



1. The ability to re-target these systems is aided by the use of intermediate representation. A popular book on these programs is affectionately known as the *Dragon Book*. Backtracking during one phase of these programs can be mostly eliminated by eliminating left recursion and performing left factoring. The first step of these programs creates atoms of information called tokens. The result of their "cross-" type can be used on different architectures than the one used. These programs have five major phases: lexical analysis, parsing, semantic analysis, optimization and code generation. For 10 points, identify these programs that generate machine code from a source program and are contrasted with interpreters.

ANSWER: compilers

066-12-59-02102

2. This poet ended one sonnet with the image of "the swan's great white neck, with its questions, its grace." He addressed a shift in his style, noting, "I am an aged tree that, when I was growing, uttered a vague, sweet sound when the breeze caressed me," in his poem "In Autumn." The speaker claims, "When the giant yawns and stretches, the earth feels a tremor rippling through the enormous vertebrae of the Andes," in his poem addressed to a man who can only be reached by "Biblical tones" or the poetry of Walt Whitman. This poet wrote "To Roosevelt" and the collection *Azul*. For 10 points, name this Modernismo poet from Nicaragua.

ANSWER: Ruben Dario [or Felix Ruben Garcia Sarmiento]

014-12-59-02103

3. Luigi Pasinetti created a fifteen-equation mathematical model of this economist's views. He noted that taxation of land rents would be the only kind of tax actually paid by property owners and not passed on to tenants or consumers. This economist influenced the author of *Production of Commodities by Means of Commodities*, Piero Sraffa, who was a member of the "Neo-" school of this economist. This economist gave an example involving wine and cloth production in England and Portugal to explain one famous theory. For 10 points, identify this economist, the author of *Principles of Political Economy and Taxation*, and formulator of the theory of comparative advantage and law of diminishing returns.

ANSWER: David Ricardo

126-12-59-02104

4. This king was pushed off his horse in the Battle of Karansebes during a war against the Turks. He changed the language of education from Latin to German. He allowed non-Catholic Christians to perform religious rituals in the Patent of Toleration. He appointed Mozart as his chamber composer. This ruler tried to exchange part of the Netherlands for Bavaria, which was stopped by the Fuerstenbund organized by Frederick the Great. This ruler was succeeded by his brother, Leopold II, who undid or lessened certain acts of this ruler, such as his abolition of serfdom. For 10 points, name this Holy Roman Emperor and enlightened despot, the son of Maria Theresa.

ANSWER: Joseph II of Austria [prompt on Joseph]

048-12-59-02105

5. In this work, the English horn adds a dissonant note to the final chord played by the trombones after the repetition of the word *ewig*, which concludes a set of lines written by the composer. The refrain *Dunkel ist das Leben, ist der Tod* is transposed from G minor to A-flat minor to A minor in the first movement. This work's second movement is called "The Lonely One in Autumn," and its sixth, final, and longest movement is "The Farewell." This work sets to music several of Hans Bethge's translations of poems by Li Bo. For 10 points, name this unnumbered symphony by Gustav Mahler.

ANSWER: *Das Lied von der Erde* [or *The Song of the Earth*]

014-12-59-02106

6. This woman is the mother of a witch, who was turned into a bird for enchanting Zeus to fall in love with Io. This mother of Lynx spent most of her life in glens and said "Alas! Alas!" as a man plunged a knife into his breast right next to her. This woman was punished for entertaining Hera with long stories while mountain nymphs cavorted with Zeus. She was torn to pieces by Pan's followers after having turned him down. Earlier in life, this nymph pleaded "lie with me!" after a conceited youth rebuffed her advances. For 10 points, name this nymph who loved Narcissus and could only repeat what others had said.

ANSWER: Echo

020-12-59-02107

7. One abrasive character in this novel hangs herself, jealous of the protagonist's closeness with his fellow art student Lawson. In this novel, Hayward leaves to fight in the Boer War, leading the protagonist to lose his money and begin working in a department store. In this novel, the death of the protagonist's Uncle William allows him to return to medical school. The protagonist of this novel tries many times to help the prostitute Mildred before giving up and marrying Sally Athelny. For 10 points, name this novel about the club-footed orphan Philip Carey, a work of W. Somerset Maugham.

ANSWER: *Of Human Bondage*

105-12-59-02108

8. This man was convicted of the assassination of a rival politician who was shot while brushing his teeth. After he topped the bar exam in prison, he was acquitted by the Supreme Court of murdering that politician, Julio Nalundasan. This man's rule was opposed by the New People's Army, and he rose to power by defeating Diosdado Macapagal. His wife, nicknamed the Steel Butterfly, held several positions in his administration. That wife, Imelda, owned thousands of shoes. This ruler ordered the assassination of Benigno Aquino, whose widow Corazon and her supporters forced him into exile in 1986. For 10 points, name this dictator who served for 21 years as President of the Philippines.

ANSWER: Ferdinand Edralin Marcos

014-12-59-02109

9. At every point P in the domain of a function f of x comma y, this function is normal to the level curve through P. This function is orthogonal to a surface at any point. The dot product of this function and a vector is known as a directional derivative. When applied to scalar functions, this operation yields a vector field. This operator gives the direction of greatest change. In two dimensions, this operator is defined as the partial of f with respect to x of x-hat plus the partial of f with respect to y of y-hat. For 10 points, identify this operator symbolized del.

ANSWER: gradient [prompt on del]

066-12-59-02110

10. This artist received a job in Rome on the recommendation of Giulio Clovio, but had to leave after criticizing Michelangelo's *Last Judgment*. His only mythological painting shows the Trojan Horse in the background and includes two gods who watch serpents attack Laocoon and his sons. He may have inspired Picasso's *Les Femmes d'Alger* with a painting in which angels give robes to seven naked souls while St. John experiences a vision. In another of his paintings, St. Stephen and St. Augustine are carrying the armored corpse of the title nobleman. For 10 points, name this painter of *The Opening of the Fifth Seal* and *The Burial of Count Orgaz*, a Mannerist from Crete who came to live in Toledo.

ANSWER: **El Greco** [or Domenikos **Theotokopoulos**]

064-12-59-02111

11. The law of this system states that n times p is equal to n -sub- i squared times e to the q times V -sub- A over $k T$. A hyperabrupt form of this system is used in varactors. This system undergoes two types of capacitance: diffusion and its namesake type. A plot of the current density of this system looks like a pair of scissors. It contains a single space-charge region. The first solar cells were based on this system. Increasing the doping on one side of this system pushes the depletion region further into the other side. This system can be in equilibrium or forward or reverse bias. For 10 points, identify this system upon which simple diodes are based.

ANSWER: p-n **junction**

066-12-59-02112

12. This story begins by describing processions of troops with such names as "Citizens of the Tomb" and "Brethren in Death." In one scene, a nun explains how she would not hesitate to kill her parents if she had received a divine order to do so. One character in this story resembling Henry IV is the Comte de Breville. In this story's final scene, Cornudet irritates everyone by loudly whistling the Marseillaise. It ends with the title character crying as no one offers her food, even though she had earlier shared her picnic basket. This story climaxes with Elisabeth Rousset sleeping with a Prussian officer, allowing the coach to leave. For 10 points, name this Guy de Maupassant story about an obese prostitute.

ANSWER: "**Ball of Fat**" [or "**Boule de Suif**"]

052-12-59-02113

13. During this event, Violet Sharp killed herself to avoid another round of questioning. John Condon tried to help mediate this event and put an ad in the paper reading "Money is Ready. Jafsie." One person implicated in it possessed gold certificates supposedly left in a shoebox by Isidor Finch; that man was also accused of constructing a ladder to be placed under a bedroom window. This event was investigated by H. Norman Schwarzkopf. The body of the victim of this event was discovered in Hopewell, New Jersey, and, several years later, Bruno Richard Hauptman was executed for his supposed role in it. For 10 points, name this 1932 crime that led to the Federal Kidnapping Act and involved the abduction and murder of the son of a famous aviator.

ANSWER: **Lindbergh** kidnapping [or any synonym for kidnapping; or **Lindbergh** murder; or **Lindbergh** case]

052-12-59-02114

14. This city's Hann Park contains a national zoo, and its tourist attractions include the bizarrely pink Lake Retba. A huge bronze monument outside this city depicts a black man holding a woman in his right arm and looking towards a pointing baby he holds up in his left. The historical "House of Slaves" lies off the coast of this city's mainland on the isle of Gorée. This capital city is home to the African Renaissance Monument and lies on the Cap-Vert peninsula, which juts into the Atlantic. For 10 points, name this westernmost city of mainland Africa, the capital city of Senegal.

ANSWER: **Dakar**

104-12-59-02115

15. This sculpture was given an oval-shaped base despite Renaissance artists' usual avoidance of that figure. Scholars speculate that this sculpture originally included a kneeling, defeated barbarian. It was moved into a trapezoidal plaza near the Palazzo dei Conservatori and the Museo Capitolino as the centerpiece of Michelangelo's reorganization of the Capitoline Hill. This sculpture inspired Verrochio's depiction of Bartolommeo Colleoni, as well as Donatello's *Gattamelata*. This sculpture depicts a man in bronze raising his right arm and riding without stirrups. For 10 points, name this equestrian statue of a wise Roman emperor.

ANSWER: the Equestrian Statue of **Marcus Aurelius** [or any equivalents that mention Marcus Aurelius but do not give incorrect information]

080-12-59-02116

16. In Babylonian myth, King Etana freed one of these creatures so that it would guide him to the plant of birth. Another of these animals stole the cap of Tarquinius Priscus, but returned it, foreshadowing his later rule. Loki accidentally got his staff stuck in the body of a particularly greedy one of these creatures, which turned out to be a giant in disguise and forced him to steal the apples of Idunn. Vethrfofnir sits between the eyes of one of these creatures, the mortal enemy of the serpent Nidhogg. The Aztecs decided on the location of Tenochtitlan after seeing one of these animals on a cactus. For 10 points, name this non-vulture bird, one of which eats Prometheus' liver.

ANSWER: **eagles** [prompt on **birds**; do not accept "hawks," "falcons," or any other kind of bird]

080-12-59-02117

17. This modern-day country was once home to a majority of the Dal Riata kingdom. King Calgacus gave a rousing speech before losing at the Battle of Mons Graupius in this country, where Saint Columba founded a monastery at Iona. This region signed the Treaty of Falaise with its southern neighbor under the leadership of William the Lion. The Antonine Wall crosses this country, which was known in Roman times as Caledonia. Men appointed to rule this country include John Balliol. For 10 points, name this place from which the Stone of Scone ("SCOON") was stolen, whose independent monarchs included Robert the Bruce.

ANSWER: **Scotland** [prompt on **United Kingdom** or **Great Britain**; do not accept or prompt on "England"]

124-12-59-02118

18. Prep school students submit poems to a contest for a private audience with this author at the beginning of Tobias Wolff's *Old School*. This poet described how an "interrupted cry came over houses from another street, but not to call me back or say goodbye" in a poem in which the speaker says, "I have outwalked the furthest city light." In another poem, the speaker claims that "one could do worse than be a swinger of" the title trees. This poet of "Acquainted with the Night" and "Birches" contrasted two ways that the world might end in "Fire and Ice." For 10 points, name this American poet who concluded, "And that has made all the difference," in "The Road Not Taken."

ANSWER: Robert Lee **Frost**

080-12-59-02119

19. The aberrant activation of this pathway causes paroxysmal nocturnal hemoglobinuria. Cleavage of a thioester bond causes basal activation of this pathway, a phenomenon termed tickover. People with deficiencies in this pathway are susceptible to repeated meningococcus infections. This pathway can be activated by mannan-binding lectins or antigen-antibody complexes. In this pathway, the membrane attack complex is assembled by C5 through C9 after the formation of C3 and C5 convertase, and this pathway is responsible for destroying bacteria independent of cell-mediated immunity. For 10 points, name this cascade, a part of the innate immune system named for the fact that it adds to the defense provided by the adaptive immune system.

ANSWER: **complement** system [or **complement** cascade; or **complement** pathway]

048-12-59-02120

20. This work praises bees as an example of an animal that has learned no more than what they were taught by nature. After attacking the pursuit of happiness by Christians as a type of madness, this book states that there will be no epilogue, as the author hates a man who remembers what he hears. This work is prefaced with a letter defending the right to criticize other men, written to a friend who himself was later executed. The title character of this work claims to be the offspring of Plutus, the god of wealth, and a beautiful nymph called Youth. This work was written while the author was at the residence of his close friend Sir Thomas More. For 10 points, name this 1509 text by Erasmus.

ANSWER: ***In Praise of Folly*** [or ***Morias Enkomion***]

064-12-59-02121

21. This man once claimed to have dodged an assassin's bullet by diving over a fence, eliciting accusations that he was lying in what is called the Observatory Affair. His loss of a legislative seat in 1958 began a period referred to as the "desert crossing." In another office, he appointed his country's first female prime minister, Edith Cresson. This leader abolished the death penalty with his first prime minister, Pierre Mauroy. After a legislative election during his first term, he was forced into cohabitation with RPR leader Jacques Chirac. For 10 points, name this Socialist and longest-serving president of France.

ANSWER: Francois Maurice-Marie **Mitterrand**

014-12-59-02122

22. The speaker of this poem compares the title creature to a "high-born maiden in a palace tower" and a "glow-worm golden in a dell of dew." This work's stanzas consist of four iambic trimeter lines followed by a long iambic hexameter line. The speaker of this poem wishes for "half the gladness" of the title creature so that "harmonious madness" could flow from his lips. This poem describes how the title figure pours "profuse strains of unpremeditated art," and it opens, "Hail to thee, blithe spirit!" For 10 points, name this poem about a bird by Percy Bysshe Shelley.

ANSWER: "**To a Skylark**"

080-12-59-02123

23. One species from this phylum begins life in the bipinnaria stage, which is usually followed by a brachiolaria stage. Members of this phylum possess an opening to filter water called the madreporite, which is a feature of this phylum's water vascular system. The act of harvesting one class of organisms in this phylum is called "trepanning." This phylum is the second-largest grouping of deuterostomes after Chordata. For 10 points, identify this phylum of marine animals possessing radial symmetry, examples of which include sea urchins and starfish.

ANSWER: **Echinodermata** [or **echinoderms**]

126-12-59-02124



1. Albert Einstein called his introduction of this quantity his “greatest mistake.” For 10 points each:

[10] Name this constant that Albert Einstein introduced to create a static universe. This quantity is equal to three times the curvature of the vacuum.

ANSWER: **cosmological** constant

[10] Einstein introduced the cosmological constant into his theory that claims that gravity warps spacetime. The Pound-Rebka experiment verified this theory’s prediction of gravitational redshift.

ANSWER: **general relativity** [accept **gr**; prompt on **relativity**]

[10] When caused by the cosmological constant, this quantity is equal to the negative vacuum density or the opposite of the mass density of the cosmological constant times c squared. This quantity’s “force” is perpendicular to isobars, which represent constant values of this quantity, and causes winds.

ANSWER: **pressure**

149-12-59-02201

2. Answer these questions about classical Chinese poetry, for 10 points each.

[10] This Tang Dynasty poet of "Drinking Alone by Moonlight" was the rival of Du Fu.

ANSWER: **Li** Bo [or **Li** Po; or **Li** Bai]

[10] This anthology, one of the Five Classics, comprises many works written during the Shang and Zhou Dynasties.

ANSWER: the **Shijing** [or the **Book of Odes**; or the **Book of Songs**; or the **Classic of Poetry**]

[10] This author wrote the poem "Though the Tortoise Lives Long" during the Battle of White Wolf Mountain. He may be better known as the ruler of Wei in *Romance of the Three Kingdoms*.

ANSWER: **Cao** Cao [or Cao **Cao**]

080-12-59-02202

3. During this festival, the president, "armed with the Flame of Truth," approached a basin that was meant to symbolize "that monster, Atheism." For 10 points each:

[10] Name this Jacques Louis David-planned French religious festival that saw the construction of a mountain on the Champs du Mar. It celebrated the cult started by a revolutionary leader.

ANSWER: Festival of the **Supreme Being**

[10] This promulgator of the Cult of the Supreme Being was the head of the Committee of Public Safety. He was executed following the Thermidorian Reaction.

ANSWER: Maximilien Francois-Marie-Isidore de **Robespierre**

[10] Robespierre was a member of this anti-slave trade group that was led by Jacques-Pierre Brissot. This group was opposed by the planter-composed Massiac club.

ANSWER: Society of the **Friends of the Blacks** [or Societe des **Amis des Noirs**]

149-12-59-02203

4. These texts include the Vohu-Khshathra and the Ahuna Vairya, which mandates the choice of the lord, or *ahu*, the judgment, or *ratush*, and the rule, or *xshathra*. For 10 points each:

[10] Name this set of verse hymns which frequently address Ahura Mazda.

ANSWER: **Gathas**

[10] The Gathas comprise part of the Avesta, the primary sacred text of this religion founded by a namesake Persian prophet.

ANSWER: **Zoroastrianism**

[10] The Gathas are a subset of this larger body of Zoroastrian liturgical texts. The twelfth one, the *Fravarane* creed, begins, “I curse the Daevas. I declare myself a Mazda-worshipper.”

ANSWER: **Yasna**

014-12-59-02204

5. Examples of this type of composition by J.S. Bach include *Ascension*, *Easter*, and *Christmas*. For 10 points each:

[10] Name these compositions for an orchestra and large choir, exemplified by Handel’s *Messiah*.

ANSWER: **oratorios**

[10] Adapted from a Cardinal Newman poem, this Edward Elgar oratorio tells the story of a man’s soul as it travels to Purgatory. It includes the “Praise of the Holiest” chorus.

ANSWER: *The Dream of Gerontius*

[10] This British composer adapted Psalm 137 and the Book of Daniel into the oratorio *Belshazzar’s Feast*. He also composed *Façade*, a setting of Edith Sitwell’s poetry.

ANSWER: William **Walton**

079-12-59-02205

6. Xenophon wrote an embellished biography of this ruler. For 10 points each:

[10] Name this first of the Achaemenids who made his capital at Pasargadae after founding the Persian Empire.

ANSWER: **Cyrus** the Great [or **Cyrus II**]

[10] This son and successor of Cyrus launched a successful invasion of Egypt and a less successful attack on Kush. Herodotus claims he lost a massive army to a sandstorm.

ANSWER: **Cambyses II** [prompt on **Cambyses**]

[10] Cyrus started off by defeating Astyages and conquering this empire, which had its capital at Ecbatana.

ANSWER: **Medes** [or **Median** Empire]

015-12-59-02206

7. This character marries Narcissa, the niece of his employer to whom he reads Tasso’s poetry, and he meets his long-lost father Don Rodrigo while on a voyage with Tom Bowling. For 10 points each:

[10] Name this title character of a picaresque novel who frequently supports himself by serving as a ship’s surgeon.

ANSWER: Roderick **Random** [or **Roderick** Random]

[10] *The Adventures of Roderick Random* was written by this Scottish novelist of *The Expedition of Humphry Clinker* and *The Adventures of Peregrine Pickle*.

ANSWER: Tobias **Smollett**

[10] Smollett translated into English this Spanish novel about a delusional man known for tilting at windmills.

ANSWER: **Don Quixote**

014-12-59-02207

8. Answer the following about foreign relations between Japan and the United States, for 10 points each.
[10] This commodore opened Japan to foreign relations. He first arrived in July 1853 and signed the Convention of Kanagawa the following year. His older brother, Oliver, won the battle of Lake Erie in the War of 1812.

ANSWER: Matthew Calbraith **Perry**

[10] In 1907, Japan and the United States agreed that San Francisco would end segregation of Japanese students in schools, and Japan would not allow further emigration to the U.S. That decision was known by this name.

ANSWER: **Gentlemen's Agreement** of 1907

[10] Japanese-American internment was declared constitutional in the 1944 *Korematsu* case. This justice wrote a dissent arguing that "military decisions are not susceptible of intelligent judicial appraisal." He went on to become the chief American prosecutor at the Nuremberg trials.

ANSWER: Robert Houghwout **Jackson**

052-12-59-02208

9. The initial substance in this process is dissolved in molten cryolite in order to decrease the melting point of the Al_2O_3 . 10 points each:

[10] Name this process that uses electrolysis to obtain aluminum from alumina.

ANSWER: **Hall-Heroult** process

[10] The Hall-Heroult process is often preceded by the Bayer process, which obtains the alumina from this ore. It is the main source of aluminum used in industry.

ANSWER: **bauxite**

[10] The Castner-Kellner process is another electrolytic method that can be used for aluminum extraction. It produces an alkali hydroxide from the alkaline metal compounded with this second lightest halogen.

ANSWER: **chlorine** [or **Cl**]

127-12-59-02209

10. For 10 points each, answer the following about UNESCO Natural World Heritage Sites that are found in Australia.

[10] This collection of over 400 species of coral is also a major nesting ground for green and loggerhead turtles. It is the world's largest coral reef.

ANSWER: **Great Barrier** Reef

[10] This largest sand island in the world is home to "acid frogs" and one of the purest dingo populations in Australia. It was renamed from "Great Sandy Island" after a shipwreck survivor who ended up on it.

ANSWER: **Fraser** Island

[10] Both the Great Barrier Reef and Fraser Island are found off the coast of this northeastern Australian state whose tropical rainforests are also a Natural World Heritage Site.

ANSWER: **Queensland**

003-12-59-02210

11. The area enclosed by one of these curves is equal to a material-dependent power of the flux density times the Steinmetz coefficient, and represents the energy loss in one cycle. For 10 points each:

[10] Name this type of "loop" used to characterize the response of elastic and some magnetic materials to changes in the magnetic field strength.

ANSWER: **hysteresis** loop

[10] Classically, metals which exhibit this behavior undergo hysteresis. This property exists below the Curie point, and occurs when domains align parallel to each other, creating a permanent magnet.

ANSWER: **ferromagnetism**

[10] The positive y-axis intercept of the hysteresis loop represents the amount of magnetization still present in the presence of zero magnetic field.

ANSWER: **remanence**

003-12-59-02211

12. Name the following Czech authors, for 10 points each.

[10] Ludvik writes "optimism is the opium of the people" on a postcard in this author's novel *The Joke*. He also wrote about Tomas, Tereza, and Sabina in *The Unbearable Lightness of Being*.

ANSWER: Milan **Kundera**

[10] This man wrote a satire centering on a soldier in World War I in a novel illustrated by George Grosz, *The Good Soldier Schweik*.

ANSWER: Jaroslav **Hasek**

[10] This Nobel laureate, the first Czech to win the prize, wrote *Mozart in Prague: Thirteen Rondels* as well as *On the Waves of T.S.F.*

ANSWER: Jaroslav **Seifert**

127-12-59-02212

13. This term refers to achieved status, whose social cohesion is more susceptible to class conflict. For 10 points each:

[10] Name this German term which is often translated as "society." It refers to an association where individuals work out of self interest, as opposed to its contrasting term, which denotes individuals' loyalties to the larger community.

ANSWER: **Gesellschaft** [do not accept "gemeinschaft"]

[10] The concept of *gesellschaften* was devised by Ferdinand Tonnies, who studied human association, much like this man, who theorized the role of religion in society in *The Protestant Ethic and the Spirit of Capitalism*.

ANSWER: Maximilian Karl Emil **Weber**

[10] An American conceptualist of the community is Robert Putnam, who wrote this 2000 book in which he analyzed the decline of social capital in America, including the deterioration of social organizations like the ones dedicated to the title activity.

ANSWER: **Bowling Alone: The Collapse and Revival of American Community** [or **Bowling Alone: America's Declining Social Capital**]

052-12-59-02213

14. The current holder of this position played professional basketball in Australia's NBA. For 10 points each:

[10] Name this Cabinet position which during the Bush administration's second term was held by Margaret Spellings, who succeeded Rod Paige.

ANSWER: Secretary of **Education**

[10] The current Secretary of Education, Arne Duncan, was formerly CEO of this city's public schools. The current mayor of this city is former White House Chief of Staff Rahm Emanuel.

ANSWER: **Chicago**

[10] This NYU professor is a critic of No Child Left Behind and the charter school system. She is the author of such books as *The Language Police* and *The Death and Life of the Great American School System*.

ANSWER: Diane Silvers **Ravitch**

052-12-59-02214

15. This woman gave a fidelity charm to her husband, causing him to ejaculate serpents and scorpions. For 10 points each:

[10] Name this woman, the mother of Ariadne. Under a curse from Poseidon, she mated with a certain white animal he sent to her kingdom.

ANSWER: **Pasiphae**

[10] After mating with the white bull, Pasiphae gave birth to this monster, otherwise known as Asterion. This man-bull was placed inside the labyrinth.

ANSWER: **Minotaur**

[10] The Athenians had to send youths to be eaten by the Minotaur as punishment for killing this son of Minos and Pasiphae, who apparently had won too many prizes at a feast.

ANSWER: **Androgeos**

052-12-59-02215

16. In this painting, a man sitting on a window sill appears about to defecate on a globe with its cross pointing downwards. For 10 points each:

[10] Name this painting also depicting such tropes as a man knocking his head against a wall and a big fish eating a little fish.

ANSWER: **Netherlandish Proverbs**

[10] *Netherlandish Proverbs* was painted by this Flemish artist of *Landscape with the Fall of Icarus* and *The Triumph of Death*.

ANSWER: Pieter **Bruegel** the Elder

[10] This Bruegel painting shows the influence of Hieronymus Bosch, as the retreating title characters are in the middle of transforming into butterflies, fish, gnomes, and other bizarre creatures.

ANSWER: *The **Fall of the Rebel Angels***

014-12-59-02216

17. The Danish king Christian VIII died in this year, which led to mass protests for a constitutional monarchy. For 10 points each:

[10] Name this year known as the "Year of Revolutions" in Europe because of numerous popular protests. During this year, Louis-Philippe abdicated the throne in France and a briefly autonomous Hungarian government was set up under Lajos Kossuth.

ANSWER: **1848**

[10] This king of Prussia in 1848 initially opposed the revolution, but then supported it and German unification for a time for his own security. In 1849, this ruler refused the crown offered to him by the Frankfurt Assembly.

ANSWER: **Frederick William IV** of Prussia [or **Friedrich Wilhelm IV**; prompt on **Frederick William**; prompt on **Friedrich Wilhelm**]

[10] In 1848, the year after the Sonderbund War, this modern-day country devised a new constitution that created a federal state.

ANSWER: **Switzerland** [or **Swiss** Confederation; or **Schweizerische Eidgenossenschaft**; or Confederation **Suisse**; or Confederazione **Svizerra**; or Confederaziun **Svizra**]

052-12-59-02217

18. Answer the following about novels with strong homosexual themes, for 10 points each.

[10] This author wrote about the teenager Joel Knox, who comes to live at a mansion owned by the homosexual cross-dresser Randolph. Besides *Other Voices, Other Rooms*, he wrote the novella *Breakfast at Tiffany's* and the crime novel *In Cold Blood*.

ANSWER: Truman **Capote** [or Truman Streckfus **Persons**]

[10] This female author wrote about the homosexual Captain Weldon Penderton, who becomes attracted to Private Williams, in her work *Reflections in a Golden Eye*. She also wrote about a deaf man named John Singer in another novel.

ANSWER: Carson **McCullers** [or Lula Carson **Smith**]

[10] In this controversial 1936 Djuna Barnes novel, Robin Vote marries Baron Felix Volkbein, but then ends up having relationships with Nora Flood and Jenny Petherbridge. It is considered one of the first explicit depictions of homosexuality in American prose.

ANSWER: **Nightwood**

052-12-59-02218

19. One person killed in this incident was Hector Pieteron. For 10 points each:

[10] Name this event that began on June 16, 1976. It began with students protesting the requirement of schools to use the Afrikaans language and led to about 176 deaths.

ANSWER: **Soweto** Uprising [or equivalents such as **Soweto** Rebellion]

[10] The Soweto Uprising took place in this country, where many students associated the Afrikaans language with the official policies of apartheid.

ANSWER: Republic of **South Africa**

[10] This South African student leader founded the Black Consciousness Movement. He was killed in 1977 after being arrested and sent to Pretoria prison, and his friend, journalist Donald Woods, used the death as a rallying cry against apartheid.

ANSWER: Steve **Biko** [or Bantu Stephen **Biko**]

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20. Prokaryotic ones have two nucleotide sequences at the minus 10 and minus 35 sites, and eukaryotic ones contain a TATA box. For 10 points each:

[10] Name these parts of DNA where gene transcription begins.

ANSWER: **promoters**

[10] This promoter element located in the -5 to -10 region helps orient prokaryotic polymerases. This element is usually some variant of TATAAT and is the Eukaryotic analog of the TATA box.

ANSWER: **Pribnow** box

[10] This technique is used to assay for the level of several different genes at once. It uses a glass slide printed with a series of oligos that hybridize to a sample.

ANSWER: DNA **microarray** [or DNA **chip**]

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21. This author wrote the “No Name Series,” which included the novel *Mercy Philbrick’s Choice*. For 10 points each:

[10] Name this author who wrote about a part Scottish, part American Indian orphan in *Ramona* and also documented government abuse of American Indians in the nonfiction *A Century of Dishonor*.

ANSWER: Helen Hunt **Jackson** [or Helen **Fiske**]

[10] *Ramona* is set in this American state. Jackson was an activist there for the so-called “Mission Indians,” who were forcibly converted and taken to missions, such as Mission San Juan Capistrano and Mission Santa Barbara.

ANSWER: **California**

[10] In this novel also set in California, Danny inherits two houses from his grandfather. Danny’s buddies are Pablo, Pilon, and Jesus Maria, and Danny ultimately dies when he falls into a gulch.

ANSWER: ***Tortilla Flat***

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