

## **G.A.T.A. 1993 State Tournament - Round 1**

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T1. Inspired by his earlier success, he attempted to capture Montreal, but failed and was captured by the British. For 10 points, name this man who captured Fort Ticonderoga in 1775.

Answer: Ethan Allen

B1. Identify these high-ranking U.S. military officers for 10 points each.

1. This man earned his famous nickname from his first command and in 1919 was commissioned General of the Armies.

Answer: Gen. John Pershing

2. This general served in the army and later in the Air Force and was the first five star general in the Air Force.

Answer: Henry Harley "Hap" Arnold

T2. It represents the sphere or spheroid around a black hole which, once crossed over, may never be crossed back. For 10 points, give the name of this surface.

Answer: Event Horizon or Schwarzschild Radius

B2. For 5 points each, give the gland that is the source of the following hormones.

1. Cortisol

Answer: adrenal

2. ACTH

Answer: pituitary

3. glucagon

Answer: pancreas

4. growth hormone

Answer: pituitary

T3. This one-time Unitarian minister was greatly admired by the philosopher Nietzsche. For 10 points, name this American essayist who wrote Self-Reliance.

Answer: Ralph Waldo Emerson

B3. Identify the William Faulkner novel featuring the following characters.

1. Addie Bundren

Answer: As I Lay Dying

2. Rosa Coldfield

Answer: Absalom, Absalom!

3. Benjy Compson

Answer: The Sound and the Fury

4. Boon Hogganbeck

Answer: The Reivers

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T4. It is possessed by Tanzania and Uganda, although it also borders Kenya. Covering almost 70,000 square kilometers, it is the largest lake in Africa. For 10 points, name it.

Answer: Lake Victoria

B4. Give the capitals of the following nations, 5 pts. each.

1. Uganda

Answer: Kampala

2. Rwanda

Answer: Kigali

3. Nepal

Answer: Khatmandu

4. Jamaica

Answer: Kingston

T5. Pencil and paper ready. Consider the polynomial  $2x^2 + 7x + 3$ . For 10 points, into what two binomials can it be factored?

Answer:  $x + 3$ ,  $2x + 1$  [ $(x+3)$ , $(2x+1)$ ]

B5. Give the derivative with respect to  $x$  of the following functions for 10 points each.

1.  $e^{-2x}$  (read: e to the minus 2 x)

Answer:  $-2e^{-2x}$  (minus 2 e to the minus 2x)

2.  $\secant(x)$  (read: secant x)

Answer:  $\tangent(x)$  times  $\secant(x)$  (tangent and secant are interchangeable in terms of order)

T6. This native of New Zealand made history in 1953 with the help of a Sherpa guide named Tenzing Norgay. For 10 points, name the first European man to scale Mt. Everest.

Answer: Sir Edmund Hillary

B6. Answer the following questions about the Persian Wars. 10 pts. each.

1. The revolt of the people of what area started the wars?

Answer: lonia or Ionians

2. At what strategic pass was the capture of Athens delayed for three days by a mere 300 Spartans?

Answer: Thermopylae

T7. Its diameter is about 40 per cent and its mass is about 6 per cent of the earth's. It rotates three times for every two trips around the sun, giving it a day about 56 earth days long. For 10 points, what is this planet with an 88 day year, the closest to the Sun?

Answer: Mercury

B7. Tropism in plants is the growth of the plant in certain directions under certain

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stimuli. For 10 points, what tropism is caused by the following:

1. gravity

Answer: geotropism or gravitotropism

2. a localized contact or touch

Answer: thigmotropism or haptotropism or stereotropism

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T8. Born in 1756, he began touring Europe with his sister Nannerl and father Leopold when only seven. For 10 points, name this musical genius whose works include The Magic Flute.

Answer: Wolfgang Amadeus Mozart

B8. Give the numbers of the following symphonies. 5 pts. each.

1. Mozart's Jupiter

Answer: 41

2. Beethoven's Pastoral

Answer: 6

3. Beethoven's Eroica

Answer: 3

4. Tchaikovsky's Pathetique

Answer: 6

T9. Though its author worked on it for most of his life, it was not published until after his death in 1850. For 10 points, name this long poem by William Wordsworth.

Answer: The Prelude, or Growth of a Poet's Mind

B9. Identify the 18th-century English authors of the following. 5 pts. each.

1. The Deserted Village

Answer: Oliver Goldsmith

2. Clarissa

Answer: Samuel Richardson

3. Joseph Andrews

Answer: Henry Fielding

4. The Rape of the Lock

Answer: Alexander Pope

T10. It comes to an end with all of the chromosomes lined up at the midplane of the cell, having been moved there by spindle fibers. For 10 points, name this phase of mitosis.

Answer: Metaphase

B10. Identify these types of clouds for 10 points each.

1. These high altitude clouds occur whenever the air in the upper troposphere rises sufficiently for ice crystals to form.

Answer: cirrus clouds

2. These clouds are layered, gray clouds with rather uniform bases and tops. They are usually composed of water droplets, are of limited vertical extent, and generally do not produce precipitation. Fog results when their bases descend to the ground.

Answer: stratus

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T11. This process occurs in amoebas, the digestive cells of some invertebrates, and vertebrate white blood cells. For 10 points, name this process by which cells "eat" material by engulfing it.

Answer: Phagocytosis

B11. For 5 points each, give the winners of the Nobel Physics prize who won in the following years for the following discoveries.

1. 1923, measuring the charge on the electron

Answer: Robert Millikan

2. 1921, explanation of the photoelectric effect

Answer: Albert Einstein

3. 1918, discovery of energy quanta

Answer: Max Planck

4. 1901, for the discovery of the remarkable rays sometimes named after him

Answer: Wilhelm Roentgen

T12. In philology, it is used to mark a reconstructed form not yet attested in a text. It is also used to indicate a reference or annotation, to mark a cross reference, or to indicate a missing letter in a four letter word. For 10 points, what is this mark used in writing and printing that derives its name from the Greek for "small star"?

Answer: asterisk

B12. For 10 points each, identify the figure of speech illustrated by the following sentences.

1. He was a tower of strength

Answer: metaphor

2. He was as quick as lightning.

Answer: simile

T13. In London in 1864 this socialist organized the First International, an association of European leftists. For 10 points, name this man famous for his collaboration with Friedrich Engels.

Answer: Karl Marx

B13. Give the article of the U.S. Constitution which deals with or contains the following. 5 pts. each.

1. the "elastic clause"

Answer: Article I

2. the qualifications for running for president

Answer: Article II

3. amendment process

Answer: Article V

4. validated debts accrued under Articles of Confederation

Answer: Article VI

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T14. Pencil and paper ready. For 10 points, how many degrees are contained in an angle measuring pi over 18 radians.

Answer: 10

B14. Given the equation:  $R = 3 \cos \theta$ .

1. For 10 points, in what coordinate system is the equation expressed?

Answer: polar coordinates

2. For 10 points, in degrees, what is the smallest value for which R is a maximum?

Answer: zero

T15. Despite their deceptive name, they are actually mountains. In fact, they are the highest mountains in the U.S. east of the Rockies. For ten points, name this range in South Dakota.

Answer: The Black Hills

B15. Identify the European nation from whom the following African nations were granted their independence. 5 pts. each.

1. Angola

Answer: Portugal

2. Kenya

Answer: Great Britain or England

3. Algeria

Answer: France

4. Mali

Answer: France

T16. Born in the Netherlands in 1853, he worked as a Calvinist missionary before turning to painting. For 10 points, name this artist whose work includes Starry Night.

Answer: Vincent Van Gogh

B16. Identify the following regionalist American painters for 10 points each.

1. This Missouri born painter created many mural cycles such as America Today and a series for the Missouri state capital.

Answer: Thomas Hart Benton

2. This Iowa born artist painted "Daughters of Revolution" but his most famous work resides in the museum of the Art Institute of Chicago.

Answer: Grant Wood

T17. He is sometimes called by the name Shakyamuni which signifies that he was a sage of the Shakya tribe. For 10 points, identify this religious figure whose given name was Siddhartha Gotama.

Answer: The Buddha

B17. Identify the following plays by Ibsen from a single character. 10 pts. each.

1. Torvald Helmer

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Answer: A Doll's House

2. Oswald Alving

Answer: Ghosts

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T18. An endothermic reaction requires an input of energy in order to occur. For 10 points, name the quantity of threshold energy which must be overcome to produce a reaction.

Answer: activation energy or energy of activation

B18. Answer the following questions about chemical combustion for 10 points each.

1. First, for 5 points, what is the formula of benzene?

Answer: C<sub>6</sub>H<sub>6</sub>

2. For 15 points, how many moles of oxygen must be used to completely combust 2 moles of benzene?

Answer: 15

T19. This early American philosopher and theologian was heavily influenced by John Locke and John Calvin. For 10 points, name this author of *Sinners in the Hands of an Angry God*.

Answer: Jonathan Edwards

B19. For 10 points each, give the pen name used by Washington Irving to write the following.

1. *The Sketchbook*

Answer: Geoffrey Crayon

2. *History of New York*

Answer: Diedrich Knickerbocker

T20. (Pencil and paper may be necessary) Consider the following equation:  $8x^2 + 4y^2 = 10$  (eight x squared plus four y squared equals ten). For 10 points, what kind of conic section does it represent?

Answer: An Ellipse

B20. For 10 points each, given the equation  $y = x^3 - 2x^2 + x - 2$ . [ $x$  cubed minus 2  $x$  squared plus  $x$  minus 2]

1. Find the  $x$  coordinate of the local maximum.

Answer: 1/3

2. Find the  $x$  coordinate of the local minimum.

Answer: 1

T21. This Greek school of moral thought became popular in the Roman Empire. For ten points, name this school of thought represented by Seneca and Marcus Aurelius.

Answer: Stoicism

T22. This former Soviet Republic, which contains the Karakumy Desert, is the only one to border both Iran and Afghanistan. For ten points, name this nation with its capital at Ashkabad.

Answer: Turkmenistan



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