

## **G.A.T.A. 1993 State Tournament - Round 11**

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T1. They have an adaxial surface, a midrib, lamina, vein, and margins. They can be pinnate, palmate, and compound. For 10 points, what are these plant organs whose function is photosynthesis?

Answer: leaves

B1. Identify the following biology terms for 10 points each.

1. The development of an egg without fertilization.

Answer: parthenogenesis

2. The stomach enzyme that digests protein.

Answer: pepsin

T2. As a congressman under the Articles of Confederation, he argued with John Jay over American interest in the West. He later served for six years as Secretary of State under James Madison. For 10 points, identify this fifth president of the United States.

Answer: James Monroe

B2. Identify the Union commander of the Army of the Potomac against Robert E. Lee at the following battles. 10 pts. each.

1. Gettysburg

Answer: George Gordon Meade

2. Antietam

Answer: George McClellan

T3. It is a town in Spain's Vizcaya province near Bilbao. Once the seat of the Basque parliament, it was bombed in 1937 by German planes, acting on behalf of Franco's nationalists. The destruction shocked the world and became the subject of a painting by Pablo Picasso. For 10 points, identify this work of art that shares its name with the destroyed village.

Answer: Guernica

B3. Identify the following art movements of the early 20th century from brief descriptions. 10 pts.

1. It was founded in Zurich by a group of artists and writers led by Jean Arp and Tristan Tzara

Answer: Dada or dadaism

2. This loosely organized group of Expressionist artists took its name from the title of a Kandinsky painting.

Answer: Blaue Reiter or Blue Rider

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T4. Its largest lake, Lago de Izabal, is located not far from its tiny stretch of coast on the Gulf of Honduras. It is bordered by El Salvador, Honduras, Belize, and Mexico. For 10 points, identify this central American nation whose capital shares its name with the country.

Answer: Guatemala

B4. Give the Australian state of which the following are the capitals.

1. Perth

Answer: Western Australia

2. Brisbane

Answer: Queensland

3. Melbourne

Answer: Victoria

4. Hobart

Answer: Tasmania

T5. Influential both as a poet and as a critic, he helped to found the New Criticism and later in life became America's first Poet Laureate. For 10 points, identify this poet and novelist best known for All the King's Men.

Answer: Robert Penn Warren

B5. Give the Sinclair Lewis title character given his or her profession. 10 points each.

1. Medical doctor

Answer: Martin Arrowsmith

2. automobile manufacturer

Answer: Samuel Dodsworth

T6. Pencil and paper ready. Suppose the position of a particle at time  $t$  is given by the function:  $f(t) = 8t^2 + 7t + 3$  ( $f$  of  $t$  equals eight  $t$  squared plus seven  $t$  plus three). For ten points, what is the acceleration of the particle at any time?

Answer: 16

B6. (20 Points) For 10 points each, give the value of these integrals ignoring the arbitrary constants.

1) the integral of secant squared  $x$   $dx$

Answer: tangent $x$

2) the integral of tangent  $x$   $dx$

Answer:  $\ln|\sec(x)|$  or natural log of the absolute value of secant  $x$  or  $-\ln|\cos|$  or negative natural log of absolute value of cosine  $x$  (answer is incorrect without absolute value)

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T7. It occurred in 1381 and was the only major outbreak of social rebellion in medieval England. It was stopped when the young Richard II met with its leaders and granted their demands for an end to serfdom and low rents. For 10 points, what is this outbreak led by Wat Tyler and rebel priest John Ball?

Answer: Peasant's revolt (accept Wat Tyler's rebellion before Wat Tyler is said)

B7. Identify these ancient civilizations from brief descriptions. 10 pts. each.

1. Its legendary founder was Ninus, who built the capital city of Nineveh.

Answer: Assyria or Assyrian

2. The cities of this Eastern mediterranean civilization included Byblos, Sidon, Tyre, and Tripoli.

Answer: Phoenicia or Phoenician

T8. (Please read through question ahead of time reader to get pauses right on names) Based on a drama by Victorien Sardou, it received its first performance in Rome in 1900. It features the executioner, Roberti; the police agent, Spoletta; the chief of police, Baron Scarpia; and the title character, a prima donna. For 10 points, what is this successful opera by Puccini?

Answer: Tosca

B8. Identify the composers of the following operas for 10 pts. each.

1. Dido and Aeneas

Answer: Henry Purcell

2. The Elixir of Love

Answer: Gaetano Donizetti

T9. In it, Cephalus, Polemarchus, Thrasymachus, Glaucon, and Adeimantus are the interlocutors of Socrates. It begins with an attempt to define justice and Socrates remarking that before justice can be found in the individual, it must be sought in the state. For 10 points, identify this work setting out Plato's view of the ideal state.

Answer: The Republic

B9. Identify the Greek playwrights who wrote the following. 5 pts. each.

1. The Persians

Answer: Aeschylus

2. Iphigenia in Tauris

Answer: Euripedes

3. Lysistrata

Answer: Aristophanes

4. Antigone

Answer: Sophocles

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T10. Outside a spherical body it is given by the square root of the quantity  $2GM$  over  $r$ . where  $G$  is the Gravitational constant,  $M$  is the mass of the body, and  $r$  is the distance from the center of the body. For 10 points, what is this speed which must be exceeded in order to leave the gravitational well of a large body such as a planet?

Answer: escape velocity

B10. Identify the planet orbited by these lesser known moons.

1. Electra

Answer: Saturn

2. Callisto

Answer: Jupiter

3. Umbriel

Answer: Uranus

4. Nereid

Answer: Neptune

T11. It is a type of popular song sung throughout the Caribbean Islands, particularly in Trinidad where it originated. For 10 points, identify this type of music that shares its name with a nymph with whom Odysseus spent seven years on his way home from Troy.

Answer: calypso

B11. Identify the following musical scales for 10 points each.

1. It is a five tone scale found in the music of Asian and African music and rock music.

Answer: pentatonic

2. It contains no half tones and consists of six tones per octave. There are only two scales of this type in traditional western music.

Answer: whole tone

T12. It is achieved for rotation when the sum total of all torques acting on a body is zero. For translation, it is achieved when the vector sum of forces acting on the body is zero. For 10 points, what is this condition of a system in balance in physics?

Answer: equilibrium

B12. Identify the following terms from physics that start with the letters "di" for 5 points each.

1.. the property of a substance whereby it is feebly repelled by a strong magnet

Answer: diamagnetism

2. an electric insulator

Answer: dielectric

3. the scattering of light by irregular reflection

Answer: diffusion

4. a two terminal device that will conduct electric current more easily in one

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direction than the other.

Answer: diode

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T13. Daniel Defoe used this word to describe Danes in his satire "The True Born Englishman", though it was quite new to English at the time. It is derived from the eating habits of French hunters living in the West Indies who preserved meat by smoking it on a wooden grid. For 10 points, what is this word now applied to pirates?

Answer: buccaneer

B13. Identify these terms from linguistics for 10 points each.

1. This term is applied to a language that forms words mainly by combining little-changed word elements. For example, "going-to-the-sun mountain".

Answer: agglutinative

2. This term is applied to varying the form of nouns, adjectives, and pronouns to show case, number, and gender in a sentence.

Answer: declension

T14. He was a leading theorist and advocate of Humanistic Psychology, the "third force" that provides an alternative to the dominant schools of behaviorism and psychoanalysis. For 10 points, identify this author of Toward a Psychology of Being whose interest in higher levels of motivation led him to the study of "self-actualized" individuals.

Answer: Abraham Maslow

B14. Identify the anthropologists who wrote the following works. 10 pts. each.

1. Coming of Age in Samoa

Answer: Margaret Mead

2. Patterns of Culture

Answer: Ruth Benedict

T15. Pencil and paper ready. Consider the following equation:  $2x^2 = 3y^2 + 6$  (two x squared equals three y squared plus 6). For ten points, what kind of conic section does it represent? Answer: hyperbola

B15. Consider the equation for the hyperbola in the preceding toss-up in simplified form:  $x^2/3 - y^2/2 = 1$ .

1. For 10 points, what term is applied to the lines which the curves of the hyperbola approach toward infinity.

Answer: asymptotes

2. For an additional 10 points, what is the slope of the asymptote of the hyperbola that has positive slope?

Answer: square root of (2/3) or square root of two over square root of three

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T16. In her later years, this Victorian poet's work turned away from Romantic narrative poetry toward social issues of the day, including child labor and Italian nationalism. In 1857 she published the verse novel Aurora Leigh, but she is probably best known for her earlier Sonnets from the Portuguese. For 10 points, name her.

Answer: Elizabeth Barrett Browning

B16. Identify the speaker who told the following Canterbury tales. 10 pts. each.

1. Three young men search for death and kill each other over gold.

Answer: Pardoner's tale

2. A woman and her lover trick her husband into believing the second flood is coming. He naps in a suspended tub which crashes to the ground when he severs the ropes holding it after hearing screaming downstairs.

Answer: Miller's tale

T17. Though it was native to China, it was given the specific name *Prunus persica*. According to one source, only apples are more widely grown among tree fruits today. For 10 points, identify this tree of the rose family whose fruit is often used in association with the state of Georgia.

Answer: peach

B17. The T-cells of the immune system come in a variety of types. For 10 points each, identify these types of T-cells.

1. This type of T-cell is activated by foreign antigens in association with the Class I self MHC antigen. They destroy virus-infected cells or cancer cells.

Answer: cytotoxic T-cells

2. This type of cell aids in the activation of B cells and other T cells by the secretion of chemical factors.

Answer: helper T-cells

T18. It was written with the intention of inspiring great patriotism for the Union and perhaps inspired by the remark of Clement Vallandigham that he didn't want to live in a country ruled by Lincoln. For 10 points, identify this story of the exiled Philip Nolan by Edward Everett Hale.

Answer: The Man Without a Country

B18. Identify the American author who created the following solvers of mysteries. 5 pts. each.

1. Nero Wolfe

Answer: Rex Stout

2. Sam Spade

Answer: Dashiell Hammett

3. Philip Marlowe

Answer: Raymond Chandler

4. Perry Mason

Answer: Erle Stanley Gardner

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T19. At ordinary temperatures it is a pale-yellow flammable gas that is slightly heavier than air. It is widely distributed in the earth's crust in cryolite and phosphate rocks, but is not found uncombined in nature. For 10 points, identify this reactive chemical element discovered by Henri Moissan that has atomic number 9 and symbol F.

Answer: fluorine

B19. For 5 points each, identify the compound name for which the following three letter chemical abbreviations stand.

1. PCB

Answer: poly-chlorinated-biphenyl

2. DNA

Answer: deoxyribonucleic acid

3. LSD

Answer: lysergic acid diethylamide

4. TNT

Answer: tri-nitro-toluene

T20. Andrew Jackson claimed that John Quincy Adams struck a "corrupt bargain" in order to win the election of 1824. That "bargain" supposedly involved the peddling of influence in the House in exchange for the office of Secretary of State. For 10 points, identify the influential House member and presidential candidate who was given the office of Secretary of State under Adams.

Answer: Henry Clay

B20. Identify the following 20th century Secretaries of State from brief descriptions. 10 pts. each.

1. This man who served as Secretary of State under Theodore Roosevelt was awarded the 1912 Nobel peace prize.

Answer: Elihu Root

2. This man who served as Secretary of State from 1925 to 1929 and won the 1929 Nobel peace prize.

Answer: Frank B. Kellogg

T21. A so-called "enlightened despot," he was a great patron of the arts and a friend of Voltaire. For ten points, name this man who was King of Prussia from 1740 to 1786.

Answer: Frederick II or Frederick the Great

T22. Born in 1812, he struggled for many years before becoming a successful poet. His works include The Ring and The Book and My Last Duchess. For ten points, name this poet.

Answer: Robert Browning