

Round 1 1st Section **Toss-up Questions**

Question #1: Social Studies – World History

10 points

This person believed that he would receive help from the United States after helping the downed pilot Rudolph Shaw. During the early 1940s, this person wrote *Poems from the Prison Diary* when he was held by China. This person became known by a name that means "bringer of light". The trail unofficially named for him provided supplies for his supporters, running through Laos and Cambodia. This person died in 1969, when his supporters were at war against the United States, and in 1976 a major city was named for him. Name this Communist leader from Vietnam.

Ho Chi Minh [accept **Nguven** Sinh Cung or Nguyen Tat Thanh or Nguyen Ai Quoc

Question #2: Mathematics – Math Concepts

10 points

This person classified curves in which y^2 ["ysquared" equals a cubic function of x as diverging parabolas, and classified cubic functions generally using projections of his diverging parabolas. This mathematician is the first namesake of a set of methods for approximating definite integrals with equally-spaced points; the other namesake is Roger Cotes. This person is also the namesake of an iterative method for using first derivatives to approximate roots of a function. Name this scientist who used calculus methods to develop physics in his book *Principia*.

Isaac Newton



Round 1 1st Section Toss-up Questions

Question #3: Fine Arts – Classical Music & Opera

10 points

This instrument, which is not a viola, gives the serenade in the third movement of Hector Berlioz's [behr-lee-oze'z] Harold in Italy. This instrument plays a solo central to the second movement of Dvořák's [DVOR-zhahk'z] "From the New World" Symphony, and it is the voice of the swan in Sibelius' The Swan of Tuonela. Its musical range is between that of the bassoon and the oboe, and within the range of a clarinet. This double-reed instrument is a member of the oboe family, but it is larger than the oboe. Name this instrument that is from Germany, but whose name suggests it is from another European country.

English horn [or cor anglais; do not prompt on "horn"]

Question #4: Science – Chemistry

10 points

Vanadium [vuh-NAY-dee-um] phosphate is used as a catalyst to convert this molecule into maleic anhydride [mal-AY-ik "an-HIDE-ride"]. The only two conformations of this molecule are anti and gauche [gohsh]. Because this molecule quickly cools the throat and is often mixed with anaesthetics, it is the primary cause of sudden sniffing death syndrome. This molecule has the same chemical formula as 2-methylpropane ["two" METH-ul "propane"]. This molecule and propane are commonly used in liquid petroleum gas, and this molecule is commonly used as a lighter fluid. Name this four-carbon alkane [AL-"cane"].

 $\frac{butane}{C_4H_{10}}$ [prompt on



Round 1 1st Section Toss-up Questions

Question #5: Social Studies – Geography

10 points

| There is debate over whether a fossil found in this |
|---|
| country by Justus Erus represents an early |
| Australopithecus [AW-struh-loh-PITH-ih-kuss] |
| species that used tools. The most complete early |
| human skeleton ever found is named for a lake |
| almost entirely in this country, Lake Turkana. |
| Homa Bay and Kisumu [kee-SOO-moo] are in this |
| country near the eastern end of Lake Victoria. This |
| country's most populous city on the Indian Ocean |
| is Mombasa. Name this country between Tanzania |
| [tan-zuh-NEE-uh] and Somalia on the east coast of |
| Africa, whose capital is Nairobi [ny-ROH-bee]. |

Kenya [or Republic of Kenya or Jamhuri ya Kenya]

Question #6: Literature – U.S. Literature

10 points

| A carpenter in this novel allows his broken leg to be | As IL |
|---|-------|
| set in cement after an attempt to ford a river. In | |
| this novel, an object that was made "on the bevel" | |
| on account of its contents' "slanted stress" was | |
| nearly destroyed in a fire that took the Gillespie | |
| barn. The main characters of this novel are offered | |
| a team of mules by Armstid, but make a deal with | |
| Snopes instead. One chapter in this work consists | |
| of the sentence "My mother is a fish." Name this | |
| novel in which the Bundren family travels with a | |
| coffin containing Addie's remains, written by | |
| William Faulkner. | |
| | l |

As I Lay Dying



Question #7: Literature – U.S. Literature

10 points per part

| Lon | g after its debut, the author of this play wrote | |
|-------|--|-------------------------|
| its p | orequel, Homelife. | |
| 1 | Name this play primarily set around a park | The Zoo Story |
| | bench, which ends with Jerry impaling himself | |
| | on a knife that Peter holds. | |
| 2 | This author of <i>The Zoo Story</i> used characters | Edward (Franklin) Albee |
| | named A, B, and C in Three Tall Women. | (III) |
| 3 | In <i>The Zoo Story</i> , Jerry describes this figure as | God |
| | a "colored queen who wears a kimono and | |
| | plucks his eyebrows" and "a woman who cries | |
| | with determination behind her closed door". | |

Question #8: Literature – U.S. Literature

| In t | his play, one character hallucinates that she is | |
|------|--|--------------------------------|
| in A | intarctica with Mr. Lies, but in fact is in New | |
| Yorl | k City's Prospect Park. | |
| 1 | Name this drama in which Roy Cohn and Prior | Angels in America: A |
| | Walter get AZT to treat their illness. | Gay Fantasia on National |
| | | Themes |
| 2 | Roy and Prior have this disease, although Roy | AIDS or Acquired |
| | initially claims to have "liver cancer" because | Immune Deficiency |
| | this disease is stigmatized. | Syndrome [prompt on |
| | | HIV or human |
| | | immunodeficiency virus] |
| | | |
| 3 | Roy Cohn is visited by the ghost of this woman. | Ethel Rosenberg or Ethel |
| | Cohn said that if it wasn't for him, she would | Rosenberg [prompt on |
| | be alive, writing a personal-advice column. | Rosenberg |
| | , 5 - | |



Question #9: Social Studies – Religion

10 points per part

| This | s name is given to the books of the New | |
|------|---|-------------------|
| Test | cament from Romans to Jude, many of which | |
| were | e written by Paul. | |
| 1 | Give this term that generally refers to formal | epistles |
| | letters. | |
| 2 | Two of the epistles were addressed to this | Timothy |
| | person, who is told to stay in Ephesus | |
| | [EF-uh-suss] to oppose false teachers. This | |
| | person is mentioned in both books of | |
| | Thessalonians [thess-uh-LOH-nee-unz], which | |
| | immediately precede his two books in the New | |
| | Testament. | |
| 3 | This collective name is used for the two epistles | pastoral epistles |
| | to Timothy and the one to Titus. These three | |
| | epistles are focused on church leaders rather | |
| | than church members. | |

Question #10: Social Studies – Religion

| This | s book is named for the prophet who engraved | |
|------|---|-----------------------|
| it o | n golden plates. | |
| 1 | Name this religious text. Its section called | Book of Mormon |
| | Third Nephi [NEE-"fie"] describes an | |
| | appearance by Jesus in America. | |
| 2 | This son of Mormon became an angel who | Moroni [muh-ROH-ny] |
| | showed the golden plates to Joseph Smith. The | |
| | last section of the Book of Mormon is named | |
| | for this character. | |
| 3 | This part of the Book of Mormon, written by | Book of Ether |
| | Moroni, is named for a Jaredite prophet who | |
| | was ignored. | |



Question #11: Mathematics – Statistics

10 points per part

| Stat | tistical measures of central tendency are well | |
|------|--|--------------------------------------|
| kno | wn, but it is also useful to know the dispersion | |
| and | shape of a distribution. | |
| 1 | Find the range of this set of numbers: | <u>6</u> |
| | $\{2,3,7,8\}.$ | |
| 2 | Find the deviation of 8 in the same set of | $\underline{3}$ [accept answers that |
| | numbers. Once again, the set of numbers is | additionally specify that |
| | ${2,3,7,8}.$ | the deviation is positive] |
| 3 | Name the measure of dispersion found by | interquartile range or |
| | subtracting the 75th percentile minus the 25th | IQR or midspread or |
| | percentile for a set of numbers. | H-spread |

Question #12: Mathematics – Statistics

| This | s quantity is usually placed on the y -axis in | |
|------|---|-----------------------------|
| hist | ograms. | |
| 1 | Give this term for the number of times a value | (absolute) frequency |
| | occurs. | |
| 2 | If the data is grouped into evenly spaced | <u>5</u> |
| | intervals of integers, and the first group goes | |
| | from 11 to 15, inclusive, find the frequency of | |
| | the third group in the following data set: | |
| | $\{13, 14, 16, 17, 19, 21, 22, 23, 24, 25, 27, 29, 33\}.$ | |
| 3 | Find the relative frequency of the same group | 5/13 |
| | from the same set. Once again, the set is | |
| | $\{13, 14, 16, 17, 19, 21, 22, 23, 24, 25, 27, 29, 33\}.$ | |



Question #13: Science – Biology

10 points per part

| Art | hropod growth occurs primarily during this | |
|------|--|--|
| prod | cess. | |
| 1 | Name this process by which animals shed and | $ \underline{\mathbf{molt}} $ ing [or $\underline{\mathbf{ecdysis}}$] |
| | replace their skin, hair, or exoskeleton. | |
| 2 | These insects that molt five times have a 17- or | <u>cicada</u> s |
| | 13-year life cycle in North America. Their wings | |
| | come out when they molt for the last time. | |
| 3 | This term refers to the developmental stage | instar |
| | between molts, especially for arthropods. | |

Question #14: Science – Biology

| Hur | nans have twelve pairs of ribs, of which the top | |
|------|---|--|
| seve | en pairs are called "true ribs" because they | |
| atta | ach to the sternum. | |
| 1 | Three pairs are called "false ribs" because they | <u>floating</u> ribs |
| | attach indirectly to the sternum. This term | |
| | refers to the bottom two pairs, which attach | |
| | only to vertebrae. | |
| 2 | The twelve pairs of ribs attach to these | $\underline{	ext{thoracic}} \ [\underline{	ext{thor-ASS-ik}}]$ |
| | vertebrae, between the cervical and lumbar | vertebrae |
| | vertebrae. | |
| 3 | This term refers to the outgrowth, or eminence, | <u>tubercle</u> s |
| | on a rib where its neck and body meet at the | $[{f TOO\text{-}bur\text{-}kulz}]$ |
| | costotransverse joint. The humerus bone has | - |
| | two of these features, called greater and lesser, | |
| | near the shoulder. | |



Round 1 3rd Section Toss-up Questions

Question #15: Miscellaneous – Consumer Education

10 points

In the first year these objects were made, some of them were labeled with the initials of their designer, Victor D. Brenner. Ones made between 1909 and 1958 are called "wheaties" because they have stalks of wheat on the reverse. In 1943 these objects were made with steel due to wartime materials shortages, but since 1983 they have been over ninety-seven percent zinc. These objects cost about 1.67 cents to produce, leading some people to advocate for their elimination. Name these coins that depict Abraham Lincoln.

(Lincoln or U.S. or American) **penny**/ies [accept (Lincoln or U.S. or American) one-**cent** pieces; prompt on **coin**s]

Question #16: Science - Earth Science

10 points

In 2003, the Thermal Emission Spectrometer provided evidence that this mineral exists in the Nili Fossae [NEE-lee FAW-see] formation on Mars. This mineral is the main component of the rock dunite [DUN-"ite"] and the gem peridot ["PAIR-uh-dot"]. The group named for this mineral used to be called the chrysolite ["CRY-so-light"] group and includes tephroite [TEF-roh-"ite"] and forsterite. Such minerals are orthosilicates [OR-thoh-SIL-ih-kits]. This mineral contains magnesium or iron and silicon tetroxide [tet-"ROCKS-ide"]. Rocks made from this mineral's group are the most abundant in the upper mantle, and perhaps the entire mantle. Identify these rocks named for their green-yellow color.

olivines [prompt on forsterite before it is mentioned]



Round 1 3rd Section Toss-up Questions

Question #17: Literature – British Literature

10 points

One poem by this writer asks sages to "gather me Into the artifice of eternity." In another poem, this person wrote of passing "with a nod of the head, or polite meaningless words"; three stanzas of that poem end with the line "a terrible beauty is born." In another poem by this author, the speaker asks "what rough beast, its hour come round at last, slouches towards Bethlehem to be born?". This author wrote of a place that is "no country for old men." Name this author of "The Second Coming", "Easter,1916", and "Sailing to Byzantium."

W(illiam) B(utler) Yeats

Question #18: Social Studies – U.S. History

10 points

This person worked with John Nicolay to write the biography Abraham Lincoln: A History. As Secretary of State, this person negotiated a treaty that cancelled the Clayton-Bulwer Treaty. This person sent notes to six countries saving they should all have access to China's ports, creating the Open Door Policy. One of the treaties this person negotiated was rejected by the Senate of Colombia. This person is the namesake of treaties he negotiated with Julian Pauncefote [PAWNS-foot] and Tomás Herrán, as well as of the treaty that created the Panama Canal Zone. Name this Secretary of State under McKinley and Theodore Roosevelt who negotiated a treaty with Philippe-Jean Bunau-Varilla [fee-leep zhahn] byoo-noh vah-ree-vah].

John (Milton) Hay



Round 1 3rd Section Toss-up Questions

Question #19: Science – Biology

10 points

| | , |
|--|-----------------------|
| This structure decays within weeks if it is not | corpus luteum [prompt |
| exposed to human chorionic gonadotropin | on <u>luteum</u>] |
| ["core-ionic" goh-NAD-oh-troh-pin], though it can | _ |
| last longer if it turns into a cyst. Such a cyst is | |
| more likely in people taking Clomifene | |
| [KLOH-mih-feen]. When this structure is broken | |
| down, it forms an albicans [AL-bih-"cans"], turning | |
| white from its original yellow. This structure | |
| produces large amounts of progesterone | |
| ["pro-jester-own"] before the placenta does, and it | |
| is located in the ovaries. Name this structure that | |
| develops from ovarian follicles and remains in place | |
| during its namesake stage, which takes up the | |
| second half of the menstrual cycle. | |
| | |

Question #20: Literature – World Literature

10 points

One person with this job vies with Baroka for the hand of Sidi in *The Lion and the Jewel* by Wole [WAW-leh] Soyinka. In a play by Anton Chekhov, this job is held by both Fyodor Ilyich Kulygin and by his sister-in-law Olga, the eldest of the three Prozorov sisters. Gilbert Blythe gives up a job in this profession so that it can be taken by Anne of Green Gables. In *All Quiet on the Western Front*, Paul Bäumer was pressured to enlist by a member of this profession, Kantorek. Name this job held by Mr. Antolini in *The Catcher in the Rye*.

teacher(s) [accept
educator(s) or similar
answers; accept
schoolmaster(s)]



Question #21: Social Studies – U.S. History

10 points per part

| | Jamestown, this man said "He that will not | |
|-----|---|------------------------------------|
| wor | k shall not eat." | |
| 1 | Name this captain who wrote that his life was | John <u>Smith</u> |
| | saved by Pocahontas. | |
| 2 | Smith said Pocahontas saved him by convincing | Powhatan [or |
| | this man — her father — to spare him. | $\underline{\text{Wahunsenacawh}}$ |
| | | |
| 3 | Smith was the third president of the governing | Edward Maria Wingfield |
| | council of Jamestown. Together with the | |
| | second president, John Ratcliffe, he got rid of | |
| | this first President based on charges of hoarding | |
| | | |
| | food and atheism. | |

Question #22: Social Studies – U.S. History

| The | e Residence Act approved the creation of a new | |
|------|---|-------------------------------|
| nati | ional capital, which became Washington, D.C. | |
| 1 | Name the two states that donated land under | Maryland and Virginia |
| | the act. | [either order] |
| 2 | This Constitutional Amendment gave electoral | 23rd Amendment |
| | votes to the District of Columbia. | |
| 3 | Washington, D.C. does not have any senators | Shadow Congressperson |
| | or congresspeople, but it elects people to | [or Shadow Senator or |
| | advocate for its representation. This term refers | Shadow Representative] |
| | to those roles; Jesse Jackson Sr. was this type | |
| | of senator in the 1990s. | |



Question #23: Science – Chemistry

10 points per part

| The | "bomb" version of this devices maintains | |
|------|---|--|
| cons | stant pressure. | |
| 1 | Name this device used to measure heat. | $\underline{\mathbf{calorimeter}}(\mathbf{s})$ |
| | | $[\underline{\mathbf{kal}\text{-}\mathbf{uh}\text{-}\mathbf{RIM}\text{-}\mathbf{ih}\text{-}\mathbf{tur}}(\mathbf{z})]$ |
| 2 | This adjective, meaning "constant pressure", | isochoric |
| | applies to processes in bomb calorimeters. | ["eye-so-CORE"-ik] |
| | | processes |
| 3 | The use of bomb calorimeters to measure heat | specific heat capacity or |
| | requires that this value be known for the | specific heat capacity |
| | substance surrounding the calorimeter, which is | |
| | often water. This quantity is the ratio of heat | |
| | change to temperature change. | |

Question #24: Science – Chemistry

| In 1 | 1828, Friedrich Wöhler [FREED-rik VOO-lur] | |
|----------|---|-------------------------------------|
| syn | thesized this compound from ammonium | |
| cya | nate [uh-MOH-nee-um "SIGH"-uh-nayt]. | |
| 1 | Name this substance that the kidneys remove | urea [or carbamide or |
| | from the blood. | $CO(NH_2)_2$; do not accept |
| | | "urine"] |
| 0 | | • 1 1 • 1 1 1 1 |
| 2 | The artificial synthesis of urea was used to | vitalism or vitalist theory |
| | attack this theory, named for the so-called force | |
| | that was believed to be inherent to organic | |
| | chemicals. | |
| 3 | Vitalism was dealt another blow by Hermann | acetic acid [or ethanoic |
| | Kolbe's [HAIR-mahnn KOHL-buh'z] synthesis | acid or CH₃COOH] |
| | of this two-carbon carboxylic | |
| | ["CAR-box-ILL"-ik] acid. | |



Question #25: Fine Arts – Art History

10 points per part

| This | s term generally refers to a Russian citadel or | |
|------|---|--|
| fort | ress within a town. | |
| 1 | Give this term. In English, it is mainly used to refer to the complex of that type in Moscow, or to mean the Russian or Soviet government that is or was headquartered there. | (the) Kremlin |
| 2 | The tallest structure in the Moscow Kremlin is a bell tower named for this 15th- and early 16th-century Russian ruler. | Ivan the Great [or Ivan III or Ivan Belyeekogo; prompt on Ivan; do not accept "Ivan the Terrible"] |
| 3 | The dome on the Ivan the Great Bell Tower, like the domes on many Russian and Bavarian buildings, are named for this food based on their shape. | onion dome |

Question #26: Fine Arts – Art History

| The | left side of this painting appears to show | |
|------|--|----------------------------------|
| Mer | cury holding his caduceus [kuh-DOO-see-uss] | |
| in t | he air. | |
| 1 | Name this 1482 painting in which Venus is in | Primavera [or Allegory of |
| | front of trees and surrounded by the three | [Spring] |
| | Graces, as well as Cupid, Chloris, and Zephyr. | |
| 2 | Primavera and The Birth of Venus are by this | Sandro <u>Botticelli</u> |
| | artist. | [boh-tee-CHELL-lee] [or |
| | | Alessandro <u>Filipepi</u>] |
| 3 | A round painting by Botticelli shows Mary and | pomegranates [accept |
| | Baby Jesus holding one of these fruits. They | Madonna of the |
| | are surrounded by angels that look like young | $\underline{Pomegranate}$ |
| | teenagers. | • |



Question #27: Mathematics – Geometry

10 points per part

| Thr | ee regular polygons can be used to tessellate | |
|-----|---|--------------------------|
| the | plane. | |
| 1 | Those three polygons are the equilateral | hexagons [accept 6-gons] |
| | triangle, the square, and the regular version of | |
| | what shape? | |
| 2 | The Hexagrammum Mysticum | Blaise Pascal |
| | ["hex-uh-GRAM-um MISS-tick-um"] Theorem | |
| | states that if a hexagon has points on a conic | |
| | section, and you extend the sides of the | |
| | hexagons, then the intersection points of | |
| | opposite sides are co-linear. That theorem, | |
| | which is similar to Pappus's hexagon theorem, | |
| | is usually named for this mathematician. | |
| 3 | If a regular hexagon has sides of length 10, find | 20 units |
| | the length of the longest possible diagonal | |
| | through the hexagon. | |

Question #28: Mathematics – Geometry

| If th | nis shape intersects a plane, the intersection is | |
|-------|--|--|
| eith | er a single point or a circle. | |
| 1 | Name these shapes that can be defined as the | sphere s [do not accept |
| | set of all points in three dimensions that are a | "ball(s)"] |
| | fixed distance from a fixed center. | |
| 2 | This is the name for the largest possible circle | great circle |
| | formed by the intersection of a plane and a | |
| | sphere. Equivalently, it is a circle with the same | |
| | center and radius as the sphere. | |
| 3 | Find the surface area of a sphere if a great | 40π [" 40 times \mathbf{pi} "] |
| | circle of the sphere has an area of 10π ["10 pi"]. | • |



Round 1 5th Section Toss-up Questions

Question #29: Literature – U.S. Literature

10 points

| This character compares his friend to someone who | $\underline{\text{Jim}}$ |
|--|--------------------------|
| "puts dirt on the head of his friends and makes | |
| them ashamed", and he likens that friend to a pile | |
| of trash despite slapping his own daughter before | |
| realizing she is deaf. This man consults a hairball | |
| before sticking a quarter under it, and he owns a | |
| nickel he claims came from the devil. This | |
| character claimed that witches put his hat on a tree | |
| limb, though Tom Sawyer actually did it. Name | |
| this character whom Miss Watson freed in her will, | |
| and who traveled with Huckleberry Finn. | |

Question #30: Science – Physics

10 points

| Magnetic reluctance is the reciprocal of | magnetic permeability |
|---|---------------------------------|
| cross-sectional area times this quantity. The speed | [prompt on <u>mu</u> before the |
| of light equals the reciprocal-square root of | - end] |
| permittivity times this value. The relative value of | _ |
| this quantity is less than 1 in diamagnetic materials, | |
| but greater than 1 in paramagnetic materials. This | |
| quantity is defined as the ratio of internal magnetic | |
| flux density to external magnetic field strength. | |
| Name this quantity that, in a vacuum, equals | |
| $4\pi \times 10^{-7}$ ["4 pi times 10 to the -7"] henries per | |
| meter, and is symbolized mu [myoo]. | |



Round 1 5th Section Toss-up Questions

Question #31: Social Studies – World History

10 points

This leader was allied with the Chalkidian League of Olynthus [oh-LIN-thuss], though he eventually destroyed it and enslaved its survivors. This person created and led the League of Corinth the year before he was murdered by Pausanias [paw-SAY-nee-uss], which happened soon after this man and his son defeated Athens, Thebes [theebz], and Corinth at the Battle of Chaeronea ["care"-oh-NEE-uh]. After this man won a horse race, his fourth wife was renamed "Olympias". Name this successor of Perdiccas III as King of Macedon, who was himself succeeded by his son Alexander the Great.

Philip II of Macedon [prompt on Philip]

Question #32: Mathematics – Math Concepts

10 points

| The distribution of gaps in these mathematical | <u>fractal</u> s |
|---|------------------|
| things is measured by lacunarity | |
| [lak-oon-YAIR-ih-tee]. One quality of these | |
| mathematical things is called the Droste effect | |
| when it appears in art, because it originally | |
| appeared in the artwork on boxes of cocoa powder. | |
| A common example of these things takes up three | |
| times as much space when the length of its side is | |
| doubled, and is called the Sierpiński [seer-PIN-skee] | |
| gasket. These things often have parts that resemble | |
| the whole thing when you zoom in, which is called | |
| self-similarity. The name of these mathematical | |
| things comes from the fact that their Hausdorff | |
| ["HOUSE"-dorf] dimension is not an integer. Name | |
| these shapes studied by Benoit Mandelbrot | |
| [MAN-del-brawt]. | |



Round 1 Extra Section Toss-up Questions

Extra Question #1: Mathematics – Math Concepts

10 points

This adjective is used to describe functions that map from the natural numbers to the complex numbers. This adjective also describes a number whose factors have an average that is a whole number. The fundamental theorem of this concept is that every integer greater than 1 has a unique prime factorization. Series described by this adjective have a sum equal to half the number of elements times the sum of the first and last elements. Those sequences are characterized by consecutive terms having a fixed difference. Give this adjective that, for means and sequences, is contrasted with "geometric".

arithmetic
[air-ith-MET-ik]

Extra Question #2: Fine Arts – Art History

10 points

This person headed a group that designed the Open Mind arch for the University of Baghdad. As the leader of The Architects' Collaborative, this person designed a building that used 20th-century style and a shape similar to the nearby Parthenon, the U.S. Embassy in Greece. The same group designed the Harvard Graduate Center, which is unofficially named for this person. This person also designed several buildings in Dessau for an art school that he headed. Name this German architect who started the Bauhaus [rhymes with "cow house"] School.

Walter (Adolph Georg)
Gropius [VAHL-tur
GROH-pee-uss]



Round 1 Extra Section Toss-up Questions

Extra Question #3: Literature – British Literature

10 points

| The speaker of this poem describes "paddling in the | "Auld Lang Syne" |
|---|------------------|
| stream from morning sun til dine," as well as | |
| "running about the slopes and picking daisies," | |
| which led to "wandering many a weary foot". This | |
| poem states "You'll have your pint cup, and I'll | |
| have mine." Its chorus says "We'll take a cup o' | |
| kindness yet." Name this Robert Burns poem that | |
| asks "should old acquaintance be forgot and never | |
| brought to mind" and that is widely sung at New | |
| Year's celebrations. | |

Extra Question #4: Science – Astronomy

10 points

| The Dirac [di-RAK] large numbers hypothesis was | Arthur (Stanley) |
|---|------------------|
| based on this person's observation that Hermann | Eddington |
| Weyl's ["vile's"] ratio of the radius of the universe | |
| to the radius of an electron approximates the | |
| square root of the number of charged particles in | |
| the universe. This person believed he had | |
| calculated the exact number of protons in the | |
| universe. This scientist became popular explaining | |
| relativity, especially after a 1919 expedition to | |
| Príncipe [PRIN-suh-puh] during which he took | |
| pictures of stars behind a solar eclipse to | |
| demonstrate the bending of light. Identify this | |
| astronomer who described a balance between | |
| radiation pressure and gravity as his namesake | |
| limit for the luminosity of a star. | |



Round 1 Extra Section Toss-up Questions

Extra Question #5: Social Studies – U.S. History

10 points

| As a senator, this person gave the "higher law than | William H(enry) Seward |
|--|-------------------------------|
| the Constitution" speech against slavery during the | |
| debate over the Compromise of 1850. Several years | |
| later, about a week after being in a serious carriage | |
| accident, this person was repeatedly stabbed in the | |
| face by Lewis Powell in an assassination attempt. | |
| This person got the most support in the <i>first</i> round | |
| of voting at the 1860 Republican convention before | |
| Lincoln got the nomination. Name this politician | |
| who prevented England and France from | |
| recognizing the Confederacy while serving as | |
| Secretary of State, and then worked out a deal to | |
| purchase Alaska that was called his "folly". | |



Extra Question #6: Mathematics - Algebra

10 points per part

| In g | general, this term means something that | |
|------|--|--|
| does | sn't change something else when they're put | |
| toge | ether. So for matrix multiplication, this would | |
| be a | a square matrix with 1 everywhere on the main | |
| diag | gonal and 0 everywhere else. | |
| 1 | Give this term. When used for an equation, it | identity [accept identity |
| | means that the equation is true for all relevant | matrix] |
| | values of its variables. | - |
| 2 | One of the identities for logarithms states that | $\underline{\boldsymbol{x}}$ [accept |
| | the log base b of the quantity b raised to the x | non-mathematical |
| | power, equals what value? Give a fully | elaboration like "just $\underline{\boldsymbol{x}}$ "] |
| | simplified answer in terms of the given | - |
| | variables. | |
| 3 | Using a different logarithmic identity, evaluate | <u>3</u> |
| | the log base 10 of 25, plus the log base 10 of 40. | |

Extra Question #7: Mathematics – Algebra

| A D | Piophantine ["die-oh-FAN-teen"] equation is an | |
|----------------------|---|------------------------------------|
| equa | ation whose solutions are only allowed to be | |
| this kind of number. | | |
| 1 | Name this set of positive and negative numbers | integers [prompt on \mathbb{Z}] |
| | that can be written without fractions or | |
| | decimals. | |
| 2 | This function outputs the largest integer that is | floor function |
| | less than or equal to its input. | |
| 3 | Evaluate the floor function of the logarithm, | <u>3</u> |
| | base 10, of 5000. | |



Extra Question #8: Literature - British Literature

10 points per part

| The | speaker of this poem compares wailing shells | |
|------|---|---------------------------|
| to " | shrill, demented choirs", and describes prayers | |
| give | n via "stuttering rifles' rapid rattle". | |
| 1 | Name this poem whose speaker calls girls' | "Anthem for Doomed |
| | flowers "the tenderness of patient minds", and | Youth" |
| | compares the setting sun to blinds being drawn | |
| | down. | |
| 2 | This author of "Anthem for Doomed Youth" | Wilfred (Edward Salter) |
| | described telling "childrenthat old lie" in | $\underline{\text{Owen}}$ |
| | "Dulce et Decorum Est ['DULL'-kay et | |
| | day-KOR-um est]". | |
| 3 | This poet helped Owen revise "Dulce et | Siegfried (Loraine) |
| | Decorum Est". "Counter-Attack" is one of his | Sassoon |
| | own war poems. | |

Extra Question #9: Literature - British Literature

| Wh | ile living with his aunts Spiker and Sponge, | |
|------|---|---------------------------------|
| this | boy was given "crocodile tongues" that he | |
| inac | lvertently spilled onto a barren tree. | |
| 1 | Name this character who travels to New York | James Henry <u>Trotter</u> |
| | City and lives inside a mansion in Central Park. | [accept either underlined |
| | | name] |
| | | |
| 2 | James's journey to New York was facilitated by | the Giant <u>Peach</u> |
| | this fruit, which fell into the sea near the Cliffs | |
| | of Dover. | |
| 3 | Before rolling into the sea, the Giant Peach | Willy Wonka 's chocolate |
| | rolls through this place, which features a room | factory [accept |
| | with lickable wallpaper. | equivalents; prompt on |
| | | partial answers] |
| | | |