedars, pines, and hemlock trees.
Answer: **gymnosperm**ata

15. In this novel a nurse fears the rain because she sometimes sees herself dead in it, and she drinks beer to keep her baby small. A priest enjoys speaking about Abruzzi and is repeatedly mocked by bawdy Italian soldiers. The protagonist of this novel shoots at an engineer sergeant when he refuses to aid him during a retreat. Later in the retreat, Aymo is accidentally killed in an act of friendly fire and high-ranking soldiers are accused of treachery and shot. For ten points name this novel by Ernest Hemingway about an

American ambulance driver serving in the Italian army in World War I and his relationship with an English nurse named Catherine Barkley.
Answer: *A Farewell to Arms*

16. This man wrote an ad for Pebeco toothpaste while working for the J. Walter Thompson agency. His dissertation showed that myelinization in the brain had no effect on learning ability and this man studied imprinting of terns in Florida. In one of this man's experiments, the length of a maze was changed and rats ran into the wall, causing the namesake sound, and in another, this man classically conditioned a child to fear white rats by ringing a gong. A developer of behaviorism, for ten points, name this psychologist who conducted the Kerplunk and Little Albert Experiment.
Answer: John Broadus **Watson**

17. In one encounter during this war, a naval squadron under the command of Wilgelm Vitgeft failed to break past a blockade, forcing his nation's navy to sail to his aid. However, that fleet would arrive too late to stop the defeat of Alexei Kuropatkin at the battle of Mukden. In one naval battle in this war, Zinovy Rozhestvensky was defeated, along with two-thirds of the Russian navy. After that victory by Togo Heihachiro, the aggressors pushed for the concession of the Sakhalin Islands at a conference moderated by Theodore Roosevelt. For ten points, name this war, ended by the Treaty of Portsmouth, in which Tsar Nicholas II's nation was defeated by a rapidly industrializing Asian power.
Answer: The **Russo-Japanese** War

18. Mr. Humphreys discovers ashes in one of these on his estate in an M.R. James short story, and in another work, Ts'ui Pen tries to plan one but cannot complete it. Another of these places is featured in "The House Austerion" and a palace named after one of these places is featured in Mary Renault's *The King Must Die*. W.H. Auden describes how a man "halted where four alleys crossed and recognized that he was lost" in one of these places. Jack Torrance chases Danny through one at the end of *The Shining* and Thomas fights off Grievers in another one of these places. For ten points, Harry Potter had to find the Triwizard Cup in what kind of place?
Answer: **maze** or **labyrinth** [prompt on "garden"]

19. The relationship between this operation's evaluation over a manifold and the boundary of that manifold is described by Stokes' Theorem. Instances of this operation can be performed on smooth functions in any order by Fubini's Theorem. One type of this operation allows one to find the work done on a particle passing through a vector field. This operation can be performed "by parts" and by the separation of a function into partial fractions. The most common type of this operation involves taking the limit of a sum of areas of rectangles, that is this operation's Riemann form. For ten points, name this operation that can calculate the area under a curve and which is related to differentiation by the Fundamental Theorem of Calculus.
Answer: **integration** (accept word forms like "finding an integral")

20. During the Mexican-American War, this individual complained that he had arrived too late to participate in the Battle of Monterrey. During the American Civil War, this individual made the controversial declaration that he would not interfere with the 'personal property' during his invasion of what would become West Virginia. Prior to

one battle his forces discovered Order 191 amidst some cigars. This man ordered a retreat during his Peninsular Campaign and likewise led Union forces at Antietam. For ten points, name this Civil War general and 1864 Democratic Presidential candidate known for his military timidness.

Answer: George B. **McClellan**

21. This monarch became queen when she was a week old after her father died in the wake of the battle at Solway Moss. This Catholic monarch grew up in the court of Henry II of France and married his son, Francis II. She jointly ruled as the queen of France and Scotland until her husband's death and had claims to the thrones of England and Ireland as well. This Scottish queen later married Henry Stuart, Lord Darnley and gave birth to her heir, James. In 1567 this queen was forced to abdicate her throne and fled to England. For ten points, name this rival of Queen Elizabeth I who was imprisoned for nearly two decades until her execution in 1587.

Answer: **Mary Queen of Scots** or **Mary Stuart** or Queen **Mary I** (Prompt on "Queen Mary ")

22. This man modeled weak decay in terms of axial currents with Murray Gell-Man and developed a path integral approach to quantum gravity. He showed why a Brownian ratchet cannot work at a constant temperature and later demonstrated the failure of O-rings in the cold during his time in the Rogers Commission. He won the Nobel Prize in Physics with Sinichiro Tomonaga and Julian Schwinger for work done in quantum electrodynamics. Known for his namesake diagrams depicting the behavior of particles, for ten points, name this CalTech professor, author of *What Do You Care What Other People Think?*

Answer: Richard **Feynman**

Bonuses:

1. Dunyazade initially sets up the plot by extending her goodbye with this character. For ten points each:

a. Name this character who delays her execution by telling King Shahryar stories such as Ali Baba and the Forty Thieves.

Answer*:* **Scheherazade**

b. Scheherazade appears as the story teller in this collection of tales, along with other characters such as Aladdin and Sinbad.

Answer: *One Thousand and One Nights* or **Arabian Nights**

c. This author wrote a sequel called *Arabian Nights and Days*, but is better known for his Cairo trilogy.

Answer: Naguib **Mahfouz**

2. This man's namesake "trap" refers to the degradation of a society's standard of living as that society's population continues to grow. For ten points each-

a. Name this controversial political economist who studied the relationship between growth and resources in his treatise *Essay on the Principle of Population*.

Answer: Thomas **Malthus**

b. Malthus was a famous proponent of these measures which intended to restrict the importation of grain. He would later change his view after the events of the Peterloo Massacre.
Answer: **Corn Laws**

c. Malthus likewise wrote a treatise entitled *The Nature of* this entity, a subject which he debated with David Ricardo who regarded it as the result of independent ownership rather than economic surplus. Ricardo would go on to describe it as the advantage obtained from using land for its most productive purpose.
Answer: **rent** (accept **economic rent**)

3. For ten points each, answer some questions about a antebellum conflict in the American Midwest.
   a. During the 1850s, this state was the site of sectarian violence over the issue of slavery. It was given the nickname "bleeding" during the ongoing conflict and it was also the site of the Pottawatomie Creek Massacre.
   Answer: **Kansas**
   b. Kansas and Nebraska were created as part of a namesake act initiated by this Illinois Senator. This man, nicknamed "Little Giant", was one Abraham Lincoln's chief opponents in the 1860 Presidential Election.
   Answer: Stephen **Douglas**
   c. Stephen Doulgas hoped to decide the slavery issue in the Kansas-Nebraska territories based on this principle. According to this principle future states would themselves decide whether or not they would allow slavery.
   Answer: **popular sovereignty**

4. For ten points each, name these Canadian provinces.
   a. This province is the most populated in Canada, with its capital in Toronto. Part of this province is south of Detroit.
   Answer: **Ontario**
   b. This province, named for a river, forms Canada's pacific coast. It contains the Campbell River upon which is its capital Victoria.
   Answer: **British Columbia**
   c. This province on the East Coast is divided into two distinct geographical regions by the Strait of Belle Isle. Its capital is St. Johns.
   Answer: **Newfoundland and Labrador** (prompt on Newfoundland)

5. Joule's Law is a modification of this physical law with an equation relating power and voltage drop. For ten points each-
   a. Name this physical law that states that current between two points is directly proportional to the voltage across those two points. It is often characterized by the equation I equals V over R.
   Answer: **Ohm's** Law
   b. One generalization of Ohm's Law, written J equals sigma times Electric Field, was developed by this German physicist who may be better known for his "loop" and "Junction" circuit rules. He likewise coined the term "blackbody radiation".
   Answer: Gustav **Kirchhoff**

c. These circuit components do not follow Ohm's law because its current-voltage relation is non-linear. Most of these components nowadays are made from a semiconductor with a p-n junction connected to two conductors.
Answer: **diode**s

6. Hans Memling helped popularize this type of art by painting portraits of religious figures for families to hang in homes. For ten points each-
a. Name this type of painting consisting of three foldable panels, often identified as altarpieces.
Answer: **triptych**
b. Two of his triptychs shows God forming Eve in the left panel and depictions of torture in hell on the right panel.Name this artist of *The Haywain* and *The Garden of Earthly Delights*.
Answer: Hieronymous **Bosch**
c. This van Eyck polyptych has twelve panels, the lower central of which shows a lamb being blessed. Its Just Judges panel was stolen and is still missing.
Answer: **Ghent** Altarpiece

7. The festival of Holi is meant to celebrate the love between this figure and his consort For ten points each-
a. Name this blue-skinned avatar of Vishnu, who serves as the charioteer of Arjuna during the Battle of Kurukshetra. The *Bhagavad Gita* recounts his lecture on the nature of dharma.
Answer: **Krishna**
b. Many depictions of Krishna include him holding one of these musical instruments. Krishna used this instrument to charm his consort Radha and her fellow gopis.
Answer: **flute**
c. Much like other avatars of Vishnu, Krishna uses this creature as his personal mount. This bird deity serves as the national symbol of Java and he often fights with the nagas.
Answer: **Garuda**

8. For ten points each, name these potential Democratic nominees for president in the 2016 primaries.
a. This former independent candidate won his first primary victory in New Hampshire, and lost a controversial caucus in Nevada.
Answer: Bernie **Sanders**
b. Only one person showed up to an event in Tama, Iowa hosted by this candidate, a former governor of Maryland.
Answer: Martin **O'Malley**
c. This former governor of Rhode Island heavily questioned Clinton on her stance on the Iraq War.
Answer: Lincoln **Chafee**

9. Other than Walter White, this is the only fictional character to receive an obituary in the New York Times. For ten points each:
a. This detective first appeared in The Mysterious Affair at Styles, and frequently references his patent leather shoes and 'little gray cells'.

Answer: Hercule **Poirot**
   b. Besides Hercule Poirot, this author also created Miss Marple and wrote The Mousetrap and Witness for the Prosecution.
      Answer: Agatha **Christie**
   c. Perhaps her best-selling work, this novel focus on 10 people who are killed off one by one on an isolated island because they got away with past murders.
      Answer: *And Then There Were None* (accept *Ten Little Indians*)
10. Deviation from the behavior of this entity can be represented by its compressibility factor. For ten points each:
   a. Name this entity that exhibits linear relationships between volume, pressure, and temperature, represented by the constant R.
      Answer: **ideal** gas
   b. Along with Ludwig Boltzmann, this man names a concept used to describe the speed of particles in ideal gases. He is better known for a thought experiment involving his namesake demon.
      Answer: James Clerk **Maxwell**
   c. In this theory, particles of gas are treated as points of mass in constant motion that engage in elastic collisions, resulting in the conclusion that all gases have the same value of a certain type of energy.
      Answer: **kinetic**-molecular theory
11. Found in the Arusha region, it is notably divided into four "beds", all of which are rooted in the walls of the Great Rift Valley. For ten points each-
   a. Name this important Tanzanian site, the so-called "cradle of mankind".
      Answer: **Olduvai** Gorge
   b. Olduvai Gorge was most famously explored by several anthropologists with this surname. Together those anthropologists discovered the remains of the Paranthropus boisei and some later relatives of those anthropologist would later discover the "Chellean Man".
      Answer: **Leakey**
   c. The Leakey's son Johnathan discovered these early human ancestors had occupied Olduvai approximately 1.9 million years ago. As their name would suggest those remains were also found with evidence of lithic flakes and primitive stone hand axes.
      Answer: *Homo* **habilis**
12. For ten points each, answer these questions about British Imperialism in Africa.
   a. In modern-day South Africa, Britain fought these wars against adversaries such as the Orange Free State and the Transvaal.
      Answer: **Boer Wars**
   b. Between 1952 and 1960, Britain brutally crushed the Mau Mau rebellion in this country.
      Answer: **Kenya**
   c. In 1896, Britain waged a 38-minute war against this island, after which they deposed the Sultan. It is now part of the modern nation of Tanzania.
      Answer: **Zanzibar**
13. Name some kami from the Shinto belief system for ten points each:

a. This woman is the goddess of the sun and universe, and hid in a cave when her brother Susanoo threw a flayed horse at her.
   Answer: **Amaterasu**
b. This kami is one of the creators of the world, but failed to rescue his sister from the underworld when she died in childbirth.
   Answer: **Izanagi** [do not accept or prompt on Izanami]
c. This deity is the kami of fertility and agriculture, and is represented by a kitsune, or a white fox.
   Answer: **Inari** [accept **Oinari**]

14. A geographer in this work could not say whether or not his planet has oceans because he has not explored any of it. For ten points each:
   a. Name this novella in which the pilot encounters the title character after his plane crashes in the desert.
      Answer: The ***Little Prince*** or ***Le Petit Prince***
   b. This man wrote *The Little Prince*, basing it on own his aviation experience. He disappeared over the Mediterranean a year after the book was published.
      Answer: Antoine de **Saint-Exupéry**
   c. The prince asks the pilot to draw him one of these creatures and is unsatisfied with the drawings until the pilot draws one inside a box.
      Answer: **sheep** [accept **mouton**]

15. It consists of a stepped ladder which, after discharge, is followed by a "return stroke" and it has been estimated to be three to five times hotter than the surface of the sun. For ten points each-
   a. Name this meteorological phenomenon, divided into IC, CC, and CG varieties depending on where an atmospheric charge is most easily equalized.
      Answer: **lightning**
   b. Lightning has been known to produce entities known as "Sprites" and "St. Elmo's Fire", both of which are manifestations of this type of substance. This substance is common in many stars and can be utilized in certain forms of urban illumination.
      Answer: **plasma**
   c. Certain high power telescopes have found evidence of lightning producing this type of radiation. Further evidence for this has been found in instances of lightning producing antimatter in higher regions of the atmosphere.
      Answer: **gamma** ray radiation

16. For ten points each, answer these questions about the American Labor Movement.
   a. This labor rally in Chicago went violent after an unknown person threw a bomb at police. This event serves as the date of modern May Day.
      Answer: **Haymarket Affair** (also accept 'riot' or 'massacre' or similar)
   b. This massive strike occurred when railroad workers had their wages cut while not having their rents reduced in a namesake area of Chicago; President Cleveland ordered the US Army to ensure trains ran regardless, resulting in violence.
      Answer: **Pullman Strike**
   c. This individual was arrested during the Pullman Strike, later ran for President whilst in jail as a Socialist candidate. He helped found the Industrial Workers of the World.

Answer: Eugene V. **Debs**

17. One of these compositions was supposedly inspired by a small dog chasing its own tail, while another series of these compositions by Liszt were named after a certain Faustian devil. For ten points each-
    a. Name this popular form of dance music in 3-4 time, examples of which include Chopin's "Minute" composition.
       Answer: **waltz**es
    b. Perhaps the most notable waltz composer was this Austrian, the so-called "Father" of the genre. He is best known for his light-hearted works including "The Blue Danube" and the "Kaiser-Waltzer".
       Answer: **Johann Strauss II** or **Johann Strauss the Younger** ("Johann Strauss" and either "II" or "the Younger" is needed)
    c. While Strauss was most famous for his waltzes he was also a notable composer of this other European dance music native to Bohemia. His "Tristch-Trasch" composition is one example.
       Answer: **polka**

18. Most historians agree that civilizations can in part be defined by the presence of a coherent writing system. For ten points each, answer these questions about some ancient writing systems.
    a. Perhaps one of the earliest is this system that emerged in Sumeria in the fourth millennium BCE. In it, scribes can produce words by pressing a wedge shaped reed stylus on the clay tablets.
       Answer: **cuneiform**
    b. The first nation-states to utilize an alphabet belonged to this civilization composed of various Canaanite port-cities such as Tyre. They would later give rise to the Punic city states of Carthage and Hippo.
       Answer: **Phoenicia**
    c. The hieroglyphs of this civilization can be found in books known as "codices". Likely derived from the Ch'olti language, this civilization would write words using syllabic glyphs and logograms such as the symbol "ajaw", which would become synonymous with the word for "lord". Their numeric system is based on the number twenty.
       Answer: **Maya**ns

19. Babo secretly controls the San Dominick in a story by this author. For ten points each:
    a. Name this author of "Benito Cereno", better known for creating Captain Ahab in *Moby Dick.*
       Answer: Herman **Melville**
    b. The protagonist of this Melville story copies documents in a legal office before refusing to work by saying "I would prefer not to".
       Answer: **"Bartleby the Scrivener"**
    c. The protagonist of this novella accidentally kills John Claggert, but is unable to initially defend himself because of his stutter.
       Answer: ***Billy Budd***, *Sailor*

20. Name some things from the cardiac cycle for ten points each:

a. Name these vessels that mostly carry oxygenated blood away from the heart.
   Answer: **artery**
b. The largest artery in the human body originates in the left ventricle but eventually splits into the two iliac arteries. It is chiefly involved in systemic circulation.
   Answer: **aorta**
c. These objects in the wall of the heart are able to conduct action potentials quicker than other cells, allowing synchronized contractions of the ventricles.
   Answer: **purkinje fiber**s

21. This second most populated island in the world is bordered on the west by the Sea of Japan. For ten points each:
   a. Name this largest and most populated island of Japan, site of Tokyo.
      Answer: **Honshu**
   b. To the north is this other large island with its capital at Sapporo. It was settled in the late 19th century to defend against the Russians.
      Answer: **Hokkaido**
   c. This archipelago in the Sea of Okhotsk is disputed between Japan and Russia due to uncertainties in the Treaty of San Francisco.
      Answer: **Kurils**

22. New techniques in manipulating light and dark helped bring in the Dutch Golden Age of painting. For ten points each:
   a. Name this technique in which light and dark are strongly contrasted for dramatic effect. This effect is exaggerated with the use of tenebrism.
      Answer: **chiaroscuro**
   b. Johannes Vermeer used bright colors such as ultramarine in his painting *Girl with a Pearl Earring* and in works of domestic scenes set in this Dutch city.
      Answer: **Delft**
   c. This artist made use of tenebrism for dramatic effect in many of his portraits as well as paintings such as *The Storm on the Sea of Galilee* and *The Night Watch*.
      Answer: **Rembrandt** van Rijn