Scholastic Bowl Moderators

www.ibsa.org · [illegible]@ibsa.org · Phone: [illegible] · Fax: [illegible]

2008-2010
SCHOLASTIC BOWL
TOURNAMENT
QUESTIONS

REGIONAL

ROUND: 2

Signed: _____ Moderator

_____ _____

(Print Name of Moderator)

Name of Regional _____

www.ihsa.org • rmcgraw@ihsa.org • Phone: 309-663-6377 • Fax: 309-663-7479

SPECIAL INSTRUCTIONS FOR MODERATORS

1) The Moderators are to review all rounds of the questions and answers during their Moderators' Meetings.

2) The Moderators may make corrections, changes, deletions, additions and notes in the margins, provided a majority of the Moderators present agree to such items.

3) Please be sure to note any corrections, changes, deletions, additions and notes on the questions in a packet.

4) **NO ADDITIONS, DELETIONS, CORRECTIONS, CHANGES OR NOTES MAY BE ADDED AFTER THE MODERATORS' MEETING -- EXCEPT THAT A MODERATOR MAY MAKE A DECISION REGARDING A QUESTION AND ANSWER IN REGARD TO A LEGITIMATE PROTEST THAT MIGHT ARISE DURING THE MATCH.**

5) During the match, the Moderator is to draw a pencil mark (/) through each question that is used in the match.

6) Immediately after the match is over, the Moderator is to return the questions to the Principal or Sectional Manager. At the State Final the questions must be returned to IHSA personnel working the meet.

Illinois High School Association

2009-2010

Scholastic Bowl State Series

Regional (2)

ROUND 2

TWO---TWO---TWO---TWO---TWO

Replacement/Tie Breaker Question Set

1. If a question needs to be thrown out, replace the discarded question with the first question from the Replacement/Tie Breaker Set that is of the same general category as the discarded question. If a similar-category question is not available, use the first available question in the Replacement/Tiebreaker Set.
2. The Replacement/Tie Breaker questions were collated in a random order. In the event of a tie at the end of regulation play, use the first available toss-up question and the first available bonus question in the order they are printed.
3. Moderators must meet between rounds to update information on which replacement questions were used and should therefore be eliminated from the pool of available questions in the Replacement/Tie Breaker Question Set.
4. As a last resort, a moderator may choose to use an un-read bonus question from the Question Set used in the round that is tied, adapting the Bonus to Toss-up format when necessary.

Notation Guide to Moderators

The following styles and notations were used to facilitate the oral presentation of the questions, even though the style might not follow "correct English" at all times.

1. Commas not usually considered grammatically necessary are often used to facilitate the oral presentation of the questions.
2. Helps for reading, such as pronunciation guides, and directions relative to interpreting answers are in *[bracketed italics]*.
3. Titles of all types in questions are underlined.
4. Other than dates, numbers within questions are presented in prose form to standardize their reading.
5. Boxed reference material, such as math work, is provided in case an answer is challenged. It is not necessary to refer to references unless an answer is challenged.
6. Only the **bold** words in answers are required. All non-bold words are optional. Plural forms are ordinarily accepted as correct, even if not indicated as such in bold letters.

These questions are the intellectual property of the Illinois High School Association (IHSA). Unauthorized duplication, transmission, or distribution is prohibited. Those interested in obtaining copies of these questions should contact the IHSA by visiting their web page at www.ihsa.org.

© 2010 Illinois High School Association

REGIONAL - ROUND 2

Toss Up #1 Social Studies: World History

This leader began his military career upon graduation from the national military academy in 1936, and spent eighteen days as army commander in chief before becoming President. At the time of his death in 2006, he had not been convicted of any crimes, but he did have three hundred charges pending against him, including tax evasion, embezzlement, and human rights violations. His administration, characterized by the unsolved disappearances of thousands of citizens, replaced that of his predecessor Allende *[ah-YEN-day]*. Identify this right wing dictator who ruled Chile from 1974 to 1990.

Answer: Augusto **Pinochet** *[pee-noh-SHAY]*

Bonus #1 Science: Chemistry – 5 parts

[NOTE: Do not specify upper or lower case while reading.]

Given these atomic symbols, specify the element each identifies.

1. C
2. Cd
3. Ce
4. Cf
5. Cs

Answers:
1. **carbon**
2. **cadmium**
3. **cerium**
4. **californium**
5. **cesium**

REGIONAL - ROUND 2

Toss Up #2 Language Arts: Mythology

According to one version, she was the mother of Lancelot. Another version has her as Nimue *[NIM-uh-way]*, an enchantress who trapped Merlin in an enchanted wood and killed him. Another person by this name was killed by Balin *[BAH-lin]* after she failed to heal his mother. Name the woman who gave Arthur the sword Excalibur.

Answer: The **Lady of the Lake**

Bonus #2 Mathematics: Algebra and Pre-calculus – 5 parts

Identify these terms related to matrices and matrix algebra.

1. Fill in the blank with one word. Regarding matrices X and Y, if the first row of X equals the first column of Y, and the second row of X equals the second column of Y, etc., then Y is the "BLANK" of X.
2. This value is the sum of the elements along the main diagonal of a square matrix.
3. This value equals zero if any row of a matrix consists entirely of zeros, or, if one row is equal to a scalar multiple of another.
4. Name the matrix consisting of zeros, except for a main diagonal of ones, exhibits the property that multiplication of matrix X, by this matrix, yields X.
5. This "S" word refers to a non-invertible matrix.

Answers:
1. *[Accept either]*
   transposition
   transpose
2. **trace**
3. **determinant** *[LISTEN: "discriminant" is wrong.]*
4. **identity** matrix
5. *[Accept either.]*
   singularity
   singular matrix

REGIONAL - ROUND 2

Toss Up #3 Science: Biology

Poorly drained areas of this biome produce irregular landforms such as hummocks, earth stripes, and frost boils. Flowing soil terraces are often seen in this biome during the summer months. The biome has limited biodiversity, and features mosses and lichens as the primary vegetative species. Name the biome characterized by short, cool summers and long, frozen winters.

Answer: **tundra**

Bonus #3 Social Studies: U.S. History – 4 parts

The Naturalization Act of 1798 was one of four federal laws that eventually became important as precedents to attempt to justify the doctrine of nullification.

1. What is the collective name for these four laws?
2. What incident with France prompted Congress to pass this legislation?
3. The Kentucky Resolution was passed in protest against these federal acts. Who drafted the Kentucky Resolution?
4. Virginia also passed a resolution of opposition. Who drafted the Virginia Resolution?

Answers:
1. **Alien and Sedition** Acts
2. *[Accept reasonable variations.]*
   publication of the **XYZ** letters
   XYZ affair
3. Thomas **Jefferson**
4. James **Madison**

REGIONAL - ROUND 2

Toss Up #4 Mathematics: Geometry, Trig and Analytic Geometry – 10 seconds

Give your answer in degrees. Assume all figures are coplanar. What is the size of an angle formed by a radius and a tangent at the point of tangency?

Answer: **90** degrees

Bonus #4 Fine Arts: Jazz – 4 parts

Name the artist given the titles of two of his works.

1. Birth of the Cool and Bitches Brew – both albums
2. Giant Steps and My Favorite Things – both albums
3. Mood Indigo and It Don't Mean a Thing (If It Ain't Got That Swing)
4. Moose the Mooch and Ornithology

Answer:
1. Miles **Davis** III
2. John William "Trane" **Coltrane**
3. Edward Kennedy "Duke" **Ellington**
4. Charles "Charlie" "Bird" **Parker** Junior

Toss Up #5 Fine Arts: Art History

The church steeple and barracks seen in the background of this work are now the site of the Temple of Debod. The central figure's right hand suffers from stigmata in this painting, which inspired Picasso's Massacre in Korea. A friar in gray robes prays, as a long line of men in shakos *[SHAK-ohs]* stand behind a square lantern. The central figure is a black man in yellow pants and a white shirt who raises his arms as he is about to be executed. Name this Francisco Goya painting that shows a Napoleonic firing squad executing some Spanish rebels on the title date.

Answer: *[Accept any of these.]*
The **Third of May**, 1808 in Madrid
El Tres de Mayo de 1808 en Madrid
El Tres de Mayo, Mil Ochocientos y ocho
Los fusilamientos de la montaña del Príncipe Pío
Los fusilamientos del tres de mayo

Bonus #5 Language Arts: U.S. Literature – 4 parts

Answer these about Illinois writers.

1. He wrote a two volume biography of Abraham Lincoln in addition to poems like Chicago.
2. He used dead people's names to narrate his Spoon River Anthology.
3. He wrote about depression-era Chicago in The Adventures of Augie March.
4. His Studs Lonigan series about Irish Americans is set on the South Side of Chicago.

Answers:
1. Carl **Sandburg**
2. Edgar Lee **Masters**
3. Saul **Bellow**
4. James Thomas **Farrell**

REGIONAL - ROUND 2

Toss Up #6 Social Studies: U.S. History

In August 1973 it was revealed that he was under investigation by the U.S. attorney's office in Baltimore on charges of bribery, extortion, tax fraud, and conspiracy. Later that same year, U.S. Attorney General Elliot Richardson formally charged him with accepting bribes while holding various local, state, and federal offices. He denied the bribery charges but pleaded no contest to tax evasion, and was sentenced to probation just hours after he resigned from federal office. Name this former U.S. vice president.

Answer: Spiro Theodore **Agnew**

Bonus #6 Mathematics: Geometry, Trig and Analytic Geometry – 4 parts

Name the mathematicians noted for these contributions to geometry.

1. She is credited with the so-called "witch's" curve.
2. He is credited, along with Gauss and Lobachevsky, with hyperbolic geometry.
3. His name is associated with the fractal commonly called the snowflake curve.
4. The problem that carries his name involves connecting a series of points with a system of segments of minimum length that will connect all the points.

Answers:
1. Maria Gaetana **Agnesi**
2. Janos **Bolyai** *[probably bole-YAY]*
3. Helge von **Koch**
4. Jacob **Steiner**

REGIONAL - ROUND 2

Toss Up #7 Science: Physics

This person used a spark to ignite hydrogen in his eponymous pistol, and he also explained the electrophorus *[ee-lek-TRUH-fer-rus]*, a machine that generates static electricity. He correctly disputed interpretations of electricity in animals by Luigi Galvani, and during a boat trip on Lake Maggiore *[mah-JOR-ray]*, this scientist discovered methane. His most famous invention was the silver- and zinc-based "pile", the first known battery. Name this eighteenth and nineteenth-century Italian scientist, the namesake of the SI unit of electrical potential.

Answer: Count Alessandro Giuseppe Antonio Anastasio **Volta**

Bonus #7 Fine Arts: Art History – 4 parts

Identify the following French painters.

1. This man portrayed large groups of people in his Dance at Le Moulin de la Galette and Luncheon of the Boating Party.
2. This Fauvist and Impressionist painted five nudes dancing in a circle in La Danse, and a woman at a table in The Dessert: Harmony in Red, also known as The Red Room.
3. He painted a disjointed table in The Basket of Apples, two men playing in The Card Players, some views of Mont Sainte-Victoire *[mon sahnt- veek-TWAR]*, and many still lives of fruit.
4. This man was fond of the color yellow as evidenced in his Yellow Christ and his Where Do We Come From? What Are We? Where Are We Going?, which ostensibly portrays Tahitian women.

Answers:
1. Pierre-Auguste **Renoir** *[ren-WAHR]*
2. Henri **Matisse** *[ma-TEES]*
3. Paul **Cézanne** *[say-ZAN]*
4. Paul **Gauguin** *[goh-GAN]*

REGIONAL - ROUND 2

Toss Up #8 Fine Arts: Art Theory

Some of the first manifestations of this art form were in Chaldean *[kal-DEE-un]* architecture some four thousand years ago. Modern examples of this form include Gaudi's Park Guell *[gwel]* in Barcelona and the Museum of Natural History station in New York. Examples found in Pompeii include a depiction of Alexander at Issus and a "Beware of Dog" entrance. The Byzantine Emperor Justinian and his wife Theodora were depicted in this method at the Basilica of San Vitale in Ravenna. Name this art form composed of stones fused together to create a unified work.

Answer: **mosaic**

Bonus #8 Miscellaneous: Technology – 4 parts

Identify these electronic gadgets from the information provided.

1. This device from Openmoko, Incorporated, uses the catch phrase, "Wikipedia in your pocket," has three buttons under a small screen, requires no Internet connection, and carries no monthly fees.
2. This multi-touch mouse by Apple has a smooth and button-free design allowing users to scroll with one finger and to swipe with two.
3. This line of E-book readers was introduced by Amazon in 2007, is now available with a six-inch screen, and is manufactured by Hon Hai Precision Industries.
4. Avery Holleman won first place in Microsoft's 2009 Next-Gen PC Design Competition with this device that uses paper-like input displays, colored pens, and a multi-user interface to enable creative groups to collaborate.

Answers:
1. **WikiReader**
2. **Magic** Mouse
3. **Kindle**
4. **Napkin** PC

Toss Up #9 Language Arts: U.S. Literature

The title of this work combines the Greek words for death and sight and has been considered a meditation upon the nature of death, which is referred to in the last lines of the last two stanzas. Another reference to the theme of mortality is the mention of the babe and the old man in the final stanza. Due to the author's youth at the time of its first publication, there were initial doubts that he really wrote it. Name this William Cullen Bryant poem published in 1821.

Answer: **Thanatopsis**

Bonus #9 Social Studies: Geography – 4 parts

Identify these National Parks.

1. In 1890, Congress established two parks in California: Sequoia and what other National Park?
2. The Underground Lunchroom is part of what park in New Mexico whose main attraction is made of limestone?
3. What park lies along the border between Tennessee and North Carolina?
4. What Arizona park is named for the fossilized wood found there in abundance?

Answers:
1. **Yosemite** National Park
2. **Carlsbad Caverns** National Park
3. Great **Smoky Mountains** National Park
4. **Petrified Forest** National Park

Toss Up #10 Mathematics: Number Theory – 30 seconds

Use an integer to state the least common multiple of two hundred ninety-four, one hundred twenty-six, and eighty-four.

Answer: **1764**

Work: $294 = 2 \cdot 3 \cdot 7^2$; $126 = 2 \cdot 3^2 \cdot 7$; $84 = 2^2 \cdot 3 \cdot 7$

Bonus #10 Science: Physics – 4 parts

Name the following properties of sound waves.

1. These resonances, additional tones produced besides the principal one, are largely responsible for giving various instruments their unique sounds.
2. Sound waves are this type of wave, since their oscillations are parallel to their propagation.
3. These sections of sound waves correspond to the areas of lower medium density; they are analogous to troughs in transverse waves.
4. The perceived pitch of a sound wave is a direct consequence of this value of the wave, also realted to a wave's wavelength.

Answers:
1. *[Accept either.]*
   harmonic **overtone**s
   harmonics
2. *[Accept either.]*
   longitudinal waves
   compression waves
3. **rarefaction** *[Accept variations.]*
4. fundamental **frequency**

Toss Up #11 Miscellaneous: Family and Consumer Science

Your answer begins with the letter "S". The poloxamer *[pool-OKS-uh-mer]* type of these substances is used to strengthen and repair cell membranes. Examples of this type of substance include sodium dodecyl *[doh-DESS-ull]* sulfate and ammonium lauryl *[LORE-ull]* sulfate; they act as emulsifiers because one part of these molecules is lipophilic *[lie-poh-FILL-ik]* while another is hydrophilic, so they cause polar and non-polar substances to interface, a property which results in their use in textile dyeing to promote penetration of the fabric, and also to disperse perfumes. Name these agents that reduce the surface tension of a liquid, the most prominent example of which is detergent.

Answer: *[Accept either]*
surfactant
surface-active agent

Bonus #11 Social Studies: Religion – 4 parts

Answer these about words important in different world religions.

1. Pending extenuating circumstances, every adult Muslim must undertake this at least once in his or her life
2. This term is used for the so-called missing books of the Bible, or for those whose authenticity is questioned by some Christian groups.
3. This Jewish site in the Old City of Jerusalem is known as the Western Wall, and as the Kotel *[KOH-sel]*, and as the al-Buraaq *[ahl bar-ROCK]* Wall. Give me the name that is related to the Friday evening praying that takes place at this wall.
4. It is a legal opinion issued by a mufti *[moof-tee]* in response to a layman's question on a point of Islamic law.

Answers:
1. the **haj** *[Prompt on **pilgrimage**.]*
2. *[Accept either.]*
   apocrypha
   apocryphal
3. **Wailing** Wall
4. **fatwa**

Reference #1: Deuterocanonical books are not accepted in the Hebrew canon; apocryphal books are not accepted by various Christian sects

REGIONAL - ROUND 2

Toss Up #12 Language Arts: British Literature

[NOTE: The awkward wording is the result of a title with selected words deleted. We suggest the moderator use voice tone-changes to convey the meaning.]

Coleridge noted that, unlike others by its author, this work lacks puns. A critical essay by Thomas de Quincey on this piece is entitled On the Knocking at the Gate in "this work." The knocking in question provokes a response from a very drunk porter, who welcomes Lennox along with the thane of Fife. This play features the escape of Fleance as his father Banquo is murdered, and opens with a prophecy by three witches. Name this play by Shakespeare in which the title character becomes king of Scotland after murdering Duncan.

Answer: The Tragedy of **Macbeth**

Reference: The full title is On the Knocking at the Gate in "The Tragedy of Macbeth"

Bonus #12 Science: Biology – 4 parts

Answer these about the human immune response.

1. It is the human body's largest organ and acts as a barrier defense against pathogens.
2. This molecule, found throughout the body, is released by damaged cells and triggers an inflammatory response. When it produces an overreaction, such as to a wasp sting, the overreaction can be treated with a variety of drugs such as diphenhydramine *[DY-fen-HY-druh-meen]*.
3. This protein, found in blood plasma, is used by B and helper-T white blood cells to identify pathogens.
4. This cell-signaling protein alerts nearby cells to the presence of a viral, parasitic, or cancerous infection.

Answers:
1. **skin**
2. **histamine**
3. *[Accept either.]*
   antibody
   immunoglobulin
4. **interferon**

REGIONAL - ROUND 2

Toss Up #13 Social Studies: World History

When he was captured by pirates at age twenty-five, his family paid the ransom. After gaining his freedom, he purchased ships, hunted down the pirates, and crucified them. This event did not make him afraid of water, for he later launched an invasion of Britain. His aggressive nature came in handy in later years when he built a bridge across the Rhine to keep native tribes in line. Name this member of the first triumvirate who was murdered in the Roman Senate.

Answer: Gaius Julius **Caesar**

Reference: Although there were many Caesars, "Julius" is unnecessary because this Caesar one was the only Caesar in the first triumvirate, as required in the question.

Bonus #13 Language Arts: Spelling – 4 parts

The words you are to spell refer to punctuation marks. I will describe the function; you spell the term.

1. These three dots in a row indicate the omission of a word or words.
2. This mark is used to connect parts of a compound word, or is placed between syllables to divide a word, especially at the end of a line.
3. This mark can do the work of a colon – summing up; or it can do the work of parentheses – setting off qualifying remarks. It also can indicate a break in thought.
4. It is a combination of two marks, one superimposed on the other to show both question and exclamation.

Answers:
1. **ELLIPSIS**
2. **HYPHEN**
3. **DASH**
4. **INTERROBANG**

[Upper case is irrelevant.]

Toss Up #14 Mathematics: Calculus – 30 seconds

[NOTE: Pause at the commas for clarity.]

Calculate the definite integral, from zero to pi over two, of the quantity, one minus cosine squared X, end quantity, over sine X, DX.

Answer: **one**

Notation: $\int_0^{\frac{\pi}{2}} \frac{1-\cos x^2 x}{\sin x} dx$

Bonus #14 Language Arts: British Literature – 4 parts

Answer these about the works of James Joyce.

1. This novel includes the episode Hades, in which the title character attends the funeral of Paddy Dignam. It tells of the goings-on of June 16, 1904.
2. He is the main character of the work from part one and represents Odysseus.
3. This book chronicles Humphrey Chimpden Earwicker and Anna Livia Plurabelle, his wife.
4. Joyce also wrote this collection of fifteen short stories, including Ivy Day in the Committee Room and The Dead.

Answer:
1. **Ulysses**
2. **Leopold** Bloom *[Prompt on **Bloom**.]*
3. **Finnegan's Wake**
4. The **Dubliners**

REGIONAL - ROUND 2

Toss Up #15 Science: Chemistry

This element was first distinguished as an element in 1774 by the Swedish chemist Carl Wilhelm Scheele and isolated in the same year by Johan Gottlieb Gahn. Its pure form is obtained by igniting pyrolusite *[py-roh-LOO-site]* with aluminum powder. It corrodes in moist air and dissolves in acid. One of its ions, with a charge of negative one, is a powerful oxidizing agent, and begins with the prefix "per." Name this gray-white, usually hard and brittle metallic element used especially in alloys, batteries, and plant fertilizers

Answer: **manganese** *[LISTEN: "magnesium" is wrong.]*

Bonus #15 Mathematics: Algebra and Pre-calculus – 4 parts

[NOTE: Pause at the commas for clarity.]

Calculate the following values related to polynomials.

1. the number of distinct real roots of the equation: nine X, equals, three X squared, plus seven
2. the degree of the polynomial: X cubed Y squared, plus three X to the fourth
3. the product of the roots of the equation: X squared plus five, equals, two X
4. the sum of the roots of the equation: X squared plus two, equals, three X

Answers:
1. **0**
2. **5**
3. **5**
4. **3**

Reference/Notation
1. $9x = 3x^2 + 7$
2. $x^3y^2 + 3x^4$
3. $x^2 + 5 = 2x$
4. $x^2 + 2 = 3x$

HALF TIME

Toss Up #16 Mathematics: Geometry, Trig and Analytic Geometry – 30 seconds
[NOTE: Pause at the commas for clarity.]
Determine the value of K so that the point, negative three comma seven, is on the line, KY plus the quantity, K minus two, close quantity, times X, equals eight.

Answer: *[The leading "K equals" is optional.]*

$$k = \frac{1}{2}$$

Reference/Notation
$-3,7 \rightarrow ky + (k-2)x = 8$

Bonus #16 Science: Astronomy – 4 parts
Identify the constellation from the information provided. To receive credit for your answer, you must respond with Latinized-Hellenic names like "Leo" or "Ursa Major" as opposed to "the lion" or "the great bear."

1. The source of the annual October 21st meteor shower and located near Canis Major and Canis Minor, its brightest star is Betelgeuse *[BEE-t'l-joos]*.
2. The home of the Ring Nebula, its brightest star is Vega *[VAY-guh]*.
3. Located between Draco *[DRAY-koh]* and Vulpecula *[vul-PEK-yoo-lah]*, its brightest star, Deneb *[DEN-nub]*, marks the constellation's tail.
4. This constellation's brightest star is Antares *[ahn-TAHR-eez]*. As a Zodiac constellation, it follows Virgo *[VIR-goh]* and Libra *[LEE-brah]*.

Answers:
1. **Orion**
2. **Lyra**
3. **Cygnus** *[SIG-nus]*
4. *[Accept either.]*
   Scorpius
   Scorpio

Toss Up #17 Social Studies: Economics

Nobel laureate James Tobin argued that this effect is beneficial because it lowers the rate of return on monetary assets, encouraging investment in physical assets. If it is kept at a moderate level, it allows central banks to avoid a liquidity trap. The three main types of this effect are built-in, which is psychological; demand-pull, which is caused by increases in demand; and cost-push, which is caused by disruptions in supply. Identify this rise in the price of goods and services.

Answer: **inflation**

Bonus #17 Fine Arts: Art History – 4 parts

Jean-Honore Fragonard was a leading practitioner of this style, the name of which roughly translates to "crushed sea shell". Answer these about the Rococo style.

1. Jean-Honore Fragonard *[zhon oh-nuh-RAY frag-guh-NAHR]* painted this work in which a woman's pink slipper flies off of her foot while a man peeks up her skirt.
2. This Rococo artist painted the work, Embarkation for Cythera *[sith-uh-REE-uh]*, in which a dog is seen in the center and the titular group is surrounded by cherubs.
3. This artist painted Mr. and Mrs. Andrews in the Rococo style, but is better known for depicting John Buttall in Blue Boy.
4. This contemporary of Fragonard *[frag-guh-NAHR]* painted The Toilet of Venus as well as several portraits of Madame de Pompadour.

Answers: 1. The **Swing**
2. Antoine **Watteau** *[wah-TOH]*
3. Thomas **Gainsborough**
4. François **Boucher** *[boo-SHAY]*

REGIONAL - ROUND 2

Toss Up #18 Language Arts: World Literature

In his first novel, Peter Camenzind, he expressed his disgust with the educational system. Its literary success allowed him to become a freelance writer and to marry Maria Bernoulli. His travels in India led to a lyric novel based on the early life of Buddha. Name the author whose works include The Glass Bead Game and Siddhartha.

Answer: Hermann **Hesse** *[probably: HESS-uh]*

Bonus #18 Miscellaneous: Interdisciplinary – 4 parts

Identify the following people, places or things which are also names for makes or models of cars.

1. This is the Japanese name for the Pleiades star cluster, or the Seven Sisters.
2. This name of this animal, a specific type of antelope, is taken from the Zulu word for "gazelle" and features two distinct sub-species, the common and black-faced.
3. Famous for its beautiful apples, this mythical island is the final resting place of the legendary King Arthur.
4. This element is a necessary trace element in all organisms and is the crux of vitamin B-twelve. It is commonly found as a by-product of copper and nickel mining.

Answers:
1. **Subaru**
2. **Impala**
3. **Avalon**
4. **Cobalt**

Toss Up #19 Fine Arts: Art History

A white sailboat can be seen in the upper left-hand corner of this work, while in the right-hand corner, a grove of six trees can be seen. In the top center of this painting, a man wears a blue safari hat, and in the lower left corner a brown dog plays with a monkey on a leash. Most notable in this work are the many men wearing top hats and the woman carrying parasols. Identify this pointillism masterpiece, a work by Georges Seurat *[JOR-jez suh-RAH]*.

Answer: *[Accept either.]*

A **Sunday Afternoon on the Island of La Grand Jatte** *[la grahnd jzaht]*
Un **dimanche après-midi à l'Île de la Grande Jatte**

Bonus #19 Mathematics: Combinatorics, Probability and Statistics – 5 parts

After a legal die is rolled and comes to rest, the number of spots on its top face is recorded. Specify the following.

1. the sample space
2. the event that a number greater than five results
3. the probability that a prime number is rolled – give your answer as a percent
4. the odds against rolling a three
5. What word describes this type of experiment in which the outcomes, under essentially the same conditions, are not necessarily the same?

Answers: *[#1-2: Braces and commas need not be specified].*

1. **{1, 2, 3, 4, 5, 6}** *[The numbers may be stated in any order.]*
2. **{6}**
3. **fifty** percent *[No other form is acceptable. Do not prompt.]*
4. **five to one** *[No other form is acceptable. Do not prompt.]*
5. *[Accept either.]*
   random experiment
   nondeterministic experiment

Toss Up #20 Science: Biology

This eukaryotic *[yew-KARE-ee-OT-ik]* organelle was first observed by Porter, Claude, and Fullam in 1945. It is a diverse organelle with many functions, including aiding in the formation of sulfur bonds and the synthesis of oligosaccharides *[ol-LIG-oh-SAK-uh-rides]*. Through the use of cisternae *[sis-TER-nay]*, it accomplishes its primary function: to facilitate the transport of proteins throughout the cell. Name this organelle that comes in three forms: sarcoplasmic *[SAH-koh-PLAS-mik]*, rough, and smooth.

Answer: **endoplasmic reticulum** *[Prompt on **E.R.**]*

Bonus #20 Language Arts: British Literature – 4 parts

Identify the following supporting characters from Shakespeare.

1. This man appears in three plays, including Henry the Fourth parts one and two, and his own play The Merry Wives of Windsor.
2. This "grave man" makes a famous drawn out speech about Queen Mab and is eventually killed by Tybalt *[TIH-bilt]*.
3. This fairy appears in The Tempest and is bound to serve Prospero, who releases him at the conclusion of the play.
4. This friend of Hamlet's from Wittenburg University appears in the famous "Yorick scene" in which Hamlet addresses this man with the words: "Alas, poor Yorick! I knew him."

Answers:
1. Sir John **Falstaff**
2. **Mercutio**
3. **Ariel**
4. **Horatio**

REGIONAL - ROUND 2

Toss Up #21 Language Arts: Vocabulary

This word of French origin refers to a monastery inhabited by Carthusian *[kar-THOO-shun]* monks in the French Alps who produce a liqueur *[lih-KOOR]* from aromatic flowers and herbs. The liqueur *[lih-KOOR]* they produce and its strong greenish-yellow color also go by this name.

Answer: **chartreuse**

Bonus #21 Mathematics: Geometry, Trig and Analytic Geometry – 5 parts

Find the indicated values for each of these graphs. Assume alpha is in radians.

1. Y equals the tangent of alpha. Use an ordered pair to state the first X-intercept to the right of the Y-axis.
2. Y equals, three times the cosine of alpha minus one. Find the maximum.
3. Y equals negative four times the sine of alpha plus three. Find the amplitude.
4. Y equals two times the cosine of one-half alpha. Find the fundamental period.
5. Y equals negative two sine of alpha. Find the mimimum.

Answers:
1. *[Parentheses and comma need not be verbalized.]* **$\pi, 0$**
2. **2**
3. **4**
4. **4π**
5. **-2**

Reference/Notation
1. $y = \tan\alpha$
2. $y = 3\cos\alpha - 1$
3. $y = -4\sin\alpha + 3$
4. $y = 2\cos\frac{1}{2}\alpha$
5. $y = -2\sin\alpha$

Toss Up #22 Social Studies: Government

[NOTE – DATE SENSITIVE: This accurate as of January 15, 2010.]

The one hundred twenty members of this unicameral legislature are elected to four-year terms under a system of proportional representation. Its first Speaker was Yosef Sprinzak. A large part of this body's work is performed in the plenum which does not require a quorum to hold sittings. Currently, the Speaker of this body is Reuven Rivlin *[roo-fen riv-LEEN]*. Name the body that has legislative authority in Israel.

Answer: The **Knesset**

Bonus #22 Fine arts: Classical Music History – 4 parts

Name these works by Haydn *[HIE-dn]*

1. What one-word name is given to his last major work, the wind-band Mass Number Fourteen in B flat major?
2. Lorenz Haschka wrote the lyrics and Haydn composed the melody of this piece that eventually became the German national anthem.
3. What name is commonly given to Symphony Number Ninety-four in G major, the second of the so-called London Symphonies, because of the sudden loud chord in its otherwise slow movement?
4. During the final adagio of this symphony, each musician stops playing, turns out the light on his/her music stand, and leaves in turn, so that at the end, there are just two muted violins left.

Answers:
1. **Harmoniemesse**
2. *[Accept any of these.]*
   God Save Emperor Francis
   Gotterhalte Franz den Kaiser
   Emperor's Hymn
   Kaiserhymne
3. **Surprise** Symphony
4. *[Accept any of these.]*
   Symphony **Number 45** in F-sharp minor
   Farewell Symphony
   Abschieds-Symphonie

Toss Up #23 Mathematics: Algebra and Pre-calculus – 30 Seconds

I will read four numbers. Use an integer, or a single, simplified, rationalized fraction to state the next number in the sequence in the format indicated by the sequence. The numbers are: four, nine over two, sixteen over three, twenty-five over four.

Answer: $\frac{36}{5}$

Reference/Notation: $4, \frac{9}{2}, \frac{16}{3}, \frac{25}{4}$

Work: $\frac{(n+1)^2}{n}$

Bonus #23 Social Studies: Current Events – 3 parts

This United Nations Climate Change Conference in December, 2009, involved almost two hundred nations.

1. In what city did the summit take place?
2. What was the abbreviation-like name for this summit?
3. He was appointed in 2006 by UN Secretary-General Kofi Annan *[KOH-fee un-NAHN]* as the Executive Secretary of the United Nations Framework Convention on Climate Change, the organizers of this summit.

Answers:
1. **Copenhagen**, Denmark
2. **COP15** *[probably: kop 15]*
3. Yvo de **Boer**

Toss Up #24 Miscellaneous: Interdisciplinary

The cover of Tenacious D's first album is a reference to the tarot card of this name, featuring the two members of the band chained to this entity's chair. In Bill and Ted's Bogus Journey, this entity is voiced by Frank Welker. In Guitar Hero Three, he appears as the final boss of career mode. This entity appears in disguise as the magician Woland in The Master and Margarita, as well as in the guise of Mr. Scratch in a story by Steven Vincent Benét *[be-NAY]*. The character is usually depicted with horns and a goatee. Identify the entity that, at one point, may have gone "down to Georgia".

Answer: *[Accept anything reasonable.]*
Devil
Satan
Lucifer
Beelzebub

Bonus #24 Language Arts: Mythology – 3 parts

Name these witches.

1. She trapped Odysseus and turned his men into pigs.
2. This niece of the character you named in part one helped Jason find the Golden Fleece and, when he rejected her, sent a poisoned dress to his new fiancé.
3. She was the half-sister of Arthur and the mother of his only child, Mordred.

Answers: 1. **Circe** *[seer-see]*
2. **Medea**
3. **Morgan Le Fay** *[Prompt an incomplete answer.]*

REGIONAL - ROUND 2

Toss Up #25 Science: General Science

In its simplest form, it is an un-calibrated mechanical device with two adjustable jaws designed to meet the surfaces whose separation is to be measured. The device is then compared to a scale not on the device. A more complex form of this device is wrench-like and has a scale that allows direct reading of the space between the jaws. Name this device used to measure the distance between symmetrically opposing sides of an object, either internally or externally.

Answer: vernier **caliper**

Bonus #25 Social Studies: U.S. History – 4 parts

Answer these about nineteenth century abolitionists.

1. This group is generally credited with establishing the Underground Railroad.
2. In 1839, a group led by abolitionist James Birney founded this party, generally considered the first antislavery political party in the United States.
3. What collective name refers to the federal laws passed in 1793 and 1850 to thwart abolitionist activities by facilitating the recapture and extradition of runaways?
4. Name the man whose case before the Supreme Court led to the ruling that slaves were not citizens, thus nullifying the Missouri Compromise, and returned him into slavery.

Answers:
1. *[Accept either.]*
   Quakers
   Religious **Society of Friends**
2. the **Liberty** party
3. **Fugitive Slave** Laws /Acts/etc.
4. Dred **Scott**

REGIONAL - ROUND 2

Toss Up #26 Language Arts: U.S. Literature

The title character's relationship with the commander of the Bellipotent has often been interpreted in a homoerotic manner. The title character was impressed into the service of the Royal Navy and came to be adored by all the crew, except Claggart, who falsely accused him of an attempt to mutiny. Captain Vere reluctantly convicted him because it was the right thing to do to maintain order. Name this posthumously published Herman Melville novella.

Answer: **Billy Budd**

Bonus #26 Science: Chemistry – 4 parts

Provide the name for each phase change described.

1. gas directly to liquid
2. solid directly to gas
3. gas directly to plasma
4. liquid directly to gas but through a very slow process

Answers:
1. **condensation** *[Accept variations like **condensing**.]*
2. **sublimation**
3. **ionization**
4. **evaporation**

Toss Up #27 Fine arts: Classical Music History

At age fifteen, his outstanding boy-soprano voice earned him a scholarship position in the choir of St. Michael's School in Lüneburg *[LYOU-nu-berg]*, a town more than two hundred miles from his home. His first efforts at composition were a set of variations, his first cantatas, and a number of preludes and fugues. His four Duetti *[doo-ET-tee]* are keyboard works for organ without pedals. His Passacaglia *[poss-uh-COG-lee-uh]* and Fugue in C minor is an organ piece. Name the composer of the Brandenburg Concertos.

Answer: **Johann** Sebastian **Bach** *[Prompt on **Bach**.]*

Bonus #27 Language Arts: World Literature – 4 parts

Answer these about historical figures who play major roles in The Three Musketeers.

1. Name the French king, the eldest son of Henry the Fourth and Marie de Medici.
2. Name the Queen of France at this time, the subject of much of the intrigue, who was the daughter of Philip the Third of Spain.
3. Give the title of the English statesman supposedly enamored of the French queen.
4. Name the King's advisor, "the Gray Eminence," a prelate and statesman who co-ruled France with the king and was a strong opponent of the queen.

Answers:
1. **Louis XIII** *[Prompt an incomplete answer.]*
2. *[Accept either. Prompt an incomplete answer.]*
   Anne of Austria
   Anne d'Autriche
3. *[Prompt an incomplete answer.]*
   Georges Villiers, **Duke of Buckingham**
4. Armand Jean du Plessis, Cardinal de **Richelieu**

Toss Up #28 Science: Physics

First described by ibn Sahl *[ib'n SAHL]* in an effort to create anaclastic lenses, this rule describes behavior caused by differing radii of wavelets, or in other words, Huygens' Principle. It can be derived by applying calculus optimization techniques to Fermat's Principle of Least Time, and it is most commonly used to explain the bending of light at boundaries in terms of different indices of refraction. Name this law of optics that states that, for two media, the ratio of the speeds of light equals the ratio of the sines of the rays' angles of incidence.

Answer: *[Accept either. Prompt on any form of* ***refraction*** *to get a name.]*
Snell's Law/Rule/etc. of Refraction
Descartes' Law/Rule/etc.

Bonus #28 Mathematics: Calculus – 4 parts

Use C for any needed constant of integration, and use only positive exponents in your answers. Find these indefinite integrals.

1. two over X squared, DX
2. E raised to the four X power, DX
3. negative six X squared, times the sine of X cubed. DX
4. six X squared, minus the square root of X, DX

Answers: *[If in doubt, seek help from a math professional in the room to help listen to the answers.]*

1. $-\frac{2}{x}+C$
2. *[Accept either.]*
   $\frac{e^{4x}}{4}+C$
   $\frac{1}{4}e^{4x}+C$
3. **2 cosine** x^3+C
4. $2x^3-\frac{2}{3}x^{\frac{3}{2}}+C$

Notation

1. $\int\frac{2}{x^2}\,dx$
2. $\int ex^{4x}\,dx$
3. $\int -6x^2 \sin x^2\,dx$
4. $\int 6x^2-\sqrt{x}\,dx$

Toss Up #29 Social Studies: Geography

The Bernabeu *[bare-nah-BAY-oo]* is the largest soccer stadium in this city, which is served by Atocha Railway Station and Barajas *[bah-RAH-hahs]* Airport. The Retiro *[rih-TEER-oh]*is a three hundred fifty acre park in this city containing the Forest of the Departed, a memorial to the victims of attacks on March 11, 2004. Its museums include the Reina Sofia and the Prado. Identify this city, the capital of Spain.

Answer: **Madrid**, Spain

Bonus #29 Science: Biology – 4 parts

Identify these parts of a eukaryotic *[yoo-KARE-ee-OT-ik]* cell.

1. It contains the cell's DNA and the proteins necessary for the production of chromosomes, and is surrounded by a double membrane.
2. It carries out photosynthesis within plant cells.
3. It is involved in the translation process, reading messenger RNA to build proteins. It may be found free in the cytoplasm or on the surface of the E.R.
4. This cell structure is actually dispersed throughout the cell, and enables the cell to move and maintain its shape.

Answers: 1. **nucleus** *[LISTEN: "nucleolus" is wrong.]*
2. **chloroplast**
3. **ribosome**
4. **cytoskeleton** *[LISTEN: "skeleton" is wrong.]*

Toss Up #30 Mathematics: Algebra and Pre-calculus – 30 seconds

Use single, simplified, rationalized fractions for your answer or answers. Solve over the real numbers: two X squared minus four X equals three.

Answer: *[Leading "x =" is optional. No other equivalent forms are acceptable.]*

$$x = \frac{2+\sqrt{10}}{2} \qquad x = \frac{2-\sqrt{10}}{2}$$

May be combined as: $x = \frac{2 \pm \sqrt{10}}{2}$

Notation: $2x^2 - 4x = 3$

Bonus #30 Social Studies: World History – 4 parts

Identify the following about events involving the Weimar Republic.

1. Adolph Hitler and his Brown Shirts organized their Beer Hall Putsch in this Bavarian city.
2. Hitler wrote this diatribe while in prison after the Putsch failed. I need its German title.
3. This German war hero was president of the Weimar republic when Hitler was released from prison.
4. The Weimar Republic ended when Hitler was granted emergency powers in 1833 by the passage of the Enabling Act after a fire in this Berlin building.

Answers:
1. **Munich** *[probably MYOO-nik; possibly MUN-chen]*
2. **Mein Kampf**
3. Paul von **Hindenburg**
4. **Reichstag**