THE LONG ISLAND QUIZ BOWL ALLIANCE

High School Bonus Set Sample

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For more information or to contact us with questions of any kind, please email Alan@liqba.com or call (631)-360-3724, Extension 2.

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1) Answer the following about card games and probability:
1. If you choose a random card from a standard deck of 52 cards, what is the probability that it's a prime number? Face cards do not count as numbers for this question.
ANSWER: **4/13** [or **4 in 13**]
2. If you choose a random card from a standard deck of 52 cards, what is the probability that it's either a face card or a spade?
ANSWER: **11/26** or [**11 in 26**] (There are 12 face cards and 10 additional spades that are not face cards, so the probability that it's either a face card or a spade is 22/52=11/26.)
3. In Texas Hold'Em, players are dealt hands of two cards each. What is the probability that a player's two cards are the same suit?
ANSWER: **12/51** [or **12 in 51**]
4. In a certain card game, aces are worth one point and face cards are worth ten. If a player chooses two cards *with replacement*, what is the probability that they're worth the same score?
ANSWER: **25/169** [or **25 in 169**] (For cards A-9, the probability of choosing that value twice is 1/13 * 1/13 = 1/169, for a total of 9/169. For tens and face cards, the probability of choosing that value twice is 4/13 * 4/13 = 16/169, for a total overall of 25/169.)
<Computational Math>

2) Instruments come in all shapes and sizes. Name each instrument based on its description:
1. A four-stringed instrument smaller than a bass and larger than a viola.
ANSWER: **cello**
2. A rectangular wind instrument with several holes in which air is directed in or out, prominently featured in Billy Joel's Piano Man.
ANSWER: **harmonica**
3. A large, hemispherical drum, four of which are used in a standard orchestral setup.
ANSWER: **timpani**
4. An electronic musical instrument controlled by hovering one's hands above two metal antennae.
ANSWER: **theremin**

3) Answer the following about John Steinbeck. Name the:
1. 1929-1939 period of economic downturn that inspired many of Steinbeck's works
ANSWER: the **Great Depression**
2. Steinbeck novella that takes its title from Robert Burns' "To a Mouse" and focuses on George and Lennie.
ANSWER: ***Of Mice and Men***
3. Steinbeck novel that features discussions of the word "timshel" and the Hamilton and Trask families.
ANSWER: ***East of Eden***
4. Steinbeck novel inspired by his friend Ed Ricketts that depicts Mack's efforts to throw a party for Doc.
ANSWER: ***Cannery Row***

4) Regarding the philosophical field of metaphysics, name the:
1. Student of Plato who outlined the First Philosophy in his book *Metaphysics*.
ANSWER: **Aristotle**
2. Concept paired with "Time" by Martin Heidegger which metaphysics investigates.
ANSWER: **being**
3. French existentialist author of the metaphysical treatise *Being and Nothingness*.
ANSWER: Jean-Paul **Sartre**
4. European capital city whose namesake "Circle" argued for the elimination of metaphysics.
ANSWER: **Vienna**
<Philosophy>

5) Answer some questions about chemical bonding. Name the:
1. Central region of an atom containing protons and neutrons that does not participate in bonding.
ANSWER: **Nucleus**
2. Type of atom with a positive charge such as Mg^{2+} that is contrasted with an anion.
ANSWER: **Cation**s
3. Measure of an atom's ability to attract negative charge, which Fluorine has the highest value of.
ANSWER: **Electronegativity**
4. Molecular geometry adopted by the bonding of Phosphorus Pentachloride.
ANSWER: **Trigonal Bipyramidal** <Science>

6) Answer the following about music involving string instruments. Name the:
1. Austrian composer and prodigy whose *Eine kleine Nachtmusik* is often performed by string quartets.
ANSWER: Wolfgang Amadeus **Mozart**
2. The lowest-pitched string instrument used to represent an elephant in Saint-Saens's *Carnival of the Animals.*
ANSWER: the double **bass** [accept upright **bass** or acoustic **bass**]
3. German composer, whose violin concerto in E Minor begins with the notes "B B B G high E high E."
ANSWER: Felix **Mendelssohn**
4. German baroque composer of *Tafelmusik* who also wrote a Viola Concerto in G Major.
ANSWER: Georg Philipp **Telemann**
<Fine Arts>

7) Identify some things about the eastern front of World War II:
1. This capital of the USSR came close to Nazi occupation.
ANSWER: Moscow
2. Like Leningrad, a long siege and battle occurred around this city. The Nazi failure to capture this city is seen as a turning point.
ANSWER: Stalingrad
3. This Nazi-allied fought the USSR in the Winter War.
ANSWER: Finland
4. This German term refers to the concept of territorial expansion and occupation by Aryans.
ANSWER: Lebensraum

8) Given a brand name, identify the product with which they are most closely associated.
1. Rolex
ANSWER: **watches**
2. Brooks Brothers

ANSWER: **clothing** [accept more specific types of clothing]
3. DeWalt
ANSWER: power **tools**
4. Rand McNally
ANSWER: **map**s [or **atlas**es]
<General Knowledge>

9) Answer some questions about an ancient school of philosophy:
1. Name this ancient school of philosophy that teaches the way to happiness is through virtue. It is commonly misinterpreted as people who do not display any emotion.
ANSWER: **Stoicism** [accept word forms]
2. This last of the "Good Five Emperors" wrote *Meditations* while on military campaigns, reflecting his Stoic views.
ANSWER: **Marcus Aurelius**
3. A Greek philosopher with this name is commonly credited as the founder of Stoicism. Another philosopher with this name is known for his paradoxes.
ANSWER: **Zeno** [accept **Zeno** of Citium or **Zeno** of Elea]
4. This Stoic philosopher wrote discourses and is often remembered for the manual *Enchiridion*, which provides guidance on how to lead a virtuous life.
ANSWER: **Epictetus** <Philosophy and Social Science>

10) Answer some questions about literature based on the American Civil War. Name the:
1. Poet who wrote the collection *Drum-Taps* during the war, and is known for writing *Leaves of Grass*.
ANSWER: Walt **Whitman**
2. Novel by Margaret Mitchell set during it, whose protagonist is Scarlett O'Hara.
ANSWER: ***Gone With the Wind***
3. Author who wrote the poem "Shiloh" about the war, but is also known for stories such as "Bartleby the Scrivener."
ANSWER: Herman **Melville**
4: Author of the Civil War poem "Barbara Frietche."
ANSWER: John Greenleaf **Whittier**
<Literature>

11) Answer the following about Jeannette Rankin:
1. Rankin was elected to two non-consecutive terms in the House in 1916 and 1940. She was not reelected due to her opposition to these events.
ANSWER: **World Wars** (accept **World War I** AND **World War II**, do not accept or prompt on one of the world wars, prompt on Wars alone)
2. Rankin opened debate to this amendment in congress. This amendment granted women the right to vote.
ANSWER: **19th** Amendment
3. Rankin represented this state in Congress, which is currently governed by Greg Gianforte.
ANSWER: **Montana**
4. Rankin lobbied Congress on behalf of the National American Woman Suffrage Association while this woman led it. She succeeded Susan B. Anthony in the position and founded the League of Women Voters in 1920.
ANSWER: Carrie Chapman **Catt** <History>

12) Answer the following about the impact of altitude on temperature:
1. At low altitudes, for every 100 meter rise in altitude, temperature generally decreases by about one degree on this temperature scale often contrasted with fahrenheit.
ANSWER: **celsius** [or **centigrade**; accept **kelvin**]

2. The one degree rule applies specifically in this lowest layer of the atmosphere. Virtually all weather occurs in this atmospheric layer.
ANSWER: **troposphere**
3. These phenomena may significantly decrease temperatures in the upper regions of the troposphere. The dangers posed by these fast-moving currents of air have been known to pose problems for climbers on Mount Everest.
ANSWER: **jet stream**s
4. The speed at which temperature decreases with altitude is represented by this quantity. High values of this quantity allow clouds to form when air parcels rise.
ANSWER: **lapse rate** <Science>

13) Name the supreme court case that:
1. Legalized abortion but was later overturned by *Dobbs v. Jackson*.
ANSWER: ***Roe*** *v.* ***Wade*** [accept either underlined name]
2. Established the power of judicial review.
ANSWER: ***Marbury*** *v.* ***Madison*** [accept either underlined name]
3. Legalized gay marriage in 2015.
ANSWER: ***Obergefell*** *v. Hodges*
4. Declared that any public school prayer is unconstitutional.
ANSWER: ***Engel*** *v. Vitale*
<History>

14) Concerning the opera *The Barber of Seville*, name the:
1. Language *The Barber of Seville* is performed in, where it was well-recieved at its Rome premiere.
ANSWER: **Italian**
2. Mozart opera the expands on *The Barber of Seville*, with the barber himself having a wedding with Susanna.
ANSWER: *The* ***Marriage of Figaro***
3. Profession that Count Almaviva pretends to be in order to get into Dr. Bartolo's house before Dr. Bartolo orders the Officer to arrest him.
ANSWER: a drunken **soldier**
9. Means by which Count Almaviva and Figaro had planned to get Rosina
ANSWER: a **ladder** down from the balcony
<Fine Arts>

15) Answer the following about philosophy and an academic discipline:
1. This academic discipline involves the study of past events and their impact on societies, often categorized into periods like ancient, medieval, and modern.
ANSWER: **history**
2. This German philosopher who wrote about the philosophy of history is best known for his magnum opus, "The Phenomenology of Spirit."
ANSWER: Georg Wilhelm Friedrich **Hegel**
3. This pessimistic contemporary of Hegel and author of "The World as Will and Representation" criticized Hegel on his concept of absolutes and metaphysics.
ANSWER: Arthur **Schopenhauer**
4. A major part of Hegel's philosophy is this concept, which consists of a thesis, its opposite, and their synthesis.
ANSWER: **dialectic** <Philosophy and Social Science>

16) Answer the following questions about cells. Name the:
3. Diffusion of water across a cellular membrane to maintain turgor pressure.
ANSWER: **osmosis**

2. Process of cellular division preceded by interphase.
ANSWER: **mitosis**
7. Ability for a cell to move by expending energy.
ANSWER: **motility**
10. Scientist who coined the word "cell" in his book *Micrographia*.
ANSWER: Robert **Hooke** <Science>

17) Given the most populous city in a US state, name the second most populous city in that state. For example, if the clue is "Jacksonville", which is the most populous city in Florida, you would say "Miami", which is the second.
1. Phoenix
ANSWER: **Tucson**, Arizona
2. Los Angeles
ANSWER: **San Diego**, California
3. Kansas City
ANSWER: **St. Louis**, Missouri
4. Albuquerque
ANSWER: **Las Cruces**, New Mexico
<Geography>

18) Answer the following about the number 413:
1. What is the remainder when 413 is divided by 9?
ANSWER: **8**
2. What is the largest integer that is less than the cube root of 413?
ANSWER: **7**
3. What is the distance from the origin to the point (4,1,3)?
ANSWER: the **square root of 26** [or **root 26** or **radical 26**]
4. When 413 is raised to the 413th power, what will be the units digit?
ANSWER: **3**
<Computational Math>

19) Answer the following about American attempts to acquire Greenland.
1. This 45th President of the United States floated the idea of purchasing Greenland in 2019, but was rebuked by Danish Prime Minister Mette Frederiksen.
ANSWER: Donald John **Trump**
2. In 1946, William Trimble offered to either purchase the island for $100 million, or to trade Greenland for land near this state's Prudhoe Bay, where the largest oil field in North America was later discovered.
ANSWER: **Alaska**
3. This Secretary of State stated that American annexation of Greenland and Iceland was "worthy of serious consideration" in 1867. He negotiated the Alaska Purchase, known by opponents as this man's "folly."
ANSWER: William Henry **Seward** [or **Seward**'s Folly]
4. In 1910, the United States contemplated trading the Philippine island of Mindanao for Greenland and this territory, which Denmark later sold to the U.S. in 1916.
ANSWER: Danish **Virgin Islands** [or Danish **West Indies** or Danish **Antilles**; accept United States **Virgin Islands**]
<History>

20) Answer the following about the foreign policy of John Tyler:
1. Tyler supported the annexation of this country, a future U.S. state whose leaders included Stephen F Austin and Sam Houston.
ANSWER: Republic of **Texas**

2. Tyler also applied this policy to Hawaii. This policy stating that Britain could not interfere there or anywhere else in the Americas.
ANSWER: **Monroe** Doctrine
3. In 1844, Caleb Cushing was sent to negotiate the Treaty of Wangxia, one of this group of treaties that forced China to open itself to foreign trade and pay reparations after the First Opium War.
ANSWER: **unequal** treaties
4. Tyler's presidency also saw the passage of this treaty, which settled the Aroostook War between the U.S. and Britain over Maine's border with New Brunswick.
ANSWER: **Webster-Ashburton** Treaty <History>

21) Answer the following about the bombing of Guernica.
1. Guernica, a Basque city, was bombed during this country's civil war by the Luftwaffe. Pablo Picasso, an artist from this European country, commissioned a painting of the bombing.
ANSWER: **Spain** [accept **Spanish Civil War**]
2. Guernica was bombed to aid the Nationalists, led by this man who afterwards became dictator of Spain. Despite having fascist leanings, this dictator kept Spain neutral during the Second World War.
ANSWER: Francisco **Franco** Bahamonde
3. This German legion developed methods of strategic bombing during the Spanish Civil War and bombed Guernica.
ANSWER: **Condor Legion** [or **Legion Condor**]
4. One week before the bombing of Guernica, Franco formed this political party named after an ancient military formation. This authoritarian conservative party was the only legal political party during his dictatorship.
ANSWER: **Falangist** Party [accept **Falange**, **Falangism,** Spanish **Phalanx**, or **F**alange **E**spañola **de las J**untas de **O**fensiva **N**acional **S**indicalista]
<History>

22) Regarding Harry Potter, Name the:
1. Author of the series.
ANSWER: J.K **Rowling**
2. Owl Harry owns.
ANSWER: **Hedwig**
3. Serpent that serves as a companion and Horcrux for Lord Voldemort.
ANSWER: **Nagini**
4. Object enchanted to transport wizards from one location to another upon touch.
ANSWER: **portkey**.
<Literature>

23) Artists make art out of lots of things! Given a list or description of works, name the object or material used to create them:
1. Laocoön and his Sons, Hermes and the Infant Dionysus, Venus de Milo, and many other Greek sculptures.
ANSWER: **marble**
4. The Thinker, Unique Forms of Continuity in Space, and Donatello's David.
ANSWER: **bronze**
6. Alexander Calder's *Flamingo* and Richard Serra's *Tilted Arc.*
ANSWER: **steel**
10. Nam June Paik's *Electronic Superhighway*.
ANSWER: **television**s [or **screen**s or **neon light**s, **neon tube**s] <Fine Arts>

24) Answer the following questions about subatomic particles. Name the:
1. Number of quarks in a generation, the atomic number of helium.

ANSWER: **two**
2. Scientist whose namesake boson was discovered at CERN in 2012 and is nicknamed “the God particle.”
ANSWER: Peter **Higgs**
3. Quark found along with the charm quark in the second generation of quarks.
ANSWER: **strange** [accept **s**]
4. Class of fermions contrasted with quarks that includes electrons, muons, and tauons.
ANSWER: **lepton**s
<Science>

25) Answer the following about literary devices. Name the literary device where:
1. Implicit comparisons between two things that, unlike similes, are made without words such as “like” or “as”.
ANSWER: **metaphor**s
2. The pronunciation of a word is a vocal imitation of the sound. Examples are “meow” and “buzz”.
ANSWER: **onomatopoeia**
3. A word or phrase is repeated at the start of successive clauses or sentences.
ANSWER: **anaphora**
4. A sentence or phrase “runs over” from one poetic line to the next without being interrupted by punctuation.
ANSWER: **enjambment**

26) Answer the following about Sikhism. Name the:
1. Bodily feature that is left uncut in accordance with the practice of *kesh*.
ANSWER: **hair**
3. Object meant to represent a Sikh's duty to aid the weak and promote justice that is known as a *kirpan*.
ANSWER: **dagger** [accept **knife** or **blade**]
4. First guru and founder of Sikhism.
ANSWER: Guru **Nanak**
7. Holiest religious building in Sikhism, located in Amritsar, India
ANSWER: **Golden Temple** [or **Sri Harmandir Sahib**]
<Religion and Mythology>

27) Answer the following about United Airlines:
1. United Airlines's founding can be traced to this company's founder. This company, which faces challenges with its 737 Max aircraft and Starliner space capsule, is the largest passenger aircraft company in the United States.
ANSWER: **Boeing**
2. This city's Willis Tower is home to the headquarters of United Airlines. This Midwestern city sits on Lake Michigan.
ANSWER: **Chicago**
3. United became the second to last airline in the United States to operate this aircraft in 2017. This Boeing aircraft, dubbed “the queen of the skies,” is notable for having a hump at the front with its cockpit on the upper level.
ANSWER: Boeing **747**
4. In 2010, United agreed to merge with this Texas-based airline to create the world's third largest airline. This airline's globe logo replaced United's tulip logo after the merger.
ANSWER: **Continental Airlines**
<General Knowledge>_n

28) Answer the following about the greenhouse effect. Name the:
1. Quantity measured with scales like Fahrenheit that increases due to the greenhouse effect.
ANSWER: **temperature**
2. Greenhouse gas with chemical formula CH_4, the simplest alkane.

ANSWER: **methane**
3. Class of greenhouse gasses whose use in aerosols led to the creation of a hole in the ozone layer.
ANSWER: **CFC**s [accept **chlorofluorocarbon**s]
4. Word that names a type of process in which released heat increases temperature, creating a cycle in which the reaction auto-accelerates.
ANSWER: **runaway**

29) Answer the following about water. Name the:
1. Phase of matter that water exists at at room temperature.
ANSWER: **liquid**
2. Type of molecule that is non-polar and thus repels water.
ANSWER: **hydrophobic**
3. Quantity that is defined as the amount of energy required to raise one gram by one degree, which for water is 4.184 Joules per gram Celsius.
ANSWER: specific **heat capacity**
4. Type of substance that removes water and includes hygroscopic substances like silica gel.
ANSWER: **desiccants**

30) Answer the following about the author Haruki Murakami. Name the:
1. Company whose founder Colonel Sanders appears as a spirit's form in one Murakami novel.
ANSWER: **Kentucky Fried Chicken** (accept **KFC**)
3. British rock band of John Lennon that inspired the title of Murakami's *Norwegian Wood*.
ANSWER: the **Beatles**
3. German author of *The Castle* who appears "on the shore" in a Murakami title.
ANSWER: Franz **Kafka**
4. Novel in which Toru develops a blue mark on his face and meets Cinnamon, who has not spoken since he was six.
ANSWER: *The* ***Wind-Up Bird Chronicle***