

Written by Ankit Aggarwal, Hidehiro Anto, P.C. Chauhan, Jason Cheng, Boyang Jiao, Aseem Keyal, Eddie Kim, Bruce Lou, Charlie Mann, Kevin Wang, Corry Wang, Kion You

TOSSUPS

1. One of this country's most popular tourist attractions is a pool of wastewater from a local geothermal plant known as the Blue Lagoon, where tourists bathe to supposedly improve their health. This country contains many geysers due to its convenient location along the Mid-Atlantic Ridge, and it produces two-thirds of its electricity through geothermal energy. Volcanic activity in this country created the (*) island of Surtsey in 1967. In 2010 European air traffic was disrupted by the eruption of its Eyjafjallajökull (ay-uff-YAHT-lah-YOH-kut-ul) volcano. For 10 points, name this cold island country whose capital is Reykjavik ("RAKE"-yah-vik).

ANSWER: Iceland [or Republic of Iceland; or Lydveldid Island]

2. This man's wife circumcised their son Gershom at an inn and threw the foreskin at his feet after the Lord met them there and sought to kill him. After killing an overseer who is beating a slave, this man flees and seeks employment under the shepherd Jethro. He sends (*) Caleb and Joshua to spy on Canaan, but his people are cursed to wander the desert for forty years. This prophet declares that frogs, locusts, three days of darkness, and the death of every firstborn child are some of the ten plagues about to punish Pharaoh's people. For 10 points, name this prophet who receives the Ten Commandments and leads the Israelites out of Egypt.

ANSWER: Moses [or Moshe; or Musa]

3. This piece's fourth movement introduces a Turkish march in 6/8 time over the words "Happily, as his sons fly." This piece's second movement is a D minor fugal scherzo in which each bar is grouped as a single beat. In this piece, a baritone soloist declares "O friends, not these tones!" and joins a choir that sings about a (*) "daughter of Elysium" (eh-LEE-see-um) and a "beautiful spark of the gods." After the premiere of this symphony, its composer had to be turned around so that he could witness the thundering applause from a crowd that he could not hear due to his deafness. For 10 points, name this last symphony by Ludwig van Beethoven, which includes the "Ode to Joy."

ANSWER: Beethoven's Ninth Symphony [or Choral Symphony; or Ludwig van Beethoven's Symphony No. 9; or Choral Symphony after "symphony" is read; or obvious equivalents]

4. Several native cultures in this country traditionally dance to honor spirits known as kachina (kuh-CHEE-nuh). Many archaeological sites in this country feature underground rooms known as kivas (KEE-vuhs), which were used for religious ceremonies. In this non-South-American country, a series of "Great Houses" were connected by a network of straight wide roads all leading to (*) Chaco Canyon. The Spruce Tree House and the Cliff Palace are both cliffside dwellings in its Mesa Verde (MAY-sah VEHR-day) National Park. For 10 points, name this country where many archaeological sites of the Anasazi people are located in the Navajo (NAH-vah-ho) Indian reservation.

ANSWER: United States of America [or U.S.A.; accept any underlined portion]

5. In this war, a group of negotiators supposedly declared "The strong do as they can and the weak suffer what they must" while trying to force a neutral city to surrender. A general defected during this war after he was wrongfully accused of mutilating sacred statues known as the *hermai*. During this war, a leader praised his city's unique democratic government during a famous (*) "funeral oration" that was recounted by the historian Thucydides (thoo-SEH-deh-deez). That leader, Pericles ("PEAR"-eh-kleez), died of the plague during this war. For 10 points, name this war that occurred in the 5th century BC between Sparta and Athens.

ANSWER: Peloponnesian War

6. This character, who is first spotted under a sycamore tree, is told that "violent delights have violent ends" and that he should "prick love for pricking" by his friends because of his frequent lovesickness. While at a masquerade ball, this character's partner tells him "you kiss by the book." This boy used to have a crush on (*) Rosaline and illegally purchases a vial of poison in Mantua, drinking it after killing Count Paris in a duel. This friend of Friar Laurence and cousin of Mercutio wonders "what light through yonder window breaks?" while watching his lover emerge on a balcony. For 10 points, name this star-crossed lover of Juliet from a play by Shakespeare.

ANSWER: Romeo Montague [prompt on "Montague"]

7. In the 1260s this island was seized by the French noble Charles of Anjou after he defeated the last Hohenstaufen (ho-hen-STOFF-en) kings Manfred and Conradin with support from the Pope. Charles then lost this island to the Kingdom of Aragon after a 1282 revolt. In 1860 an army landed on its town of Marsala in a campaign against the Bourbon king Francis II, culminating in the Battle of Volturno. Under the leadership of (*) Giuseppe Garibaldi (joo-ZEP-pay gar-ee-BAHL-dee), the Expedition of the Thousand captured this island and Naples to the north during the Wars of Italian Independence. For 10 points, name this island on the southern tip of Italy.

ANSWER: Sicily

8. Lambert proved a property of this number with the expanded fraction of the tangent function. This number squared divided by six was given by Leonhard Euler ("OIL"-er) as the solution to the Basel problem, which asked for the sum of the reciprocals of the square numbers. A sequence of six consecutive nines in this number's decimal representation is its Feynman point. The Euler identity gives e to this number times (*) i as negative one. This transcendental number is the area of the unit circle and the period of the tangent function. For 10 points, what ratio between the circumference and diameter of a circle is approximately 3.14?

ANSWER: pi [prompt on approximations such as "3.14" or "22 over 7" before "3.14" is read]

9. This poet wrote about a "red firetruck moving unheeded" "among the rain and lights" in a poem that inspired his friend Charles Demuth to paint *I Saw the Figure 5 in Gold*. This poet wrote an epic monument to the city of Paterson, New Jersey. He constructed what may have been a found poem regarding some items that "you were probably saving for breakfast" that were (*) "so sweet / and so cold." This author, who created a poem apologizing for eating some plums in the icebox, meditates on an object "glazed with rain/water" and "beside the white/chickens" in a poem declaring that "so much depends/upon" it. For 10 points, name this Imagist author of "This Is Just To Say" and "The Red Wheelbarrow."

ANSWER: William Carlos Williams

10. One of these creatures stabbed himself with an arrow after wondering how "so little a thing could kill such big fellows." Another of these creatures tricked Deianeira ("DIE"-ah-nye-ra) into soaking a robe in his poisoned blood. This race was born when Ixion slept with the cloud nymph Nephele (NEF-eh-lee) instead of Hera. These people crashed the wedding of Hippodamia to the (*) Lapith king Pirithous ("pie"-RIH-thoh-uss). Achilles (uh-"KILL"-eez) and Perseus were tutored by Kronos and Philyra's wise son, a member of this race. For 10 points, what race of creatures includes Pholus, Nessus, and Chiron, who are half-man and half-horse?

ANSWER: centaurs [or hippocentaurs]

HALFTIME

11. The leading model incorporating this entity is the lambda-CDM model, and the independence of galactic rotation curves from radius was used as evidence for this entity by Vera Rubin. It was first postulated by Fritz Zwicky after he applied the virial equation to his observations of the Coma Cluster. This substance exists in large halos surrounding galaxies, and the leading candidate for its cold form can interact through the weak force. This substance that includes (*) WIMPs contributes around 27% of the combined mass-energy in the universe, less than a similarly named form of energy. For 10 points, name this substance that doesn't interact with light.

ANSWER: dark matter [accept cold dark matter; prompt on "WIMPs" or "weakly-interacting massive particles"]

12. This empire traditionally allowed its religious minorities to govern themselves independently through the Millet system. This empire maintained a system known as Devşirme (DEV-sheer-meh), or "blood tax," in which it would kidnap children to become civil servants. It tried to establish religious freedom and modernize its government in the 19th-century Tanzimat Reforms. In the (*) "Auspicious Incident" of 1826, this empire dissolved its corrupt Janissary infantry units, and centralized military power around the sultan instead. For 10 points, name this Muslim empire based from the 15th to 20th centuries at Constantinople.

ANSWER: Ottoman Empire [or Devlet-i Aliyye-i Osmaniyye; prompt on "Turkish Empire" or "Turkey"]

13. Members of this class of people challenged censorship of articles they had written in *Hazelwood v. Kuhlmeier* ("COOL"-meyer). In *Morse v. Frederick*, the Court upheld the punishment of one of these people for holding up a banner saying "BONG HiTS 4 JESUS" during the 2002 Winter Olympics Torch Relay. Mary Beth, Hope, and Paul were members of this class of people who wore black armbands protesting the (*) Vietnam War, leading to the case *Tinker v. Des Moines. Engel v. Vitale* ruled that it was unconstitutional for New York officials to compose a voluntary prayer for these people to recite. For 10 points, name this class of citizens whom, according to the Supreme Court, do not "shed their constitutional rights... at the schoolhouse gate."

ANSWER: high school students [accept teenagers but note full answerline]

14. This poet wrote about "[b]eholding... Huge cloudy symbols of a high romance" in a sonnet whose speaker contemplates the title event occurring "Before my pen has gleaned my teeming brain". An elegy for this poet commands its addressee to "weep for" the title character and was written by (*) Percy Shelley. An ekphrasis by this author calls the title object a "Sylvan historian" and a "still unravish'd bride of quietness". That poem by this author about an "Attic shape" ends by stating "Beauty is truth, truth beauty,—that is all / ...ye need to know." For 10 points, name this addressee of "Adonais" and author of "When I Have Fears That I May Cease to Be" and "Ode on a Grecian Urn".

ANSWER: John Keats

15. Many of this organization's illegal activities were publicized in documents nicknamed the "Family Jewels." This organization's headquarters are home to an encrypted sculpture containing four coded messages, one of which still remains unsolved. During the 1950s, it launched Project MKULTRA ("M" "K" "ultra"), which attempted to develop mind control techniques via the use of (*) LSD, and it engineered the overthrow of prime minister Mohammed Mossadeq in Iran. In 2011 former Army general David Petraeus briefly became the director of this agency that is based in Langley, Virginia. For 10 points, name this American intelligence agency.

ANSWER: CIA [or Central Intelligence Agency]

16. At the end of a story by this author, a menacing ghost shakes a large fist at a timid watchman before stalking off into the night. Near the end of his life, this author was told that his writing was sinful and as a result burned many of his unpublished manuscripts. Dostoyevsky (dahs-tuh-YEFF-skee) supposedly said of the Russian realists that "We all come out from" one of this author's stories. In a novel by this author, (*) Pavel Chichikov plots to take out a fraudulent loan in the name of the title entities. Akaky Akakyevich (ah-KAH-kee ah-kah-kee-YEH-vich) fails to receive help from the government after the title article of clothing is stolen from him in a short story by this author. For 10 points, name this Russian author of *Dead Souls* and "The Overcoat."

ANSWER: Nikolai Vasilievich Gogol (GO-gohl)

17. One product of this organ can be identified by measuring C-peptide levels. This organ produces a namesake lipase and a protease zymogen in the acini (AA-sih-nye) cells of its exocrine portion, and its delta cells secrete somatostatin. Its duct of Wirsung meets the bile duct at the ampullae of Vater, where its products of trypsin and chymotrypsin (KYE-moh-TRIP-sun) empty into the small intestine. This organ produces two antagonistic hormones in its (*) islets of Langerhans, which regulate blood sugar levels. For 10 points, name this primarily endocrine organ which produces numerous digestive enzymes as well as glucagon and insulin.

ANSWER: pancreas

18. A crime-ridden alley in this city known as Mulberry Street was shown in the photograph *Bandit's Roost*. In this city, Diane Arbus photographed a small child standing in a park holding a pair of toy hand grenades. In 1964 Andy Warhol spent over 6 hours filming a silent black-and-white movie of a skyscraper in this city. A white-shirted man falls head-first from one of its skyscrapers in a (*) 2001 photograph known as *The Falling Man*. Eleven construction workers sit along a girder at its Rockefeller Center in the photograph *Lunch atop a Skyscraper*. For 10 points, name this city where a sailor was photographed kissing a random nurse in *V-J Day in Times Square*.

ANSWER: New York City [or NYC]

19. The Lambertian model treats the product of this process as a Gaussian distribution to explain its diffuse type. This process can cause a 180 degree phase shift at certain types of boundaries. Above a critical angle defined by the arcsine of two indices (in-dih-seez) of refraction, this process can be limited to a single medium, which is the operating principle of (*) fiber optics. The specular type of this process has the same value for its namesake angle and the angle of incidence. For 10 points, name this process that comes in a total internal form and is typically formed with a mirror.

ANSWER: reflection [accept diffuse reflection, total internal reflection, or specular reflection]

20. In this opera, the main character sings the aria "Là ci darem la mano" (lah chee dah-RAYM lah MAH-noh) to try to attract a peasant girl to his residence. That same peasant girl, Zerlina, later consoles her battered fiancé Masetto in the aria "Vedrai, Carino." This opera opens with Don Ottavio vowing revenge against the main character, who murders the father of his fiancée Donna Elvira. In this opera, the servant Leporello sings the (*) Catalogue Aria about his master, who is eventually dragged to Hell by a statue of the Commendatore

(KAHM-mend-ah-tor-ay). For 10 points, name this Mozart opera about the exploits of a legendary seducer.

ANSWER: Don Giovanni [or *The Rake Punished*; or *Il dissoluto punito*]

END OF REGULATION, PROCEED ONLY IF TIED

21. This leader gained support after the New Madrid earthquake, which many of his supporters viewed as a heavenly sign. This man's forces aided the British during the Siege of Detroit in the War of 1812. During the 1836 elections, Martin Van Buren's vice presidential candidate Richard Mentor Johnson claimed that he personally killed this leader at the Battle of the Thames. He and his brother (*) Tenskwatawa (ten-skwah-tuh-wah) founded the settlement of Prophetstown, which was burned down by William Henry Harrison after the Battle of Tippecanoe ("tippy canoe"). For 10 points, name this Shawnee leader who created an early 19th-century confederacy of Native American tribes.

ANSWER: Tecumseh [or Tecumtha; or Tekamthi]

22. This compound is created by a namesake synthetase coded by the Cesa (sess-A) gene, which produces hexagonal rosette terminal complexes. This compound is broken down and treated with carbon disulfide to create viscose rayon, which has the advantage of being able to use forms of this compound high in lignin. Photographic film and cellophane are derived from this compound, which differs from (*) glycogen because it possesses 1,4-beta glycosidic linkages. As a result, this compound cannot be digested by humans, because they lack the symbiotic bacteria of termites and cows. For 10 points, name this compound found in the cell walls of plants.

ANSWER: cellulose

BONUSES

1. Name these signers of the Declaration of Independence, for 10 points each:

[10] This wealthy owner of the ship *Liberty* was the first to sign his name. He supposedly made his signature intentionally large so that George III could read it without his spectacles.

ANSWER: John **Hancock**

[10] Another signer of the Declaration was this Massachusetts statesman, who now names the modern-day process by which politicians intentionally create unfair electoral districts for partisan ends.

ANSWER: Elbridge **Gerry** [accept **gerry**mandering]

[10] This man rode from Dover to Philadelphia to break the tie on the vote for independence. He is depicted on horseback on the Delaware state quarter.

ANSWER: Caesar **Rodney**

2. The parallel and perpendicular axis theorems calculate this value for an object when its axis of rotation is changed. For 10 points each:

[10] Name this rotational analogue of mass, equal to mass times radius squared for a mass on a stick or a uniform ring.

ANSWER: **moment of inertia** [prompt on "I"; prompt on "rotational inertia"; prompt on "angular mass"; do not accept "inertia"]

[10] This coefficient is multiplied by $m r^2$ in the moment of inertia of a solid, uniformly dense disk with radius r . Kinetic energy equals this number times mass times velocity squared.

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

[10] This solid minimizes the moment of inertia for a given mass and radius by concentrating it near its center. Consequently, it would roll down a hill faster than any comparable shape because of its low moment of inertia of $\frac{2}{5} m r^2$.

ANSWER: **sphere** [accept **ball**; do not accept "shell"]

3. Jewish philosophy has often been intertwined with the incredibly old practice of Jewish mysticism. For 10 points each:

[10] This school of Jewish mystical thought arose in the Middle Ages. Its central text, the Zohar, is a collection of Midrash written in Aramaic and published in Spain by Moses de León.

ANSWER: **Kabbalah**

[10] This Jewish philosopher argued that God should be described by what he is not, and that evil exists simply because it is the absence of good, in *The Guide for the Perplexed*.

ANSWER: Moses **Maimonides** (**my-MON-eh-deez**) [or Moshe **ben Maimon**; or Musa **ibn Maymun**; or **Rambam**]

[10] Both Maimonides and the Kabbalist thinker Isaac Luria were examples of these Jewish spiritual leaders, who teach the Torah.

ANSWER: **rabbis**

4. For 10 points each, identify these common Biblical scenes in Renaissance art.

[10] The letters "I-N-R-I" often appear above this scene, such as in the center panel of the *Isenheim Altarpiece*. Some versions show Mary and John the Baptist mourning the central figure of this scene, who is nailed to a scaffold.

ANSWER: the **Crucifixion** [accept equivalents with **Christ** and **cross**]

[10] Ten angels float above a crowd in Giotto's version of this tragic scene for the Arena chapel. Andrea Mantegna's version of this scene heavily foreshortens the central figure. Description acceptable.

ANSWER: **lamentation** of Christ [accept "the **dead Christ**" or equivalents, accept **pieta** although that's not entirely right]

[10] Gentile da Fabriano is best known for his version of this scene. Sandro Botticelli's version includes a self portrait on the far right and features several members of the Medici (**MEH-dih-chee**) family.

ANSWER: **Adoration** of the **Magi**

5. To defend this practice, the moral philosopher Judith Jarvis Thomson compared pregnancy to a hypothetical scenario where you are forced to spend nine months with your kidney hooked up to the body of an ill violinist. For 10 points each:

[10] Name this practice legalized in *Roe v. Wade*.

ANSWER: **abortion**

[10] Thomson is also known for writing about this moral "problem"; in Thomson's version of this dilemma, you must decide whether or not to push a fat man off a bridge to stop the moving trolley, thereby saving the lives of 5 other people.

ANSWER: **Trolley** Problem [do not accept any other answer]

[10] According to *Freakonomics* economist Steven Levitt, the legalization of abortion led to a major decrease in this phenomenon, whose causes are the subject of the "broken windows" theory.

ANSWER: **crime**

6. This war started partly due to Cato the Elder's repeated declarations that a certain city needed to be destroyed. For 10 points each:

[10] Name this war after which Roman soldiers legendarily sowed salt into the loser's fields.

ANSWER: **Third Punic** War [prompt on "Punic War"]

[10] The Punic Wars were lost by this trading city in Northern Africa, the home of Hamilcar and Hannibal Barca.

ANSWER: **Carthage**

[10] Carthage was destroyed by a commander of this name. In the Second Punic War, a commander with this name won the battles of Ilipa and Zama.

ANSWER: **Scipio** (**SKIP-ee-oh**) [accept Publius Cornelius **Scipio Aemilianus** Africanus Numantinus; accept Publius Cornelius **Scipio Africanus**]

7. When Daniel Rutherford first isolated nitrogen by making a mouse suffocate in a small enclosed space, he used this theory to explain why a candle could no longer burn in that space. For 10 points each:

[10] Name this now-debunked theory of combustion, which believed that mass was transferred during burning in the form of a fire-like substance.

ANSWER: **phlogiston** theory

[10] Phlogiston theory was eventually replaced with our modern understanding of this real gas, formerly called dephlogisticated air. This gas is required to start a fire alongside heat and fuel.

ANSWER: **oxygen** [or **O**; or **O2**]

[10] This Frenchman was important in advancing oxygen theory and is credited with identifying oxygen as its own element.

ANSWER: Antoine-Laurent de **Lavoisier**

8. This term is contrasted with bacilli (**buh-SIL-"eye"**), which describes rod shaped bacteria. For 10 points each:

[10] Name this term that describes the shape of round bacteria. Bacteria with this term in their name include the genus that causes strep throat and scarlet fever.

ANSWER: **cocci** (**KO-chye**) [or **coccus**; accept **Streptococcus**]

[10] The genus *Streptococcus* also contains the species responsible for many cases of this disease, which inflames the alveoli and fills them with fluid. This disease can occur in double or triple varieties if it affects both lungs.

ANSWER: **pneumonia**

[10] MRSA is a superbug variant of *Staphylococcus aureus* (**sta-FEE-loh-cokh-us OR-ee-us**) that is resistant to beta-lactam antibiotics, which function by inhibiting the synthesis of this compound, the main component of bacterial cell walls.

ANSWER: **peptidoglycan** [or **murein**]

9. This settlement is home to "Tuttle's Grocery," where "French Pete and Kanaka Joe shot each other to death." For 10 points each:

[10] Name this title fictional mining settlement that is revitalized by the birth of Cherokee Sal's son.

ANSWER: **Roaring Camp** [accept "The Luck of **Roaring Camp**"]

[10] "The Luck of Roaring Camp" is a short story by this 19th-century American author who also wrote "The Outcasts of Poker Flat."

ANSWER: Bret **Harte**

[10] "The Luck of Roaring Camp" and "The Outcasts of Poker Flat" are both set during this Western state's namesake gold rush, which began in 1849.

ANSWER: **California**

10. At the beginning of the Yom Kippur War, Syrian commandos seized this region's Mount Hermon. For 10 points each:

[10] Name these strategically-located "heights" on the disputed border between Syria and Israel.

ANSWER: **Golan** Heights [or Hadbatu 'l-**Jawlan** or Ramat ha-**Golan**]

[10] The Yom Kippur War damaged the reputation of this Israeli prime minister, who was criticized for failing to anticipate the attack.

ANSWER: Golda **Meir** ("**may**"- "**EAR**") [or Golda **Meyerson** or Golda **Mabovich**]

[10] Israel originally captured the Golan Heights as part of this 1967 war, which was named for how short and easy it was for Israeli forces to win.

ANSWER: **Six-Day** War [or **June** War; accept **Second Arab-Israeli** War]

11. For 10 points each, name some NBA cameos that are lit'rally ("**LIT-roh-lee**") the best cameos on NBC television.

[10] This power forward-slash-velociraptor for the Miami Heat dunks on Eric while playing as a ringer for Eagleton High in the TV show *Parks and Recreation*. He's also better at French horn than you, Eric.

ANSWER: Chris **Bosh** [or Christopher Wesson **Bosh**; prompt on "Boshtrich" or references to some kind of dinosaur]

[10] In *Parks and Recreation*, Tom and Jean-Ralphio hire Detlef Schrempf, a former forward for this NBA franchise, to promote their Pawnee-based startup Entertainment 720. Schrempf played alongside Reggie Miller on this team.

ANSWER: **Indiana Pacers** [accept either underlined name]

[10] Tom and Jean-Ralphio also hire this American-Jamaican center from the Indiana Pacers. This two-time All-Star center was traded to the Lakers after having a relatively lackluster 2014-2015 season in Indiana.

ANSWER: Roy **Hibbert** [or Roy Denzil **Hibbert**]

12. This man supposedly made a belt for himself out of the skin of the English treasurer Hugh de Cressingham. For 10 points each:

[10] Name this independence leader who was defeated by Edward I of England at the Battle of Falkirk in 1298.

ANSWER: William **Wallace**

[10] William Wallace was an independence leader in this country north of England.

ANSWER: **Scotland**

[10] After he lost at the Battle of Falkirk, Wallace may have traveled abroad to appeal for help from this powerful French king, who moved the papacy to Avignon and destroyed the Knights Templar.

ANSWER: **Philip the Fair** [or **Philip IV** ("**the 4th**")]; prompt on "Philip"]

13. This poet wrote about "eyes" that "shine the holy glimmers of goodbyes" in his poem "Anthem For Doomed Youth."

For 10 points each:

[10] Name this poet who also described a gas attack against soldiers in a poem denouncing "The old lie / *Dulce et decorum est / pro patria mori.*"

ANSWER: Wilfred **Owen** [or Wilfred Edward Salter **Owen**]

[10] Wilfred Owen's poetry was heavily affected by this mentor and friend, whom he met while recovering from shell shock. This man's own poetry include "Suicide in the Trenches," which was collected in his "Counter-Attack."

ANSWER: Siegfried **Sassoon**

[10] Both Owen and Sassoon fought in this war between the Allies and the Central Powers of Europe.

ANSWER: **World War I** [or **WWI**; or the **First World War**; or the **Great War**]

14. When this clock was first introduced in 1953, it was set at seven minutes to midnight. For 10 points each:

[10] Name this symbolic clock hung in the University of Chicago. It counts down how many metaphorical minutes remain until humanity will face a global catastrophe.

ANSWER: **Doomsday** Clock

[10] In January 2015 the Doomsday Clock was set 2 minutes forward, to 11:57, largely in response to this worldwide phenomenon accelerated by the release of greenhouse gases into Earth's atmosphere.

ANSWER: **global warming** or **climate change**

[10] Since 2008, the Arctic archipelago of Svalbard has housed a secure "vault" to preserve these objects, as insurance against global catastrophes.

ANSWER: **seeds** [accept Svalbard **Seed** Vault]

15. This man finished writing a sonnet collection in Trieste (**tree-EST**) during a "hurricane of the spirit" after recovering from depression caused by being conscripted to fight for Germany in World War I. For 10 points each:

[10] Name this author whose first *Duino* (**DWAY-no**) *Elegy* begins "Who, if I cried out, would hear me among the angelic orders?"

ANSWER: Rainer Maria **Rilke** [or René Karl Wilhelm Johann Josef Maria **Rilke**]

[10] "A tree arose! O pure transcendence!" is the first line of Rilke's sonnet collection titled "Sonnets to" this mythical Greek lover of Eurydice. (**yoo-RID-uh-see**)

ANSWER: **Orpheus** [accept *Sonnets to Orpheus* or *Die Sonette an Orpheus*]

[10] Rilke wrote *Letters to a Young Poet* to a person of this non-poetic profession. Jaroslav Hašek (**"YAR-oh-slav ha-zek"**) wrote an unfinished black comedy about a "Good" one of these people named Švejk (**"svake"**).

ANSWER: **soldiers** [accept **cadet**; accept **officer cadet**; accept **military school cadet**; prompt on "student"]

16. For 10 points each, name these capes of the Western Hemisphere:

[10] The "Graveyard of the Atlantic" is a nickname for this cape on the southeastern end of the Outer Banks. Its namesake lighthouse is the tallest in the United States.

ANSWER: Cape **Hatteras**

[10] The popular tourist destinations of Martha's Vineyard and Nantucket are near this other American cape, which juts into the Atlantic from the eastern coast of Massachusetts.

ANSWER: Cape **Cod**

[10] This hazardous cape on the southern tip of the Tierra del Fuego (**tee-"AIR"-ah del FWAY-goh**) archipelago marks the northern boundary of the Drake Passage.

ANSWER: Cape **Horn**

17. While in prison, this novel's protagonist is forced to watch graphic films until he is permanently sickened by violence, via a process known as the Ludovico Technique. For 10 points each:

[10] Name this dystopian Anthony Burgess novel about the "ultra-violent" teenager Alex.

ANSWER: A Clockwork Orange

[10] Alex loses the ability to enjoy classical music after one of this composer's symphonies is played as part of the Ludovico Technique.

ANSWER: Ludwig van Beethoven [prompt on "Ludwig Van"]

[10] *A Clockwork Orange* was popularized in the United States when it was adapted into film by this American director, who had earlier directed *2001: A Space Odyssey*.

ANSWER: Stanley Kubrick

18. This hero sails away on a magic boat after his many sins are condemned by the virgin Marjatta's (mar-YAH-tah's) infant son. For 10 points each:

[10] Name this bard who orders the forging of the Sampo after he fails to win the hand of Aino in marriage.

ANSWER: Väinämöinen (VYE-nah-MOY-nen) [or Wäinämöinen ("WHY"-nah-MOY-nen)]

[10] Väinämöinen teams up with Lemminkäinen (leh-min-KYE-nen) and Ilmarinen (il-MAH-ree-nen) in a battle against the queen of Pohjola in the *Kalevala*, a collection of mythology from this Scandinavian country.

ANSWER: Finland

[10] In *The Kalevala*, Lemminkäinen drowns in the underworld during his quest to hunt one of these birds. In Greek mythology, the king Cygnus is transformed into this type of bird.

ANSWER: swan [or joutsen]

19. This diagram contains two alternate paths for protostar formation, the Hayashi and Henyey tracks. For 10 points each:

[10] Name this diagram that plots temperature versus luminosity, and contains a large diagonal from its upper left to lower right called the main sequence.

ANSWER: H-R diagram [or Hertzsprung-Russell diagram; prompt on color-magnitude diagram or CMD]

[10] These really small stars are found in a strip below the main sequence. They are the final conventional stage for stars of around one solar mass after they cease being red giants.

ANSWER: white dwarves [prompt on "dwarves"]

[10] White dwarves are supported by this kind of pressure between electrons, which arises from the Pauli exclusion principle's prevention of overlapping quantum states. Neutron stars are supported by this same force between neutrons.

ANSWER: degeneracy pressure [or degenerate]

Moderator note: Do not reveal the alternate answers to the first part of this bonus.

20. A solo English horn introduces the main theme of this symphony's Largo second movement. For 10 points each:

[10] Name this E minor symphony inspired by Native American and African-American themes that the composer heard during his 1893 trip to the United States.

ANSWER: New World Symphony [or *Symphony from the New World*; or Symphony No. 2 by Antonin Dvorak; or obvious equivalents; prompt on partial answer]

[10] This Czech composer wrote the *New World* Symphony and a Cello Concerto in B minor.

ANSWER: Antonin Dvorak (duh-VOR-zhok) [or Antonin Leopold Dvorak]

[10] Dvorak's *The Water Goblin* is a piece in this musical genre. Six of them were compiled into *Ma vlast*, a collection by fellow Czech composer Bedrich Smetana.

ANSWER: tone poem [or symphonic poem; do not accept "symphony"]

21. A woman only known as "Madame" takes art from students at Hailsham to her mysterious gallery in this book. For 10 points each:

[10] Name this novel that centers on Kathy, Ruth, and Tommy, who are three clones destined to be organ donors for other people.

ANSWER: ***Never Let Me Go***

[10] *Never Let Me Go* was written by this author of *The Remains of the Day* and *When We Were Orphans*. His most recent novel, *The Buried Giant*, centers on Beatrice and Axl and the old couple's quest to regain their memories.

ANSWER: Kazuo **Ishiguro**

[10] Despite being born in Japan, Kazuo Ishiguro lives and writes in this country, which is the birthplace of Charles Dickens.

ANSWER: **United Kingdom** [or **UK**; or Great **Britain**; or the **United Kingdom** of Great Britain and Northern Ireland; accept **England**]