Tossups by David Thorsley

1. By rescuing Hesione, (hehs-i-on-ee) Heracles received this man's ransom, two horses that had previously been in the ownership of King Laodemon. Heracles was indirectly responible for his kidnapping, as his marriage to Hebe left a job opening on Mount Olympus that Zeus filled by finding the prettiest boy around. For 10 points—identify this boy kidnapped by Zeus to be his cupbearer, namesake of Jupiter's largest moon.
   Answer: **Ganymede**

2. This city, located near the mouth of the Sangone river and the Roman ruins of Susa and Moncalieri, was the place where vermouth was invented in 1786. Located in the western part of the Po River plain and south of the Alps, this hometown of Fiat motors was the first capital of unified Italy and it is now the capital of Piedmont. For 10 points—identify this site of the 2006 Olympics and a famous shroud.
   Answer: **Turin** or **Torino**

3. The 12th-century mosaics on its southern wall depict the seven general councils of the Christian church. It escaped destruction by the Sassanids in 614 when they saw an image of the Magi above its entrance. Originally constructed after the Council of Nicaea and rebuilt during Justinian's reign, its state of disrepair was not helped by the April 2002 intrusion of 123 unwelcome guests. For 10 points—identify this Bethlehem church, the site of a five-week Palestinian occupation.
   Answer: **Church of the Nativity**

4. His early career was marked by failures, including a defeat by Muhammad Shaybani Khan at Sar-e-Pol, which resulted in the loss of both Samarkand and his own principality of Fergana. Fifteen years after capturing Kabul, he defeated Mahmud (mock-mood) Lodi at Ghaghara in 1529, consolidating the gains that had begun when he defeated Mahmud's brother Ibrahim at Panipat. For 10 points—identify this first Moghul emperor.
   Answer: **Babur** or **Babar**

5. Erik Satie mocked its first movement by saying "I especially like the little bit at a quarter to eleven," a reference to the movement's title "From Dawn to Noon." Subtitled "Three Symphonic Sketches," it counts among its influecnes an exhibition of J.M.W. Turner paintings, while Hokusai's "The Great Wave of Kanogawa" appeared on the cover of its score's first edition. For 10 points—identify this 1905 symphonic impressionist work by Claude Debussy.
   Answer: *La **Mer*** or *The **Sea***

6. His doctoral thesis related to the absorption of light by crystals, but he concentrated his studies on phosphorescence after an 1896 discussion with Henri Poincaré. By placing a sample of pitchblende in a closed drawer, he was able to show that it was not luminescence, but a new phenomenon, that was producing emissions. For 10 points—identify this physicist who won the 1903 Nobel Prize for discovering spontaneous radioactivity.
   Answer: Antoine Henri **Becquerel**

7. Her less well-known credits include the TV movies *Ruby Ridge: An American Tragedy* and *Fifteen and Pregnant*, and the Savage Garden video "I Knew I Loved You." Her better-known projects include "Wooden Spoon Productions," the production company she started with her mother, the starring role in *Jumanji*, and a supporting role in the 2002 film *The Cat's Meow*. For 10 points—identify this actress who plays Mary Jane Watson in 2002's *Spiderman*.
   Answer: Kirsten **Dunst**

8. He says that on the programme of Providence, the story he tells lies between the "Grand Contested Election for the Presidency of the United States" and a "Bloody Battle in Affghanistan." A onetime Massachusetts schoolmaster, he escaped death by catching hold of a canoe-shaped coffin, making him the only surviving crewmember capable of telling the *Pequod*'s tale. For 10 points—identify this narrator of Herman Melville's *Moby Dick*.
   Answer: **Ishmael**

9. This San Leandro, California native's conviction was overturned in 1984 when it was revealed the government omitted evidence in his case. He had eluded authorities for ten days by undergoing facial surgery to disguise himself as a Mexican-American, until he was captured and eventually interred at Topaz, Utah, in 1942. For 10 points—identify this man convicted of remaining on the California coast in spite of his Japanese ancestry.
   Answer: Fred **Korematsu**

10. One of its early practitioners was Dr. Louis Cholden, whose use of the technique was captured in the TV documentary "Out of Darkness." Influenced by techniques developed by Jessie Taft, Otto Rank, and Frederick Allan, its developer listed three conditions for its effectiveness: congruence, unconditional positive regard, and empathic understanding. For 10 points—identify this method of therapy associated with American psychologist Carl Rogers.
   Answer: **client-centered** therapy

11. It is the solution to Van Schooten's locus problem, as it is the path followed by one vertex of a triangle when the other two vertices can only moved along fixed axes. The evolute of this curve is a stretched hypocycloid called a Lamé curve. The parametric equations $x = a \cos t$ and $y = b \sin t$ produce one of these conic sections. Having an eccentricity strictly between zero and one, identify—for 10 points—this curve, the shape of all planetary orbits.
   Answer: **ellipse**

12. Its proprietary formula includes saw palmetto, oat fiber, gelatin, gingko biloba extract, and yohimbe extract. Produced by Lifekey Healthcare, it functions as a blood flow stimulator that increases the amount of blood in the corpora cavernosa. Its users report an average size increase of 24%, or about two inches. For 10 points—identify this drug that promises "natural male enhancement."
   Answer: **Enzyte**[1]

13. His interest is photography is marked by the many self-portraits he photographed for his autobiography, *The Son of a Servant*. The 1898 play *To Damascus Part I* marked the end of his "Inferno Crisis," and is the first of his plays that he referred to as a "dream play." His other dream plays include *The Ghost Sonata* and *Dance of Death*, while works from his earlier period include *Creditors*, *The Father*, and *Miss Julie*. For 10 points—identify this Swedish playwright.
   Answer: August **Strindberg**

14. First enunciated in a November 28, 1984 speech to the National Press Club, its early successes included Operation El Dorado Canyon in 1986 and Operation Just Cause in 1989. It consists of six necessary conditions for U.S. involvement, but is usually summarized as being reluctant to intervene militarily, but using overwhelming force if intervention is necessary. For 10 points—identify this strategy now usually named for the current U.S. Secretary of State.
   Answer: Weinberger-**Powell Doctrine**
   Accept: **Weinberger** Doctrine

---

[1]The raw numbers of this study are fairly interesting. See http://www.lifekeyinc.com/study.html

15. The heroine in this film was named after Edgar Allan Poe's *Annabel Lee*. The action takes the title object from Marietta, Georgia, to Chattanooga under the control of Captain Anderson, and then back to Marietta by its rightful owner, Southern engineer Johnnie Gray. Shot with a huge $400,000 budget, identify—for 10 points—this 1927 Buster Keaton film.
Answer: The *General*

16. Casimir and Polder showed that they are inversely proportional to the seventh power of distance of separation. Responsible for the cohesion of molecular crystals and liquids, they are caused by permanent or temporary dipole interactions. Used to explain the differences between real and ideal gases, identify —for 10 points—these intermolecular forces named for a Dutch chemist.
Answer: **van der Waals** forces

17. While feuding with Oxford professors Seth Ward and John Wallis, he published his solutions to three famous unsolved classical problems of mathematics, each of which were wrong. His philosophy was influenced by his reading Euclid's *Elements* and his meetings with Galileo, but he is best known for his theories of nature which explain why the lives of men are "nasty, brutish, and short." For 10 points—identify this philosopher, the author of *Leviathan*.
Answer: Thomas **Hobbes**

18. Ceded to France by the 1801 Treaty of Luneville, the 1818 conference in this city admitted France to the Quintuple Alliance. Its cathedral, whose design was based on Ravenna's Church of San Vitale, was the coronation site of the designated succesors of Holy Roman Emperors until 1531. The site of treaties ending the War of Devolution and the War of Austrian Succession, identify—for 10 points—this western German city, the residence of Charlemagne.
Answer: **Aachen** or **Aix-la-Chapelle**

19. Critics derided the 1993 purchase of one of his paintings for 1.8 million dollars by the National Gallery of Canada as a colossal waste of money. His early works, including *Birth of Cephalopods* were influenced by surrealism and Jungian psychology. Among his last works was a set of murals for an octogonal chapel in Houston, which was not installed until after his death in 1970. In his later period, his style evolved into the use of "soft-edge rectangles." For 10 points—identify this Russian-born abstract expressionist.
Answer: Mark **Rothko**

20. Dedicated to the Lady Mary Wroth, it is set on the backdrop of the 1610 plague in London, which forces Lovewit to flee to the country. Jeremy, the butler at Lovewit's house, then poses as the captain Face, and tricks the clerk Dapper, the tobacconist Abel Drugger, the pastor Tribulation Wholesome and Sir Epicure Mammon into parting with their money, while conspiring with the prostitute Dol Common and the title character. For 10 points—identify this play by Ben Jonson.
Answer: The **Alchemist**

21. Its fragmentation during mitosis is believed to be caused partially by the phosphorylation of the protein GRASP65, which was discovered in 1997. That protein is responsible for the stacking of cisternae to form this object's characteristic shape, which allows it to transport proteins and lipids throughout the cell. For 10 points—identify this organelle located next to the endoplasmic reticulum, named for an Italian chemist.
Answer: **Golgi** apparatus or **Golgi** bodies

22. Its highest point is the 13,750-foot Mount Jackson, while islands off its coast include Adelaide, Joinville, and Anvers. Its northernmost tip, the Trinity Peninsula, is separated by the Bransfield Strait from the South Shetland Islands. Called "Tierra de O'Higgins" by the Chileans, identify— for 10 points—this peninsula located roughly 500 miles south of Tierra del Fuego.
    Answer: **Antarctic** Peninsula
    Accept: **Graham Land** or **Tierra de San Martin**
    Accept: **Tierra de O'Higgins** early

23. The title character appears in a subsection called "Judy's Book," where he eats his good supper and hears the tick-tock. First published in 1940, the story centers around Judy and Paul, who are capable doing lots of things, including playing peek-a-boo, looking in a mirror, feeling Daddy's scratchy face, and engaging in the title activity. For 10 points—identify this "interactive" children's book featuring a rabbit.
    Answer: *Pat the Bunny*

24. A fifteenth century legend claims that he was born in a stable, while another legend claims his name was changed from Giovanni because of his aptitude at speaking French. He received the Porzuincula indulgence from Pope Honorius III in 1216, seven years before inaugurating devotion of the manger and eight years before he became the first saint to receive the stigmata. For 10 points—identify this founder of three religious orders, including the Friars Minor.
    Answer: St. **Francis of Assisi**

25. Its priorities were called into question in May 2002 when critics noted that it sent four reporters to cover the opening of its state's first Krispy Kreme franchise. Having the largest circulation of any newspaper owned by the McClatchy Company, its coverage of the local sports team led to a May 2002 subpoena for its financial records by Major League Baseball. For 10 points—identify this newspaper that serves the Twin Cities.
    Answer: [Minneapolis-St. Paul] **Star-Tribune**

26. The son of the governor of Belmonte, his expedition consisted of 13 ships and 1,200 men. He bombarded Calicut in 1500 after Muslim forces attacked his country's trading post. On the way to India, he discovered a land he called the "Island of Vera Cruz" that lied east of the Line of Demarcation, so he sent a ship back to Europe to inform King Manuel of Portugal. For 10 points—identify this Portuguese discoverer of Brazil.
    Answer: Pedro Álvares **Cabral**

27. Aesop is quoted in this play as saying, "Oh, bitch, bitch! you would do well to sell your wicked tongue and buy some wheat." The basis for Racine's comedy *Les Plaideurs*, its plot includes a dog being tried for stealing cheese, which causes Procleon to reconsider his passion for serving on juries and turn to music and literature. Similar in tone and content to *The Clouds*, name—for 10 points—this stinging satire by Aristophanes.
    Answer: The **Wasps** or **Sphekes**

28. It was dropped by AOL Time Warner's Little, Brown division in 2000 due to concern about the author's non-disclosure agreements, and then later published by Henry Holt and Company. Denounced by critics as "shameless exploitation," it offers up gossip surrounding its subject's tabloid-free wedding, workplace demeanor, and death in a plane crash. Based on Richard Blow's four years working at *George* magazine, identify—for 10 points—this biography about John F. Kennedy Jr.
    Answer: *American Son: A Portrait of John F. Kennedy Jr.*

29. Inscriptions found in Iran lead linguists to believe that Elamite was a member of the central branch of this family, which also includes Brahui and Gondi. Characterized by the use of retroflex consonants, these agglutinative languages are spoken by over 200 million people, with Mayalayam, Telugu, and Tamil having the most speakers. For 10 points—identify this language family spoken chiefly in southern India.

Answer: **Dravidian** languages

30. In 1997, J.W. Higbie claimed that if one assumes the existence of magnetic monopoles, this law can be derived from Helmholtz's Theorem. It is the theoretical basis for transformers, as it show how the voltage ratio between the primary and secondary coils is equal to the ratio of the number of turns in each coil. For 10 points—identify this electromagnetic law, which states that a time-varying magnetic field produces an electromotive force.

Answer: **Faraday's Law**

Bonuses by David Thorsley

1. Answer the following about the Great Northern War for 10 points each.

   A. (10) The war began when this King of Poland attacked Livonia in 1700.
      Answer: **Augustus II** or **Augustus the Strong**
   B. (10) Charles XII fled to Turkey after losing 15,000 soldiers to the Russians in this 1709 battle.
      Answer: **Poltava**
   C. (10) This 1721 treaty ceded Estonia and Livonia to Russia and put an end to the war.
      Answer: Treaty of **Nystad**

2. In an article in the May 2002 *Atlantic Monthly*, Christopher Hitchens called it the funniest book of the last 50 years. For 10 points each:

   A. (10) Identify this 1954 novel, whose title character is a junior lecturer at a British university.
      Answer: *Lucky Jim*
   B. (10) Name the author of *Lucky Jim*.
      Answer: **K**ingsley **Amis**
   C. (10) Under the pseudonym Robert Markham, Amis published *Colonel Sun*, an adventure involving this well-known British character.
      Answer: James **Bond**

3. Identify these pairs of companies whose merger attempts were investigated by the European Union, 10 points for one, 15 for both.

   A. (10/15) In February 2002, the EU approved the merger of these two computer hardware companies, stating that they would still face stiff competition from IBM, Dell, and Fujitsu-Siemens.
      Answer: **H**ewlett-**P**ackard and **Compaq**
   B. (10/15) In July 2001, the EU rejected the merger plans of these two manufacturing companies headed at the time by CEO's Jack Welch and Michael Bonsignore.
      Answer: **G**eneral **E**lectric and **Honeywell**

4. Identify these Renaissance artists from subjects of their portraits for 10 points each.

   A. (10) Jeanne de Chenany, Giovanni Arnolfini
      Answer: Jan **van Eyck**
   B. (10) Jacopo Strada and Doge Francisco Venier
      Answer: **Titian** or Tiziano **Vecellio**
   C. (10) Anne of Cleves, Sir Richard Southwell
      Answer: Hans **Holbein**

5. Identify these types of infinite series for 10 points each.

   A. (10) Any infinite series of the form $\sum_{n=1}^{\infty} a_n x^n$ (**sum from n equals 1 to infinity of a sub n times x to the n**) is referred to by this term.
      Answer: **power** series
   B. (10) This series expansion about a point is sometimes called a Maclaurin series if that point is zero.
      Answer: **Taylor** series
   C. (10) This type of infinite series, named for a German mathematician, is a power series multiplied by the quantity x^r, where r is any real number.
      Answer: **Frobenius** series

6. Name these songs for the stated number of points.

   A. (5) The most commonly misheard lyric on this 2001 hit is "Did you make it to the Milky Way to see the lights all faded/and Van Halen is overrated."
      Answer: *Drops of Jupiter*

   B. (10) Using a guitar riff borrowed from *Pinball Wizard*, the Shockin' Blue had a worldwide hit with this song.
      Answer: *[I'm Your] Venus*

   C. (5) People in a recent ad for Old Navy Summer Shorts have engaged in the title activity of this Smash Mouth song.
      Answer: *Walkin' on the Sun*

   D. (10) This 1994 hit was the only major success for British singer Tasmin Archer.
      Answer: *Sleeping Satellite*

7. Identify these philsophers who influenced logical positivitism for 10 points each.

   A. (10) Editor of the British philosophical journal *Mind*, his best known work is the *Principia Ethica*.
      Answer: George Edward [G.E.] **Moore**

   B. (10) This British pacifist was also known for a *Principia*, which he wrote with Alfred North Whitehead.
      Answer: Bertrand **Russell**

   C. (10) This German's *The Basic Laws of Arithmetic* was the victim of Russell's Paradox, as that paradox undermined his system of axioms.
      Answer: Gottlob **Frege**

8. Identify these Australian bodies of water for 10 points each.

   A. (10) The Goyder Channel connects the two halves of this salt lake, the largest in Australia.
      Answer: Lake **Eyre**

   B. (10) This gulf separates Queensland's Cape York Peninsula from Northern Australia.
      Answer: Gulf of **Carpentaria**

   C. (10) The western border of the Gibson desert is marked by this salt lake in Western Australia.
      Answer: Lake **Disappointment** or **Gumbubindil**

9. Answer the following about German attempts to build an atomic bomb during World War II for the stated number of points.

   A. (10) As the Nazi minister of armaments and war production, this architect supervised the German fission program.
      Answer: Albert **Speer**

   B. (5/5) Capturing a heavy water plant was one of the reasons behind the attack on these two countries on April 9, 1940.
      Answer: **Denmark** and **Norway**

   C. (10) Director of the Kaiser Wilhelm Institute from 1941-1945, it is uncertain as to whether this physicist was unwilling or simply unable to lead the construction of an A-bomb.
      Answer: Werner **Heisenberg**

10. Identify the native American peoples involved in these anthropological studies for 10 points each.
   A. (10) Lewis Henry Morgan's kinship studies were largely based on the study of this confederacy.
      Answer: **Iroquois** or **Haudenosaunee**
   B. (10) Franz Boas researched the potlatch ritual of this British Columiba tribe.
      Answer: **Kwakiutl** (qua-key-oot-ul)
   C. (10) Patrick Tierney's *Darkness in El Dorado* alleges that Napoleon Chagnon unnecessarily interfered in the Amazonian culture while studying it.
      Answer: **Yanonami**

11. 30-20-10. Identify the author from works.
   A. (30) *A Boring Story, Ariadne*
   B. (20) *The Lady With the Dog, A Journey to Sakhalin*
   C. (10) *The Seagull, The Cherry Orchard*
      Answer: Anton **Chekhov**

12. For the stated number of points, identify the presidents of these African nations.
   A. (5) Egypt
      Answer: Hosni **Mubarak**
   B. (5) Zimbabwe
      Answer: Robert **Mugabe**
   C. (10) Ivory Coast
      Answer: Laurent **Gbagbo**
   D. (10) Zambia
      Answer: Levy **Mwanawasa**

13. Answer the following about invasions of Egypt for the stated number of points.
   A. (5) Egypt's Middle Kingdom was brought down by these 17th-century B.C.E. invaders.
      Answer: **Hyksos**
   B. (10) Egypt was conquered by the Arabs in 639 C.E., during the rule of this caliph who succeeded Abu Bakr.
      Answer: **Umar** ibn al-Khattab
   C. (10) Napoleon's invasion of Egypt was stopped when this admiral defeated the French at the Battle of the Nile.
      Answer: Horatio **Nelson**
   D. (5) The German invasion of Egypt during World War II was stopped when Montgomery defeated Rommel here on October 23, 1942 .
      Answer: El-**Alamein**

14. Identify these choral masses for 10 points each.
   A. (10) Its *Kyrie* and *Gloria* were composed in 1733 for elector Frederick Augustus, but Bach did not complete this work until 1746.
      Answer: *Mass in **B Minor***
   B. (10) Composed in Salzburg, the nickname of this mass in C Major by Mozart may come from a performance that Salieri directed for Leopold II in 1790.
      Answer: ***Coronation** Mass in C Major*
   C. (10) This mass was never performed in front of its namesake, as he died in 1555, seven years before Palestrina wrote it.
      Answer: ***Missa Papae Marcelli*** or ***Pope Marcellus*** *Mass*

15. Identify these brain diseases for 10 points each.

    A. (10) Ramsay Hunt syndrome is closely related to this disease that affects the substantia nigra and hence its sufferer's dopamine levels.
    Answer: **Parkinson**'s disease

    B. (10) The basil ganglia and cerebral cortex are damaged in this disease caused by the mutation of a gene on chromosome 4.
    Answer: **Huntington**'s disease (or chorea)

    C. (10) This genetic disease occurs when the breakdown of the myelin sheath in the brain results in damage to endocrine glands near the kidneys.
    Answer: **a**dreno**l**euko**d**ystrophy or **ALD**

16. Identify these mythological symbols of prosperity for the stated number of points.

    A. (5) Originally attached to Amalthea's head, this is the Greek symbol of abundance.
    Answer: **cornucopia**

    B. (10) This four-armed consort of Vishnu is the Hindu goddess of fortune and wealth.
    Answer: **Lakshmi**

    C. (15) Forged by Ilmarinen, this mill that provides salt, flour, and money is stolen by Louhi in the second part of the *Kalevala*.
    Answer: **sampo**

17. Identify these Canadian basketball players, none of whom are Milhouse, for 10 points each.

    A. (10) Nicknamed the "Canadian Coif," this Maverick was the first Canadian named to an NBA all-star team.
    Answer: Steve **Nash**

    B. (10) Kentucky's all-time leader in blocked shots, he has averaged just over one per game in two seasons with Charlotte.
    Answer: Jamaal **Magloire**

    C. (10) Before being drafted by Washington with the 3rd pick in the WNBA draft, she led Oklahoma to the 2002 NCAA championship game.
    Answer: Stacey **Dales**-Schuman

18. Identify these Chinese novels from characters for 10 points each.

    A. (10) Chu-ko Liang, Ts'ao Tsao, and Kuan Yü
    Answer: *Romance of the Three Kingdoms* or *San-kuo Chih Yen-i*

    B. (10) Chia Pao-yü and Lin Tai-yu
    Answer: The *Dream of the Red Chamber* or *Hung Lou Meng*
    Accept: The *Story of the Stone* or *Shih-t'ou Chi*

    C. (10) Monkey, Pigsy, and Sandy
    Answer: *Journey to the West* or *Xi Jou Yi*

19. Answer the following stuff about James Buchanan for 10 points each.

    A. (10) As Minister to Great Britain, Buchanan helped draft this document encouraging U.S. annexation of Cuba.
    Answer: **Ostend** Manifesto

    B. (10) Buchanan defeated this Republican in the 1856 election.
    Answer: John C. **Frémont**

    C. (10) Despite its rejection in a territorial election, Buchanan recommended that Kansas be admitted to the Union under the terms of this 1857 document.
    Answer: **Lecompton** Constitution

20. Identify these jazz pianists for 10 points each.

    A. (10) This bebop innovator played with John Coltrane and Dizzy Gillespie composed *'Round Midnight* in 1942.
    Answer: Thelonious **Monk**

    B. (10) The score he wrote for the Broadway musical *Hot Chocolates* featured his biggest hit, *Ain't Misbehavin'*.
    Answer: Thomas "Fats" **Waller**

    C. (10) This Montreal-born pianist is best known for his *Canadiana Suite*.
    Answer: Oscar **Peterson**

21. For 10 points each, identify these subatomic particles.

    A. (10) Responsible for strong force interactions in the nucleus, this lightest of the mesons was the first to be discovered.
    Answer: Π meson or **pi**on

    B. (10) The discovery of this heaviest meson revealed the existence of the bottom quark.
    Answer: Υ or **upsilon** particle

    C. (10) This lightest of the baryons consists of two down quarks and one up quark.
    Answer: **neutron**

22. Given a river designated as one of the U.S.'s "Most Endangered Rivers of 2002," name any state it flows through for 10 points each.

    A. (10) Guadelupe River
    Answer: **Texas**

    B. (10) Canning River
    Answer: **Alaska**[2]

    C. (10) Klamath River
    Answer: **California** or **Oregon**

23. Identify these Flannery O'Connor short stories for 10 points each.

    A. (10) A family begins a trip from Atlanta to Florida. Along the way, they run into a serial killer called the Misfit.
    Answer: *A Good Man is Hard to Find*

    B. (10) Julian Chestny's mother suffers a fatal stroke after arguing with a black woman are wearing the same hat as her on a bus.
    Answer: *Everthing that Rises Must Converge*

    C. (10) O'Connor's first published story was this tale of the southern gentleman Old Dudley, whose only joy while living in New York is looking at the title plant.
    Answer: *The Geranium*

24. Identify these shows set in schools from actors for 10 points each.

    A. (10) Ron Palillo, John Travolta
    Answer: *Welcome Back, Kotter*

    B. (10) Pat Mastroianni, Amanda Stepto, Neil Hope
    Answer: *Degrassi Junior High*
    Accept: *Degrassi High*

    C. (10) Mitch Mullany, Portia de Rossi, Clint Jackson
    Answer: *Nick Freno, Licensed Teacher*

---

[2] The Canning River is the western boundary of the ANWR.

25. Answer the following about East Timor for the stated number of points.

   A. (5) Name the capital of East Timor.
   Answer: **Dili**

   B. (10) Name the first president of the nation.
   Answer: Xanana **Gusmao**

   C. (5) East Timor's first treaty was with this nation over oil deposits in the Timor Sea.
   Answer: **Australia**

   D. (10) Many members of East Timor's new cabinet recently returned from exile in this nation, also a one-time Portuguese colony.
   Answer: **Mozambique**

26. Answer the following about digital signal processing for 10 points each.

   A. (10) If an analog signal is being sampled at a particular rate, this limit is the maximum allowable frequency in the analog signal such that it can be reproduced unambiguously.
   Answer: **Nyquist** limit

   B. (10) This term describes the effect when the Nyquist limit is breached. When this happens, a high-frequency input is transformed into a low-frequency output.
   Answer: **alias**ing (or equivalents)

   C. (10) The Nyquist limit and aliasing explain why CD audio is usually sampled at this many kilohertz, about twice the maximum limit of human hearing. You need to be within 10%.
   Answer: **44.1** kHz
   Accept: **39.7** to **48.2** kHz

27. Given an economic concept, identify the economist whose name is associated with it for 10 points each.

   A. (10) There is no consistent method of making a fair choice among more than two candidates in an election.
   Answer: Kenneth **Arrow**

   B. (10) If there are no transaction costs, then negotiation will maximize social welfare regardless of who is assigned property rights.
   Answer: Ronald **Coase**

   C. (10) Capitalist societies are subject to 40 to 50 year cycles of catastrophe and renewal.
   Answer: Nikolas **Kondratieff**

28. Give the Arabic term for each of the Pillars of Islam described, 5 points for one, 20 for two, 30 for all three.

   A. (5/20/30) Those who are financially capable must make an annual pilgrimage to Mecca.
   Answer: **hajj**

   B. (5/20/30) Muslims must pray five times daily.
   Answer: **salat**

   C. (5/20/30) Fasting during daylight in Ramadan.
   Answer: **saum**

29. Identify these Puccini opera characters from arias from 15 points each, or from their role in the opera for 10.

    A. (15) *Tu, tu piccolo Iddio, Un bel divedremo*
       (10) These two arias are sung after Benjamin Pinkerton has left the singer in Japanand returned to the United States.
       Answer: **Madama Butterfly** or **Cio-Cio-San**

    B. (15) *Gia mi dicon venal, Ha piu forte sapore, Va, Tosca!*
       (10) The singer is the Roman chief of police in – you guessed it – *Tosca*.
       Answer: Baron **Scarpia**