

BHSAT XX (2011): This One Doesn't Bilow, We Promise!
Written by Y. Student Academic Competitions

Round 12 Tossups

1. This figure accidentally hurled a disc at his grandfather Acrisius, killing him; Dictys saved him and his mom after they were cast out into the ocean in a wooden chest. He served Seriphos's king Polydectes, and received an expanding knapsack for one quest. This hero fought a sea monster threatening the daughter of Cepheus and Cassiopeia, who he later married. The son of Zeus in the form of golden rain with Danaë, he stole the Grey Sisters' eyeball to find an enemy whose head later topped the Aegis after this man used his mirrored shield. For 10 points, name this Greek hero who slew the snake-headed petrifier Medusa.

ANSWER: Perseus

2. Drafted 26th overall in 1996 as a junior out of the University of Miami, this Butkus Award finalist would lead his team in tackles for five straight years until partially sidelined in 2002 with a shoulder injury. This player's reputation took a hit in 2000 when he was arrested for murder following a stabbing outside of an Atlanta nightclub, though he was eventually cleared of all charges. Featured on the cover of Madden 2005, for 10 points, name this 12-time Pro Bowl selection, the Defensive Player of the Year in 2000 and 2003, and 2000 Super Bowl MVP, the cornerstone of the Baltimore Ravens defense.

ANSWER: Ray Anthony Lewis

3. The Christkindlesmarkt is a famous market in a city of this region, and a party called the Christian Social Union operates only in this region. The Anif Declaration ended the monarchy of this region, ed by the House of Wittelsbach. Zugspitze is the highest mountain in this region and in the country that contains it. Alfred Jodl was condemned to death in this region home to the anachronistic Neueschwanstein Castle. This region borders Hesse and Saxony, has a high proportion of Catholics, and held rallies and trials in its city of Nuremberg. For 10 points, name this southeastern German state with its capital at Munich.

ANSWER: Free State of Bavaria [accept Freistaat Bayern]

4. RISC and ARM are architectures for these devices, which typically use the four-step procedure of fetching, decoding, executing, and performing writeback. They can become superscalar via parallelization, and context switching allows them to undergo multithreading. Recent ones often use x86 architecture or the L3 multilevel variety of a cache. These devices' clock rate is their rate of instruction execution, and the most advanced modern ones have rates of about three gigahertz. For 10 points, identify this computer component that carries out programs' instructions.

ANSWER: CPU [accept central processing unit; prompt "processor"]

5. A woman with a dog on her lap is shielded by a servant carrying the title green object in this painter's *The Parasol*. A picture of several animals with their heads switched titled "*Look How Serious They Are!*" joins "*The Sleep of Reason Produces Monsters*" as part of this artist's aquatint series, *Los Caprichos*. The Duchess of Alba is thought to be the model for two portraits by him, one clothed and one nude, depicting her as a maja. In his most famous painting, a man's outstretched arms form a V-shape as he and others stand before a Napoleonic firing squad. For 10 points, name this Spanish painter of *The Third of May, 1808*.

ANSWER: Francisco Goya

6. An analogy in this philosopher's most famous work describes a slave ship heading to Algiers, implying that minorities may be oppressed even in his prescribed political system. He stresses the development of critical thinking skills in *Some Thoughts Concerning Education*. This man claimed that property is earned through human labor on nature, and addressed the issue of Catholics in England in *A Letter Concerning Toleration*. He claimed that the mind at birth was a *tabula rasa*, or blank slate, in his *Essay Concerning Human Understanding*. For 10 points, name this British social contract theorist, who posited a natural right to "life, liberty, and property" in his *Two Treatises on Government*.

ANSWER: John Locke

7. The title character is pursued by Jacques Moran in a novel (*) by this author that forms a trilogy with *Malone Dies* and *The Unnamable*; that novel is *Molloy*. Willie and Winnie live buried in the sand in a play by this author. In another, Nell and Nagg lost their legs in a bicycle accident and live in trash cans in a play featuring the wheelchair-bound Hamm and his servant, Clov. Those plays are *Happy Days* and *Endgame*. The protagonists of his most famous play interact with Lucky and Pozzo, but the title character never shows up. For 10 points, Vladimir and Estragon feature in what author's *Waiting for Godot*?

ANSWER: Samuel **Beckett** [accept **Molloy** before (*)]

8. In colonial form, its first administrator was Arthur Phillip. A gold rush in its Ballarat region led to a rebellion of miners on the Eureka Stockade; a coup led by George Johnston deposed a governor of one modern-day province, William Bligh, in its Rum Rebellion. Criminals in this country included Ned Kelly, and it assimilated mixed-race children by the "stolen generations" policy. Settled by the First Fleet in Botany Bay, for 10 points, name this prison-colony-turned-nation led by Julia Gillard, in which Kevin Rudd's government recently apologized to the aborigines.

ANSWER: **Australia** [accept **New South Wales** until "Ballarat" is read]

9. In industry, the Elsner equation governs the MacArthur-Forrest process producing a cyanide of this substance, which has one 6s valence electron and filled 4f and 5d orbitals. In one experiment, this material was surrounded by a circular ring of zinc sulfide by Marsden and Geiger. Its 3-plus ion bonds to chlorine when it dissolves in aqua regia, and with mercury it forms amalgams. A sheet of this element had alpha particles shot at it in the Rutherford experiment. The most ductile and malleable of all metals, it is often mistaken for pyrite. For 10 points, name this elemental metal with atomic number 79, symbol Au, and a distinctive color.

ANSWER: **gold** [accept **Au** or **aurum** until mentioned; do not accept "platinum" at any point since the 3+ ion clue is specific to gold]

10. One of his songs is based on the chords from both Fats Waller's "Honeysuckle Rose" and the bridge from Gershwin's "I Got Rhythm." In addition to "Scrapple from the Apple," his recording "Ko-Ko" is considered one of the earliest examples of a style of jazz he helped develop. One of his signature songs is based on Morgan Lewis's "How High the Moon," and his solo from his recording of another musician's song "Night in Tunisia" was released on its own as "The Famous Alto Break." An early pioneer of bebop, for 10 points, name this jazz saxophonist and frequent collaborator with Dizzy Gillespie who wrote "Ornithology" and was nicknamed "Yardbird."

ANSWER: Charlie **Parker**

11. In computer science, this man lends his name to form of denoting context-free languages, contrasted with Bacchus- Naur form. He defended his most-well known concept by appealing to a "poverty of the stimulus" and it was a refutation of the behaviorist account of language acquisition in Skinner's Verbal Behavior and the subsequent publication of his own Syntactic Structures that explained that concept. Best known for his theory of Universal Grammar, exemplified by the sentence "Colorless green ideas sleep furiously," this is, for 10 points, what MIT linguist now known for *Hegemony or Survival* and other extreme-left political tracts?

ANSWER: Avram Noam **Chomsky**

12. The second act of this play ends with characters fighting over eating muffins. Two characters in this play book back-to-back christenings with Dr. Chasuble. One character has invented the imaginary invalid Bunbury, to get him out of social obligations. At the end of this play, Miss Prism reveals it was she who accidentally left the protagonist in a handbag at Victoria Station when he was a baby, and Lady Bracknell consents to his marriage to Gwendoline. For 10 points, this is what play in which Algernon Moncrieff and Jack Worthing both claim to have the titular name, by Oscar Wilde?

ANSWER: *The* **Importance of Being Earnest**

13. This figure granted Bhasmasura a boon, allowing him to slay anyone on whose head he placed his hand. He once burned the god of love, Kama, to death. During the Kurma incarnation of another deity, this god ingested the deadly Halahala to protect the rest of the world; he thus gained the epithet "Neelakantam," or "blue-throated one." This deity resides on Mount Kailash, rides the white bull Nandi, and is often worshipped in the form of a *lingam*. He is the husband of Parvati. For 10 points, identify this member of the Trimurti with a third eye, the "destroyer" god of Hinduism.

ANSWER: **Shiva**

14. This devout Baptist's partners included Samuel Andrews and a man who later owned a bridge from Key West to Florida, named Henry Flagler; he based his operations in Cleveland, Ohio. His run-in with the South Improvement Company was described in a 19-part exposé in McClure's magazine, written by Ida Tarbell, and he negotiated exclusive low freight rates for his product. For 10 points, name this billionaire whose descendants include West Virginia senator Jay and Gerald Ford's Vice President Nelson, a founder of Standard Oil whose family names a "center" in New York City.

ANSWER: John D[avison] **Rockefeller** I [do not accept "John D. Rockefeller Jr." or other wrong things]

15. The last electron acceptor in this process, which reduces TPN, is ferredoxin. In this non-electron transport process, the water-lysing complex in PS II transfers electrons to the primary donor complex, which releases them to the plastoquinone shuttle. In a subprocess of this process, a (*) carboxylase oxygenase makes two molecules of 3-phosphoglycerate by adding carbon to a ribulose derivative. That enzyme, isolated in bundle-sheath cells of C4 organisms, is RuBisCO. The thylakoid membrane and stroma are the respective sites of its light reactions and Calvin cycle. For 10 points, identify this process which uses light to convert carbon dioxide and water into oxygen and sugars.

ANSWER: **photosynthesis** [accept "**photophosphorylation**" or "**light**-dependent reactions before (*)]

16. This man responded to neighboring ruler Kavadh's death with a *Pax Perpetuum* broken eight years later by Khosrau I. An outbreak first recorded in Pelusium was this ruler's namesake "plague," and a long-banned secret history of his rule was written by Procopius. A revolt against him tried to crown Hypatius near the Hippodrome; his general Belisarius put down those Nika riots and beat the Ostrogoths to conquer Italy, and this emperor ordered construction of the Hagia Sophia church. For 10 points, name this husband of Theodora whose heavily-Christian Corpus Juris Civilis is a law code sometimes named for him, a 6th-century Byzantine emperor.

ANSWER: **Justinian I** [or **Justinian the Great**]

17. Robert Schumann praised the "heavenly length" of this composer's last symphony, and this composer wrote the best-known sonata for a bowed guitar-like instrument called the arpeggione. Another of his chamber works substitutes a double bass for the usual second violin and has a fourth movement based on his earlier song "Die Forelle," from which it gets its nickname. Among his other *Lieder* are "Gretchen at the Spinning Wheel" and one that provided the theme to the second movement of his fourteenth string quartet, "Death and the Maiden." For 10 points, name this Austrian composer of the "Trout" Quintet and an "Unfinished" eighth symphony.

ANSWER: Franz **Schubert**

18. One character in this novel carries rubber balls in his hands to explain away the crab apples he keeps in his cheeks. The protagonist of this work has a constantly high body temperature, allowing him to get out of his job whenever he feels like it, but is later hounded by a prostitute who tries to kill him. Earlier he had started a C.I.D. investigation by signing letters with the name "Washington Irving". Milo Minderbinder corners the market on Egyptian cotton and another character was promoted by a computer with a sense of humor, Major Major Major. For 10 points, this is what novel in which Yossarian battles the namesake paradoxical rule that keeps pilots flying missions, by Joseph Heller?

ANSWER: **Catch-22**

19. It altered passage requirements to just a double majority rather than unanimity in the Council of Ministers, and it also made the Charter of Fundamental Rights legally binding. It changed the length to two and a half years for the term of a rotating President. Ratified last by the Czech Republic after an initial rejection by Ireland, this treaty was named for a city in which a 1755 earthquake flattened several churches. For 10 points, name this European Union-strengthening treaty devised in a city from which Antonio Salazar and João I once ruled, the capital of Portugal.

ANSWER: **Treaty of Lisbon** [prompt "Reform Treaty" until "Named for a city" is read]

20. Extensions of this relation to 3 dimensions involve a fourth-order tensor with 81 coefficients symbolized sigma for stiffness, or Cauchy's 36-entry compliance matrix. Inapplicable to rubber, this relation applies below the yield strength to linear-elastic materials for which Young's modulus is defined. Usable for a parallel or series system of harmonic oscillators, as well as individuals, for 10 points, name this law stating that the restoring force is proportional to displacement, by the formula F equals negative k x, in springs.

ANSWER: **Hooke's** Law

TB. In one line from this poem, the speaker describes the illusion of a world that appears “so various, so beautiful, so new”. Earlier he had described how an entity that used to be “full” and “like the folds of a bright girdle furl’d” has receded to the “naked shingles of the world”. The speaker instructs the listener to “hear the grating roar / of pebbles, which the waves draw back and fling”, and notes that the “turbid ebb and flow / of human misery” is something that “Sophocles long ago / heard” on the Aegean. Beginning with the line “The sea is calm tonight”, this is, for 10 points, what poem delivered by a man to his lover on the titular shore, by Matthew Arnold?

ANSWER: “**Dover Beach**”

Round 12 Bonuses

1. Name these concepts from economics, for 10 points each:

[10] Loosely defined as any product that satisfies a desire, these constructs are tangible things that can be exchanged in a market. Contrasted with intangible “services”, these are a subset of commodities.

ANSWER: **goods**

[10] This type of Good is theorized to exist only in extremely large markets for cheap, but necessary goods, like the watermelon market in China. They occur when the income effect outweighs the substitution effect, which paradoxically causes consumption of this type of good to increase with price.

ANSWER: **Giffen** goods

[10] Giffen goods are a subset of inferior goods, whose consumption decreases as income rises, as opposed to these goods, whose consumption increases as income increases.

ANSWER: **Normal** goods

2. Their name was coined by the music critic Vladimir Stasov, who celebrated them for not relying on predominantly German models. For 10 points each:

[10] Name this group of nationalistic Russian composers that included Cesar Cui and Mily Balakirev.

ANSWER: The Mighty **Five** [or the **Mighty Handful** or **moguchaya kuchka**]

[10] This member of the Mighty Handful represented the title storyteller with a solo violin in his *Scheherezade*. He also wrote “Flight of the Bumblebee.”

ANSWER: Nicolai **Rimsky-Korsakov**

[10] Another member of the Five, Borodin, wrote this symphonic poem in which the inhabitants of the title location are represented by a melody first played by the English horn.

ANSWER: **In the Steppes of Central Asia**

3. The specimens in this park lived mostly during the late Triassic period. Part it is part of the larger Chinle formation. For 10 points each:

[10] Name this national park located in the Colorado Plateau and is famous for a type of plant fossil.

ANSWER: **Petrified Forest** National Park

[10] The Petrified Forest National Park is located in this Southwestern state which also contains the Sonora desert.

ANSWER: **Arizona**

[10] This other tree park is in California and is famous for the Great Sherman Tree and the Tunnel Tree.

ANSWER: **Sequoia** National Park

4. Answer these questions about acids, for 10 points each:

[10] This type of acid accepts electron pairs. Their eponymous chemist also names a diagram which uses dots and lines to depict the electrons and bonds of molecules.

ANSWER: **Lewis** acid [Those structures are **Lewis** dot diagrams.]

[10] This type of acid can donate multiple H-plus ions per molecule of acid.

ANSWER: **Polyprotic** acid [accept **polybasic** acid]

[10] Unlike polyprotic acids, these compounds donate one proton to their namesake bases.

ANSWER: **Brønsted**-Lowry acid

5. Answer these questions about reformers who moved against the Catholic Church, for 10 points each.

[10] This German protested the Church’s abuse of indulgences by posting his 95 Theses on the door of Wittenberg’s Castle Church. He kicked off what’s now called the Protestant Reformation.

ANSWER: Martin **Luther**

[10] A century and a half before Luther, these Englishmen published their own Bible and rejected the temporal authority of the Pope, believing in an invisible “true Church”. They followed John Wycliffe.

ANSWER: **Lollards** [accept **Lollardy**]

[10] This Czech reformer carried Lollard ideals to Central Europe. He was later excommunicated and lured into his burning at the stake by the Council of Constance.

ANSWER: Jan **Hus** [accept John **Huss**]

6. Their electronic style has been mimicked by the Owl City, and well-known songs include *The District Sleeps Alone Tonight*; their only album is titled Give Up. For 10 points each:

[10] Name this band, which shares a name with the organization through which they collaborated.

ANSWER: The Postal Service

[10] The Postal Service's most famous song has been covered by Iron and Wine and was featured in *Garden State*. The singer states that "they won't see us waving from" the titular location.

ANSWER: Such Great Heights

[10] The Postal Service's singer, Ben Gibbard, is primarily known for his role in this band. Their popular songs include *I Will Follow You Into the Dark*, and their albums include *Transatlanticism* and *Codes and Keys*.

ANSWER: Death Cab for Cutie

7. The child of Loki, he was bound by a chain made of impossible objects such as the roots of a mountain and footfall of a cat known as Gleipnir. For 10 points each:

[10] Name this destined killer of Odin, a Norse wolf.

ANSWER: Fenrir [accept Fenrisulfr or the Fenris wolf]

[10] During his binding, Fenrir bit off this part of Tyr. In Celtic myth, Nuada had one of his replaced with a silver one, and Briareus was among Greek giants with a hundred of them.

ANSWER: hands [accept arm]

[10] Fenrir's mother was this giant who also mothered the Midgard Serpent and Hel.

ANSWER: Angrboda

8. William Butler Yeats wrote the preface to the English translation of his most famous book of verse. For 10 points each:

[10] Name this Bengali poet who wrote a collection containing a poem that begins "Thou hast made me endless, such is thy pleasure," entitled *Gitanjali* or *Song Offering*.

ANSWER: Rabindranath Tagore

[10] This other Indian poet and novelist wrote a novel that uses Onegin stanzas, *The Golden Gate*, and one about Rupa Mehra's attempts to arrange a marriage for her daughter Lata.

ANSWER: Vikram Seth

[10] Seth included translations of this Tang Dynasty poet in his *Three Chinese Poets* along with Du Fu and Wang Wei. Ezra Pound based his "The River Merchant's Wife: A Letter" on a poem by him.

ANSWER: Li Po [or Li Bai]

9. This quantum-mechanical property is quantized in units of Dirac's constant. For 10 points each:

[10] Identify this microscopic analogue of angular momentum in particles, which was observed for the first time by the Stern-Gerlach experiment.

ANSWER: spin

[10] Particles with a spin of plus or minus-one-half are members of this group, which includes all quarks and leptons, but not fundamental force carriers. Its name derives from an Italian physicist.

ANSWER: fermions [That physicist was Enrico Fermi.]

[10] The Stern-Gerlach experiment detected electron spin by shooting uncharged silver atoms straight through one of these entities and observing precession. They can be generated by solenoids.

ANSWER: inhomogenous magnetic field

10. The creator of this sculpture was accused of casting it from a living model. For 10 points each:

[10] Name this sculpture of Auguste Neyt, standing with his hand against his forehead.

ANSWER: *The* Age of Bronze [or *L'age d'airain*]

[10] *The Age of Bronze* is by this French sculptor of *The Thinker*, who included a sculpture of Paolo and Francesca, *The Kiss*, in his *The Gates of Hell*.

ANSWER: François-Auguste-René Rodin

[10] Many casts exist of this Rodin sculpture group of the title six figures with nooses around their necks, surrendering themselves to stop the siege of their home city.

ANSWER: *The* Burghers of Calais [or *Les Bourgeois de Calais*]

11. Answer these questions about slavery and American law, for 10 points each.

[10] In this 1857 Supreme Court case, Roger Taney's court ruled that the title slave, along with all other black Americans, wasn't a citizen and thus had no right to sue for his freedom or do anything else.

ANSWER: Dred Scott v. Sandford

[10] *Jones v. Mayer* held that this amendment bans "badges and incidents" of slavery in addition to slavery itself.

ANSWER: The Thirteenth article of amendment to the United States Constitution

[10] The twenty-fourth amendment banned this state-level practice, often used to disenfranchise poor blacks.

ANSWER: poll tax

12. She theorized that society had always cast women as the Other in her magnum opus. For 10 points each:

[10] Name this feminist philosopher, the consort of Jean-Paul Sartre and author of *The Second Sex*.

ANSWER: Simone de Beauvoir

[10] This American feminist and first president of the National Organization of Women analyzed "the problem that has no name" among middle-class American white women in *The Feminine Mystique*.

ANSWER: Betty Friedan

[10] Like Arendt, this lesbian author wrote an introduction to the Walter Benjamin's essay collection *Illumination*. She more famously wrote "Notes on Camp," *Against Interpretation*, and *Illness as Metaphor*.

ANSWER: Susan Sontag

13. The protagonist is spurned by his love when she finds out he has been previously "engaged" to Amy Lawrence, and later, he rescues Muff Potter from being wrongfully arrested for a crime the protagonist saw Injun Joe commit. For 10 points each:

[10] Name this novel, which features a notable whitewashing scene, and is the prequel to a more critically lauded novel about the protagonist's friend, Huckleberry Finn.

ANSWER: *The Adventures of Tom Sawyer*

[10] *The Adventures of Tom Sawyer* was written by this American author, whose other works include *The Prince and the Pauper* and *The Celebrated Jumping Frog of Calaveras County*.

ANSWER: Mark Twain (accept: Samuel Langhorne Clemens)

[10] This other Twain work, co-authored with Charles Dudley Warner, details the Hawkins family's plan to get rich by becoming lobbyists and getting the government to purchase their land.

Answer: *The Gilded Age*

14. For 10 points each, answer these questions about the separation of chromosomes during cell division.

[10] These helpful protein structures bind to the chromosome's centromere *and* the spindle fiber along which the chromosomes are pulled apart during anaphase.

ANSWER: kinetochores

[10] This is the failure of two chromosomes or sister chromatids to separate in meiosis or mitosis.

ANSWER: non-disjunction

[10] This disorder, more likely as a mother's age increases, results from a third copy of chromosome 21 created by nondisjunction during meiosis. It often causes heart arrhythmia, cognitive challenges, and/or slanted eyes.

ANSWER: Down's syndrome

15. There are eight of the title figures in his *Blue Poles: Number 11, 1952*. For 10 points each:

[10] Name this husband of Lee Krasner, the painter of *Lavender Mist* and *Full Fathom Five*.

ANSWER: Jackson Pollock

[10] Jackson Pollock was part of this modern art movement whose other practitioners include Franz Kline and color field painters like Mark Rothko.

ANSWER: Abstract Expressionism

[10] This Dutch abstract expressionist of the Faulkner-inspired *Light in August* is best known for his *Woman* series.

ANSWER: William de Kooning

16. It proclaimed its independence from the Netherlands on August 17, 1945. For 10 points each:

[10] Name this country with the world's largest Muslim population, a Southeast Asian nation in which al-Qaeda affiliates have bombed hotels in Bali.

ANSWER: Republic of **Indonesia**

[10] This revolutionary leader was Indonesia's first president from 1945 to 1967. He was put by house arrest until his death after his right-wing successor, Suharto, deposed him.

ANSWER: **Sukarno** or **Bung Karno** or **Pak Karno** or **Kusno Sosrodihardjo**

[10] This daughter of Sukarno served as Indonesia's first and only female President from 2001 to 2004. The current president, Susilo Bambang Yudhoyono, succeeded her.

ANSWER: Miah Permata **Megawati** Setiawati Sukarnoputri

17. They split from Sunni's over an interpretation of the Hadith of the pond of Khumm. For 10 points each:

[10] Name this sect of Islam which believes that Ali and his family should succeed Muhammad as leader of the Muslim people.

ANSWER: **Shi'a Islam** (accept **Party of Ali** or equivalents, prompt on Shi'ites)

[10] Shi'a Islam generally believes in this line of leaders, who, unlike the Sunni counterparts, are considered chosen by gods and are infallible.

ANSWER: **Imam**

[10] This branch of Shi'a Islam is named after the number of Imam's it believes in. Muhammad ibn al-Hassan, the last Imam according to this sect, went into the Great Occultation, where he will eventually return.

ANSWER: **Twelver** Shi'a [prompt **Imami Shia Islam**]

18. He wrote a short story in which a man makes a bet with the title pretzel bakers that he can seduce Tanya. For 10 points each:

[10] This socialist realist author of "Twenty-Six Men and a Girl," as well as a play about inhabitants of a lodging house such as Natasha, Vaska, and Luka, *The Lower Depths*.

ANSWER: Maxim **Gorky**

[10] This other twentieth-century Russian author wrote a novel that intersperses chapters from a historical novel about Pontius Pilate. Woland is Satan in disguise in that novel, *The Master and Margarita*.

ANSWER: Mikhail **Bulgakov**

[10] Bulgakov also wrote a novel about one of these called Sharik entitled *Heart of a Dog*. Chekhov wrote a story set in Yalta about a lady with one of these.

ANSWER: **dog**

19. They can be added by the tip to tail method, and are often represented in component form as a sum of multiples of i, j, and k. For 10 points each:

[10] Name these mathematical objects which can be multiplied by a dot or cross product.

ANSWER: **vectors**

[10] In linear algebra, vectors get their magnitude and direction changed when multiplied by these objects. Useful in solving systems of equations, they have determinants and group their numerical entries in rows and columns.

ANSWER: **matrices** [accept **matrixes**]

[10] When a matrix multiplies a vector, the matrix acts as a "linear" one of these operations, which change a function's location or shape. Other examples include translation, rotation, and reflection.

ANSWER: linear **transformation**

20. The characters discuss a newspaper article about a boy who killed a cat. For 10 points each:

[10] Name this play in which hitmen, Ben and Gus, wait for orders to come down the title device.

ANSWER: *The* **Dumb Waiter**

[10] *The Dumb Waiter* is by this English playwright who wrote about Davies, who moves in with Mick and Aston in *The Caretaker* and about men that come to take Stanley away after the title event in *The Birthday Party*.

ANSWER: Harold **Pinter**

[10] This Pinter play uses reverse chronology to show a seven-year-long affair between Jerry and Emma, who is married to Robert.

ANSWER: **Betrayal**

TB. He left his first wife for Anne Boleyn and his son, Edward VI, was borne to Jane . For 10 points each:

[10] Name this English king who attempted to get an annulment from Catherine of Aragon, the first of his six wives.

ANSWER: **Henry VIII**

[10] This Catholic friend of Erasmus and author of *Utopia* was beheaded for refusing to go along with Henry VIII's Anglican Church.

ANSWER: Saint Thomas **More**

[10] This fourth wife of Henry VIII, contrary to the portraits by Holbein the Younger, was supposedly so ugly that Henry didn't even want to marry her; the marriage was never consummated, and after six months it was annulled.

ANSWER: **Anne of Cleves**