

NEW TRIER VARSITY 2008

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Round 7: Boys Becoming Men — Men Becoming Wolves

Bonuses

1. (AS) Answer the following about a series of religious wars:

[10] Pope Urban II and Byzantine Emperor Alexios I started the first of these wars in response to the takeover of Anatolia by this Turkish tribe.

ANSWER: **Seljuk Turk**

[10] This second city of the Byzantine empire had fallen into Seljuk hands by the time of the First Crusade. Its siege by the Crusaders in 1098 was only ended when the Crusaders stealthily entered the city through an underground waterway.

ANSWER: **Antioch**

[10] This last of the crusades in the Middle East saw the Frankish Crusader states completely destroyed by the Mamluk Turks. With the fall of Antioch, Tripoli, and Acre from 1268 to 1291, Frankish rule disappeared and Christian rule in the Levant ended following this crusade.

ANSWER: the **ninth** crusade

2. (AS) Answer the following about some famous raiders:

[10] This American Indian tribe raided villages throughout the American Southwest and Northern Mexico in the mid- and late-1800's. They were led by the great chief Mangas Coloradas.

ANSWER: **Apache** (prompt on **Chiricahua** or **Mimbrenño**)

[10] Angered by the confinement of his people to reservations following the Apache Wars, this Apache spiritual leader and medicine man led the last breakout from the San Carlos reservation in 1885.

ANSWER: **Geronimo** or **Goyathlay**

[10] Geronimo surrendered to the U.S. army in 1886, and afterwards he and most of his people were sent to a new reservation in this U.S. state.

ANSWER: **Florida**

3. (HT) A Nigerian prince has offered you thirty points! All you have to do is give him five points first. But since you can't do that, answer these questions about getting rich quick:

[10] The Nigerian scam is one of these, a scam where victims are encouraged to give money under the impression that this will allow access to currently unavailable funds

ANSWER: **advance-fee** fraud or **419** fraud

[10] This other "business model" differs from the pyramid scheme in that the original entrepreneur remains the hub of the system as opposed to isolating himself at its vertex. Former NASDAQ chairman Bernard Matoff was recently charged with organizing one of these.

ANSWER: **Ponzi** scheme

[10] This perfectly legal opportunity to make money in short order presents itself when the value for which something is traded increases much faster than its intrinsic value. Famous examples involve tulips, housing, and dot-com industries.

ANSWER: speculative or economic **bubble** or speculative **mania**

4. (JG) Identify the following about a problem in mathematics, recently solved by an eccentric Russian.
[10] This is the problem. Posed in 1900 by its French namesake, it posits that the tightening of a loop on a three-sphere characterizes the three-sphere among three-manifolds.

ANSWER: **Poincaré** conjecture

[10] This really weird dude declined the Fields Medal for his 2003 proof that the Poincaré conjecture is true.

ANSWER: Grigori Yakovlevich **Perelman** or Grisha **Perelman**

[10] The Poincaré conjecture is one of these seven problems, a correct solution for which the Clay Mathematics Institute offers a million-dollar prize. Other ones include the P equals NP problem and the Riemann hypothesis.

ANSWER: **Millennium** Prize Problems

5. (RS) Name these German cities:

[10] This city, the largest in Germany, was divided from the end of World War II until 1990.

ANSWER: **Berlin**

[10] This city is the largest in Bavaria, and was the site of the 1972 Summer Olympics. Less talked about there these days is the fact that Dachau [DAH khow] was just a few miles northwest of it.

ANSWER: **Munich** or **Munchen**

[10] This city was the site of the invention of a supposed cure for the plague, which didn't work, but is still used today for another purpose. It sits on the Rhine and is the largest city in Westphalia.

ANSWER: **Cologne** or **Koln**

6. (JG) Name some art museums of Europe:

[10] This French museum's ancient holdings include the *Venus de Milo* and the *Winged Victory of Samothrace*.

ANSWER: the **Louvre** museum or Musée du **Louvre**

[10] This is Spain's national museum of 20th century art. It is near the Prado and is named for the current queen of Spain.

ANSWER: Museo Nacional Centro de Arte **Reina Sofía** or the **Queen Sofía** museum

[10] Another Spanish museum is this one in Bilbao, designed by Frank Gehry. It is often noted that the building's design overshadows its holdings, as evidenced by this question not having any clues about them.

ANSWER: the **Guggenheim** Museum Bilbao

7. (DR) Identify these musical tempo terms from Italian:

[10] Give either five-letter term beginning with the letter L that denotes a very slow tempo.

ANSWER: **largo** or **lento**

[10] This term means at a walking pace. This tempo often is used in second movements.

ANSWER: **andante**

[10] This three-letter Italian word meaning 'more' is sometimes used to clarify tempo instructions, and also occasionally precedes dynamic markings.

ANSWER: **più**

8. (TM) Identify these works of Henry James for 10 points each:

[10] Isabel Archer settles in Rome with Gilbert Osmond in this novel, which also sees Osmond oppose Isabel's plans to visit Ralph, who is dying on his estate in England.

ANSWER: *The **Portrait of a Lady***

[10] Austin Sloper is a doctor who lives in the title location of this Henry James novel, and other residents of his house include his retarded daughter Catherine and his sister Lavinia.

ANSWER: ***Washington Square***

[10] Olive Chancellor and Verena Tarrant may have a lesbian affair in this Henry James novel, and are the title characters along with Basil Ransom.

ANSWER: *The **Bostonians***

9. (JG) Identify these theorems used to make tough calculus problems easy.

[10] The theorem usually referred to by this name states that differentiation and integration are inverse operations.

ANSWER: **Fundamental Theorem of Calculus**

[10] The most basic form of this generalization of the Fundamental Theorem of Calculus, which isn't really due to its namesake, states that the integral of the curl of a field over a capping surface equals the line integral of the field over the surface's boundary. Green's Theorem is a lower-dimensional special case of this.

ANSWER: **Stokes'** Theorem

[10] This theorem, named for an Italian, states that convergent multiple integrals can be evaluated as iterated integrals, and that the order in which this is done doesn't matter.

ANSWER: **Fubini's** Theorem (accept **Tonelli's** Theorem)

10. (JG) For 10 points each, given some characteristics of a group of animals, give the phylum [FIL um] under which one would file 'em.

[10] The name of this phylum means "spiny skin", which they have along with radial symmetry, usually fivefold. They are exclusively marine and include starfish, sand dollars, and sea cucumbers.

ANSWER: **echinodermata** [eh KI no dur mah tah] or **echinoderms**

[10] Humans are found in this phylum, which is distinguished by the embryological presence of a notochord [NOH toh kord], a dorsal hollow nerve cord, pharyngeal [fah RAYN jee ahl] slits, and a muscular post-anal tail.

ANSWER: **chordata** or **chordates**

[10] This bilaterally symmetric phylum, whose name means "flatworms", includes flukes and tapeworms. Its hermaphroditic members are the simplest organisms to have a nervous system.

ANSWER: **platyhelminthes**

11. (DR) Identify these terms often used in the field of education:

[10] This term used to refer to a case for carrying loose papers and now refers to a collection of student work.

ANSWER: **portfolio**

[10] This adjective is used to describe the grouping together of students who vary in aptitude and/or age, and is used generally to describe groups that are nonuniform in some characteristic.

ANSWER: **heterogeneous**

[10] This term refers to keeping a teacher with a group of students for more than one year.

ANSWER: **looping**

12. (JG) In a circular pipe, it is given by the product of the mean fluid velocity with the diameter of the pipe divided by the fluid's kinematic viscosity. For 10 points each:

[10] Identify this dimensionless quantity that describes various forces in a flowing fluid.

ANSWER: **Reynolds** number

[10] A very high Reynolds number, usually over four thousand, is characteristic of this chaotic type of flow, which also causes bumpiness in airplanes.

ANSWER: **turbulent** flow or **turbulence**

[10] Often contrasted with turbulent flow is this type of flow, which has a smaller Reynolds number. It is defined by the fluid flowing in undisrupted parallel layers.

ANSWER **laminar** flow or **streamline** flow

13. (JG) Give the answers to these related clues for 10 points each.

[10] The Battle of New Orleans occurred after the signing of this treaty, but news travelled so slowly that people didn't know about this until afterwards. This treaty brought an end to the War of 1812.

ANSWER: Treaty of **Ghent**

[10] No one is sure who the central figure in this work of art is, though the three-part tiara he wears suggests that it might be a representation of the Holy Trinity. It's well established that the other main figures are John the Baptist and the Virgin Mary, and Adam, Eve, Cain, and Abel are also shown in this work by Hubert and Jan van Eyck.

ANSWER: **Ghent Altarpiece**

[10] This tower has served as a watchtower in addition to its main duty as a clock. It also features a hall where the cloth industry gathered and an annex called the Mammeloker, which has a sculpture representing the story of Cimon.

ANSWER: **Belfry of Ghent** (accept clear knowledge equivalents like **Ghent Belfry**)

14. (DT) After slaying the eight-forked dragon Koshi using vats of wine, he obtained the sword Kusanagi. For 10 points each:

[10] Identify this storm god who caused a long period of darkness using a flayed horse.

ANSWER: **Susanoo-no-Mikoto** [accept **Susanowa**]

[10] That flayed horse caused this deity to go hide out in a cave until Uzume danced around and got her to come out again.

ANSWER: **Amaterasu-omikami**

[10] Amaterasu and Susanoo are found in the pantheon of this Japanese religion.

ANSWER: **Shinto**

15. (JG) It is between rhenium and manganese on the periodic table, and is slightly paramagnetic. For 10 points each:

[10] Name this element, number forty-three, which is always radioactive and thus is almost exclusively artificially produced.

ANSWER: **technetium** [tehk NEESH ee uhm]

[10] This is the other element among the first eighty-two with no stable isotope. It is sometimes used in luminous paint and is named for a thief of fire.

ANSWER: **promethium** [proh MEETH ee uhm]

[10] Technetium ninety-nine was found naturally in this mineral that also contains uranium. It is usually mined into yellowcake.

ANSWER: **pitchblende**

16. (RS) Given the catchphrase or a description, name the product invented or marketed on late night infomercials by Ron Popeil.

[10] "Set it and Forget it!"

ANSWER: **Showtime Rotisserie** (prompt on partial answer)

[10] "Hey, good looking, I'll be back to pick you up later. Broadcast your voice on any FM radio!!!"

ANSWER: **Mr. Microphone**

[10] This was parodied by Dan Akroyd on Saturday Night Live in 1976. Name either the real, parodied product or the fake product in the parody.

ANSWER: **Veg-O-Matic** or **Bass-O-Matic**

17. (DR) Computational — pencil and paper ready. Give the following related to the conic section with equation $y^2 - 8x + 6y + 49 = 0$.

1. [10] Its eccentricity,

2. [10] Its vertex,

3. [10] The equation of its directrix. Thirty seconds.

ANSWER 1: **1**

ANSWER 2: $(x,y) =$ **(5,-3)**

ANSWER 3: **x equals 3** or **x minus 3 equals 0**

18. (DR) Name these three-dimensional shapes:

[10] Though the ones studied in elementary school always involve circles and have a lateral surface area of two pi $r h$, this term actually applies to any surface in three-dimensions whose graph can be specified with only two variables.

ANSWER: **cylinders**

[10] Of the five Platonic solids, this is the only one whose faces are pentagons.

ANSWER: **dodecahedrons**

[10] Give the four-word name associated with the equation $x^2 + y^2 - z^2 = c^2$.

ANSWER: **hyperboloid of one sheet** (prompt on **hyperboloid**)

19. (JP) Identify these geologic terms:

[10] Magma flows of this kind of rock tend to cause violent, explosive eruptions due to its thick viscosity when melted. This is also the extrusive equivalent of granite.

ANSWER: **rhyolite** or **rhyolitic**

[10] Magma flows from this kind of rock tend to be quieter, and fresh flows of it can be viewed at Kilauea [kihl oh WAY ah] National Park.

ANSWER: **basalt** or **basaltic**

[10] This is the general term for falling material produced in an eruption. It encompasses ash, cinders, and volcanic bombs. Dust from this can remain in the air for a long time, causing volcanic winters.

ANSWER: **tephra** or **pyroclasts**

20. (JG) His works include "Bright star, would I were steadfast as thou art" and "Ode to a Nightingale", and he was distantly related to John Donne. For 10 points each:

[10] Name this British Romantic poet who wrote "On First Looking Into Chapman's Homer".

ANSWER: John **Keats**

[10] Keats wrote about this celestial body in "On First Looking Into Chapman's Homer". It had been discovered only thirty-five years earlier.

ANSWER: **Uranus**

[10] After Keats died at the age of 25, his friend Percy Shelley wrote this poem mourning him. In the last of its fifty-five stanzas, it mentions that his soul "like a star/Beacons from the abode where the Eternal are."

ANSWER: **Adonais** [ah doh NAY is]