

LIMIT 2015: A Limit to Learning is a Dangerous Thing

Written by Lexington High School (Colin Cantwell, Kyle Doney, Reggie Luo, Gavin Mak, Duncan McCallum, Arjun Sarathy, Devin Shang), Hinsdale Central High School (Ankush Bajaj, Sunny Chen, Harrison Wang, James Zhou) and Victor Pavao

Edited by Rohan Nag and Jarret Greene

Packet 5

Tossups

1) One man with this first name wrote the *Book of Bounty* to repent to Parliament, which later passed the Statute of Monopolies during his reign. One ruler of this name presided over the Trial of the Seven Bishops. One chartered the Royal African Company and tried to monopolize pepper from the East India Company. Another defeated the Duke of Monmouth, leading to the (*) 'Bloody Assizes', and lost the battle of the Boyne. One man with this name was targeted by the Gunpowder Plot. For 10 points, give this first name shared by two English kings, one of whom was deposed in the Glorious Revolution.

ANSWER: James I or II or VI of Scotland

2) In one of this author's stories, Juan Dahlmann is discharged from a sanatorium and travels to his ranch in the title place, where he is challenged to a knife fight. In another of this man's stories, a new volume of the *Anglo-American Cyclopedia* with four extra pages leads to a talk of a (*) fictional land whose people make duplicates called hronir. Ts'ui Pen's infinite novel is discussed in another story by this man about the German spy Yu Tsun, who shoots the Sinologist Stephen Albert. For 10 points, name this Argentine author who included the stories "The South", "Tlon, Uqbar, Orbis Tertius", and "The Garden of Forking Paths" in his collection *Ficciones*.

ANSWER: Jorge Luis Borges <JG>

3) This man first noted that experimental psychology was impossible since the mind can't objectively study itself. This man depicted rational religion as a naked body and historical religion as clothing in one work. In another, he called the title phenomenon "man's emergence from his self-imposed immaturity." He was "awoken from his dogmatic slumber" by reading (*) David Hume's work. This philosopher blended rationalist and empiricist theories to create *a priori* knowledge in one work and defined the categorical imperative. For 10 points, name this German philosopher of *Critique of Pure Reason* and *Groundwork of the Metaphysics of Morals*.

ANSWER: Immanuel Kant <CC>

Note to all: the answerline is the broadest possible answerline

4) Low V/Q inequality values are symptomatic of hypercapnia, an excess of one of these substances. ABG tests measure acidity and these substances in the blood. Their embolisms are more serious in arteries than in veins, and the tidal volume measures them. These substances expand in decompression (*) sickness, which divers can suffer when surfacing. The pleural cavity houses structures that exchange these substances, and Eustachian tubes alternately fill and expel them. Bronchioles branch into alveoli, innervated sacs of these substances. For 10 points, name these substances "exchanged" in the lungs, including oxygen and CO₂.

ANSWER: gases; accept air; prompt on "bubbles" or any answers that contain air in them

5) One character in this film asks if another would like her better if she were Ingrid Bergman, just before spotting a newspaper headline. In one scene from this film, a character warns of the need to “blow their brains all over your nice Ivy League suit.” The climax of this film is during the baptism of Carlo and (*) Connie’s baby, in which Moe Greene and Don Barzini are killed in revenge for Sonny’s death. Marlon Brando used cheek implants to play its titular role, and, in it, Clemenza orders his man to “leave the gun, take the cannoli.” For 10 points, name this Francis Ford Coppola film about the Corleone crime family, based on a Mario Puzo novel.

ANSWER: The Godfather, Part I <JG>

6) This author wrote an unfinished epic in which Apollo becomes a god after staring into the eyes of Mnemosyne [na-MOSS-uh-nee] on the beach. This poet of “Hyperion” described “stout Cortez ... with eagle eyes,” in a poem that begins “Much have I travell’d in realms of gold” and he wrote a ballad which asks “Oh, what can ail thee, knight at arms?” In another poem, this man addresses a (*) “still unravish’d bride of quietness,” and states that “beauty is truth, truth beauty,” For 10 points, name this Romantic poet of “On First Looking Into Chapman’s Homer,” “La Belle Dame Sans Merci,” and “Ode on a Grecian Urn.”

ANSWER: John Keats <CC>

7) This man hugged a supporter dressed as a chicken, saying, “I love it!”. In San Francisco, this man greeted orphans saved by his Operation Babylift. During his Presidency, ten Marines were killed in a rescue operation on the *Mayaguez*. Carl Albert recommended this man to replace a Vice President charged with (*) tax evasion. This President declared that there was “no Soviet domination of Eastern Europe” and ended the Vietnam War. He also declared “our long national nightmare is over” after he pardoned his predecessor. For 10 points, name this unelected President who succeeded Nixon in 1974.

ANSWER: Gerald Ford or Leslie Lynch King Jr. <AS>

8) Glitnir, the court of justice, has a roof made of this substance. The age named after this material featured humans who lived for 100 years as children and then aged and died. Nefer-kap-tah stole a box inside a box of this material to get the Book of Thoth. The age of this metal ended when Zeus called down the Ogygian [Oh-GIDG-an] Deluge, because (*) humans kept fighting and did not honor the gods. The sister of Helios, Selene, had a chariot of this metal drawn by two horses, and was a moon goddess. The Bronze Age followed this metal’s Age. For 10 points, name this metal effective against witches and werewolves.

ANSWER: silver <KD>

9) This phenomenon’s namesake resonance energy transfer decreases with the sixth power of the distance between a donor and acceptor. This type of spectroscopy uses lasers directed at atoms within a flame. During this phenomenon a transition between states with the same spin quantum numbers (*) occurs, from a singlet to a ground state. Photo-bleaching reduces this phenomenon, which can occur in phosphors. Another name for molecules that undergo this phenomenon, which is not luminescence, is dyes. For 10 points, name this emission of light by excited photons in fluorophores.

ANSWER: fluorescence; do not accept luminescence or phosphorescence

10) One location in this work features 10 bolgia [bol-JUH] at the bottom of a cliff. At the outset of this work, the central character is lost in a wood where he encounters a lion, a leopard and a she-wolf. In one section of this work, the main characters get by the “great worm” Cerebus by filling its mouths with mud, and they also encounter notorious traitors (*) frozen in lakes of ice. The narrator of this work enters the title location under a gate inscribed with “Abandon all hope, ye who enter here.” For 10 points each, name this poem in which Virgil guides the narrator through hell, the first part of Dante Alighieri’s [ah-lee-GYER-ee] *Divine Comedy*.

ANSWER: Inferno; reverse prompt on “The Divine Comedy” <JG>

11) The title “president of the council of ministers” was used in this dynasty. This dynasty’s navy was guided by the 1690 Signals and Instructions, and was increased tenfold by a Finance Minister. The Family Compact and the Treaty of the Escorial allied parts of this dynasty. A “bourgeois monarch” overthrew Charles X of this house, whom Legitimists favored. The Grand (*) Alliance countered this dynasty during the Spanish Succession. This house’s soldiers wore white coats introduced by Louis XIV, and its white flag had a fleur-de-lis on it. For 10 points, name this dynasty after the Valois, including Henry IV, which also had a Spanish component.

ANSWER: Bourbons

12) In one song, this artist sings while addressing someone with a “James Dean daydream look” in their eye. In one music video, this singer’s character is kicked out of a glass window by Arsyn, who is played by Selena Gomez. In that video, she sings that (*) “it’s so sad to think about the good times, you and I”, after pointing out that “you know it used to be mad love”. In another song, she begins by asking “nice to meet you, where you been?” and notes that she’s “got a long list of ex-lovers”. For 10 points, name this singer whose album 1989 includes the singles *Style*, *Bad Blood*, and *Blank Space*.

ANSWER: Taylor Swift or Taylor Alison Swift; prompt on “T-Swizzle”, “Tayswift”, or other nicknames <DS>

13) In one story by this author, the invisible Jimmy Jimmereeeno is run over by a car and killed while Eloise reminisces about Walt. In another, the title orphan girl sends her father’s wristwatch to Sergeant X, while in a third, Sybil Carpenter chastises Seymour for spending time with Sharon Lipschutz, after which Seymour shoots himself. This author included “Uncle Wiggily In Connecticut,” (*) “For Esmé-With Love and Squalor,” and “A Perfect Day For Bananafish” in his collection *Nine Stories* but may be better known for a novel about in which Holden Caulfield runs away from Pency Prep. For 10 points, name this author of *The Catcher in the Rye*.

ANSWER: J(erome) D(avid) Salinger <CC>

14) A man on horseback points his bow at some nude women in this artist’s *Scene of War in the Middle Ages*, one of his early history paintings that also includes *Young Spartans Exercising*. A bearded man sits with his back to the viewer next to his wife and two daughters in his portrait of the Bellelli family. A bohemian looks off to the right while a woman next to him (*) stares past a green bottle in another of his paintings. This painter showed his brother reading a newspaper while the title crop is examined behind him in *The New Orleans Cotton Exchange*. For 10 points, name this French Impressionist painter of *L’Absinthe*, who painted many ballet dancers.

ANSWER: Edgar Degas <JG>

15) The seventy-first surah of the Qur'an is named for this man, and in it, Allah creates the Sun and the Moon. He curses his son and the father of Canaan to be “the lowest of slaves” after this first wine drinker and son of Lamech is seen by him drunk and (*) naked in his tent. God tells this man “never again will I curse the ground,” after this man sends off a dove which returns to him with an olive branch in its mouth. For 10 points, name this Biblical figure who built an ark to survive the Great Flood.

ANSWER: Noah or Nuh <CC>

16) The D-P-I-V technique creates images of these objects that are color-coded. Combining them gives field lines. The Lorentz transformation describes four of these entities in Min-kowski space. Newton’s theorem simplifies spheres to make calculations with a gravitational one of these objects easier. The net acceleration is related to the (*) tangential and the centripetal accelerations by this type of sum, as are superimposed electric or magnetic forces. The right-hand rule multiplies these entities. They have displacement, position, and velocity types with one or more of i, j, and k components. For 10 points, name these quantities with a magnitude and direction.

ANSWER: vectors

17) After the Red Eyebrows rebelled during this dynasty, its capital was moved to Luoyang. Every member of Empress Lu's clan was killed during this dynasty. Sima Qian wrote the "Records of the Grand Historian" about this dynasty's history. This dynasty used an invention to wrap fish (*) but mostly wrote on wood and bamboo. The failed Yellow Turban rebellion threatened this dynasty's capital of Chang'an. This dynasty was succeeded by Three Kingdoms and traded with the Romans via the Silk Road. For 10 points, name this dynasty founded by Liu Bang, which succeeded the Qin dynasty.

ANSWER: the Han dynasty; accept Eastern or Western Han

18) Frequency polygons show lines connecting these kinds of points, while ogives don't. Convex functions have means lower than these points at each interval. In Varignon's theorem, connecting these points on a quadrilateral's sides makes a parallelogram. Mascheroni constructions use circles (*) to find these points. This point on the hypotenuse of a right triangle is also the circumcenter. For a line segment in the coordinate plane, this location is the average of its two endpoints. In a triangle, the segment connecting this point to the opposing vertex divides the triangle equally and is called a median. For 10 points, name this point in the middle of two points.

ANSWER: midpoint <HW>

19) A *Notturmo* for piano by this composer begins with an E-flat lowering to an A-flat in the left hand, where it is then joined by continuous broken chords in the right hand. This composer, who transcribed Beethoven's symphonies for piano, dedicated a one-movement piano sonata in B minor to Robert Schumann. He depicted a poem by Ferdinand Freiligrath in his third (*) *Liebestraume*, and included "Feux Follets" and "Mazeppa" in a set of twelve difficult *Transcendental Etudes*. For 10 points, name this composer of the *Hungarian Rhapsodies*.

ANSWER: Franz Liszt or Franz Ritter von Liszt; or Liszt Ferenc in either order <DS>

20) One city on this body of water was captured by Theodore Gabras and served as the capital of the Trebizond Empire. Besides the modern city of Trabzon, other cities on its shores include Varna and Kerch, which names a strait between this body of water and the Sea of (*) Azov. The Dnieper empties into this body of water at Odessa, and the Sea of Marmara is separated from it by another strait, the Bosphorus. Yalta is located on a peninsula in this body of water, and the 2014 Winter Olympics were hosted in the resort town of Sochi on it. For 10 points, name this sea bordered by Crimea.

ANSWER: Black Sea <CC>

Bonuses

1) In a play by this author, Peter and Jerry have a conversation on a park bench, which ends with Jerry impaling himself on his own knife. For 10 points each:

[10] Name this American playwright of *The Zoo Story*.

ANSWER: Edward Albee

[10] In this Albee play, Nick and Honey play such games as “Get the Guest” at the home of the frequently bickering couple George and Martha.

ANSWER: *Who’s Afraid of Virginia Woolf?*

[10] The second act of *Who’s Afraid of Virginia Woolf?* is named for this German holiday, held on April 30. Mephisto tries to bring Faust to a celebration of this witches’ sabbath.

ANSWER: Walpurgis Night or Walpurgisnacht [vol-PUR-giss-KNOCKt] <CC>

2) In a mechanism with one class of these substances, a cation is coordinated with an alkene of hapticity two. For 10 points each:

[10] Name these unconsumed reagents that lower activation energy to increase the rates of reactions. Examples of these compounds include the aforementioned Ziegler-Natta ones.

ANSWER: catalysts

[10] Ziegler-Natta catalysts can be affixed on magnesium chloride, which serves as this role. Carbon nanotubes can also function as this class of substances designed to make catalysts more effective.

ANSWER: supports

[10] Catalytic supports like alumina and silica are commonly this phase of matter, which can adsorb liquids when porous.

ANSWER: solid <HW>

3) This group gained their position following the dismissal of the Earl of Clarendon, Edward Hyde. For 10 points each:

[10] Name this group of five advisors to Charles II of England, whose name was an acronym derived from their surnames or titles.

ANSWER: The Cabal

[10] Charles II returned from exile in mainland Europe following the abdication of this man’s son Richard as Lord Protector. This victor in the English Civil War abolished the monarchy and established an English Commonwealth.

ANSWER: Oliver Cromwell

[10] Under Cromwell’s Commonwealth, this house of Parliament with Spiritual and Temporal members was abolished. It would not assemble again until the restoration of the monarchy.

ANSWER: House of Lords <CC>

4) The cowgirl and the Head Wrangler kiss in this ballet’s final section. For 10 points each:

[10] Name this ballet choreographed by Agnes de Mille which concludes with a “Hoe-Down”.

ANSWER: Rodeo

[10] The score to *Rodeo* was composed by this man, who quoted the Shaker song “Simple Gifts” extensively in his composition *Appalachian Spring*.

ANSWER: Aaron Copland

[10] Copland quoted the songs “Git along, Little Dogies” and “The Old Chisholm Trail” in this work, which was commissioned by Lincoln Kirstein. Copland noted that this work’s “action begins and closes on the open prairie.”

ANSWER: Billy the Kid <DS>

5) This ultimately expansionist policy allowed Benito Juarez to have diplomatic and military support from the “Great Colossus of the North”. For 10 points each:

[10] Name this 1823 “doctrine” made by the fifth President. It stated that further European efforts to colonize or intervene in the Americas would be viewed as acts of aggression.

ANSWER: Monroe Doctrine

[10] The interventionist Roosevelt Corollary was exemplified by this two-word phrase. It was replaced by FDR with a less intrusive ‘Good Neighbor’ policy.

ANSWER: ‘Big Stick’; accept phrases that have “Big Stick” in them

[10] This expansionist amendment was a response to President McKinley’s War Message, declaring that American presence in Cuba was a “liberation campaign” and that soldiers would withdraw after Cuban independence.

ANSWER: Teller Amendment <AS>

6) Name some members of the Pop art movement, for 10 points each:

[10] The benday dots and paneling of comic books inspired this artist’s to paint works such as *Whaam!* and *The Drowning Girl*, in which the title woman declares “I’d rather sink than call Brad for help!”

ANSWER: Roy Lichtenstein

[10] This pop artist and maker of mediocre films produced much of his work in series, such as his multiple depictions of Marilyn Monroe or Campbell’s Soup cans, which he painted in his Factory.

ANSWER: Andy Warhol

[10] The cover of a Young Romance comic and a bodybuilder holding a tootsie pop are among the several items included in this British pop artist’s collage *Just What Is It That Makes Today’s Homes So Different, So Appealing?*

ANSWER: Richard Hamilton <JG>

7) Each of this entity’s tangent points to each of a triangle’s sides can be connected to the corner opposite that side, the intersection of which is the Gergonne point. For 10 points each:

[10] Name this largest circle that can fit inside a triangle.

ANSWER: incircle

[10] These line segments meet at the incircle’s center. They divide an angle into two smaller, equal angles.

ANSWER: angle bisector

[10] When multiple lines intersect all at the same point, they are described by this adjective. This condition may be shown by Ceva [CHAY-va]’s theorem.

ANSWER: concurrent <HW>

8) This character creates a painting of a blindfolded woman with a torch against a black background. For 10 points each:

[10] Name this director of the Inner Station, an ivory trader who scribbles “Exterminate all the brutes!” on a pamphlet. His last words before dying of jungle fever are “The horror! The horror!”

ANSWER: Kurtz; accept Mr. Kurtz

[10] Marlow searches for Kurtz in *Heart of Darkness*, a novel by this Anglo-Polish author. Other novels by this man include *Lord Jim* and *Nostromo*.

ANSWER: Joseph Conrad or Jozef Teodor Konrad Korzeniowski

[10] In this story by Conrad, the narrator helps hide his double, a man named Leggett, in his ship despite that man being accused of murdering a man on board the *Sephora*.

ANSWER: “The Secret Sharer” <JG>

9) One twentieth-century leader of this religion was Shoghi Effendi [show-GEE uh-FEN-dee]. For 10 points each:

[10] Name this syncretic religion, which believes that Zoroaster, Muhammad, and Jesus, among others, are all manifestations of God. It was founded by Bahá'u'lláh [bah-HAH-ooh-la].

ANSWER: **Bahá'í** Faith [buh-HIGH]

[10] Bahá'u'lláh was a follower of this Persian who claimed to be the Shi'ite messiah.

ANSWER: the **Báb** or Siyyid Ali Muhammad Shírázī

[10] The Bahá'í faith is governed from the Universal House of Justice in this present-day country's city of Haifa, where the Báb is buried.

ANSWER: **Israel** <CC>

10) The title character is cursed by Count Monterone in Act 1 of this opera, and in Act 3, one character sings the aria "La donna è mobile." For 10 points each:

[10] Name this opera in which the title humpbacked jester tries to have the Duke of Mantua assassinated by Sparafucile, who ends up killing his daughter instead.

ANSWER: **Rigoletto**

[10] Rigoletto is an opera by this Italian composer, whose other operas include *Falstaff* and *Aida*.

ANSWER: Giuseppe **Verdi**

[10] Verdi included the "Chorus of the Hebrew Slaves" in this early opera of his, which is based on the persecution of the Jews by the title Babylonian emperor.

ANSWER: **Nabucco** or **Nabucodonosor** or **Nebuchadnezzar** <JG>

11) A device that multiplies this quantity consists of a central gear, which turns several small gears, is simultaneously connected to a larger gear in an epicyclic gear. For 10 points each:

[10] Name this quantity equal to the lever arm cross-multiplied by force. When the net force and the net *this quantity* exerted on an object are zero, that object is in equilibrium.

ANSWER: **torque**

[10] The torque is maximized if the given force is in this orientation relative to the lever arm. Torque-induced precession is of this orientation relative to nutation.

ANSWER: **normal**; accept **90 degrees**, **orthogonal**, **perpendicular**

[10] Torque is a simplified version of these quantities specifically for force, while an "arm" named for it lies perpendicular to the line of action. Couples of forces have no net force but do have this quantity.

ANSWER: **moment**

12) This man ordered his citizens to not eat meat and divided provinces into districts headed by *mahamatras*. For 10 points each:

[10] Name this son of Bindusara, a Mauryan emperor who converted to Buddhism after he invaded Kalinga. His lion pillar was the basis of the Indian flag.

ANSWER: **Ashoka**

[10] These people, also called the Yuezhi, were named after a geographic feature. Kadphises and Kanishka were their rulers, and they conquered north India after Ashoka's death, with capitals at modern Peshawar and Mathura.

ANSWER: **Kushans**

[10] After Kalinga, Ashoka used "rock" and "pillar" versions of these Sanskrit, Greek, and Aramaic inscriptions to spread his dharma and Buddhism. Sopara, Sanchi, and "separate" and "schism" ones are the most famous of them.

ANSWER: **edicts**

13) In the title story of one collection by this author, the tour guide Mr. Kapasi saves the illegitimate child Bobby from monkeys. For 10 points each:

[10] Name this author of *The Interpreter of Maladies* who wrote about Gogol Ganguli in *The Namesake*.

ANSWER: Jhumpa **Lahiri** or Nilanjana Sudeshna **Lahiri**

[10] This author of *A Suitable Boy* described a group of yuppies living in San Francisco including John Brown and Janet Hayakawa in his massive verse novel *The Golden Gate*.

ANSWER: Vikram **Seth**

[10] Jhumpa Lahiri and Vikram Seth are American authors whose heritage lies in this country, whose traditional literature includes the *Ramayana*.

ANSWER: Republic of **India** <CC>

14) The di-deoxy sequencing method uses the DNA polymerase I enzyme from this organism. For 10 points each:

[10] Name this model organism often used in labs, a rod-shaped bacterium which Cohen and Boyer used to create the first recombinant DNA.

ANSWER: **Escherichia coli** or **E. coli**

[10] These visible structures with millions or billions of clumped bacteria can be regularly or irregularly-shaped. They can also have different elevations and opacities on nutrient media.

ANSWER: **colony** or **colonies**

[10] This phenomenon is the release of autoinducers to regulate bacterial gene expression when a stimulus of a specific level is detected. Specific types of *E. coli* can exhibit this phenomenon when they're stationary.

ANSWER: **quorum sensing**

15) LLINs and the IRS method are ways to stop the spread of this disease, which is prevalent in the Sahel and Central Africa. For 10 points each:

[10] Name this disease that shares many symptoms with Ebola, but is spread by the *Anopheles* [Anaw-fell-ees] mosquito and cured by quinine. *Plasmodium falciparum* is the most common Sub-Saharan parasite for this disease.

ANSWER: **malaria**

[10] Fighting malaria would help with Goals 4 and 6 of these UN goals made in 2000, which are supposed to be completed this year. They include reducing child mortality and fighting infectious diseases.

ANSWER: **Millennium Development Goals** or **MDGs**

[10] This nation's malaria outbreak was worsened by Séléka rebels led by President Michel Djo-todia, who fought "anti-balaka" Christian militia. This landlocked country's capital saw French soldiers abuse children in April.

ANSWER: **Central African Republic** or **CAR**

16) Gilgamesh never actually became immortal. For 10 points each, name some events in his *Epic*:

[10] This goddess angrily unleashed the Bull of Heaven after being rejected by Gilgamesh. This goddess contracted sixty diseases before stopping all sexual activity on earth by entering the underworld.

ANSWER: **Ishtar**

[10] This wild man befriended Gilgamesh after a wrestling match. This man helps Gilgamesh defeat the Bull of Heaven. But, unlike Gilgamesh, he is not protected by Shamash, which is why he succumbed to illness.

ANSWER: **Enkidu**

[10] The goddess Aruru created Enkidu from this material and clay. This substance revived Ishtar, so that she could exit the underworld by seven gates. It flooded civilization, leaving Utnapishtim [Ut-NA-pish-tin] and co. alive.

ANSWER: **water** <KD>

17) Name some TV shows that premiered in 2015. For 10 points each:

[10] This drama stars Terrence Howard as Lucious Lyon, an ex-drug dealer and head of the title hip-hop recording studio. Lyon's ex-wife Cookie was recently released from prison and intends to reclaim her share of the company.

ANSWER: **Empire**

[10] This sitcom is the first to feature an Asian-American family as protagonists since 1994. In it, Eddie Huang's family moves to Orlando, where his father, played by Randall Park, opens a steakhouse.

ANSWER: **Fresh Off The Boat**

[10] On this NBC comedy produced by Ellen DeGeneres, Luke agrees to father a child with his lesbian best friend and roommate Lizzy, before marrying a Brit named Prudence on their second date so she can stay in the country.

ANSWER: **One Big Happy** <CC>

18) A *Book of Honors* described this family, and it made a social housing complex for the elderly poor. For 10 points each:

[10] Name this family of bankers, including Jacob the Rich, who were based in Augsburg and sold indulgences. They financed Spain, Charles V, and Albert of Mainz in the 16th century.

ANSWER: **Fuggers**

[10] The Fuggers initially invested in this industry. The French finance minister Colbert invested in this industry at Lyons, and the pallia and panni types of this good were made in Flanders.

ANSWER: **textiles** or **cloth** or **silk**

[10] The Fuggers' support of Philip II helped him hire condottiere, who led armies of this type of soldier. The Swiss exported these kinds of soldiers, and the British used Hessian ones in their armies.

ANSWER: **mercenaries**

19) Europe is full of 'science cities' like Digitale Stad, Silicon Glen, the M4 corridor, and many in the German Ruhr. For 10 points each, name some things about them:

[10] Those technopoles switched from coal and steel production to this broad industry, which produces devices that use integrated circuitry, like computers.

ANSWER: **electronics**; accept synonyms and word forms

[10] The Ruhr, located between this primarily German river and the German border, is called the Silicon Valley of Europe, and includes Bonn and Cologne.

ANSWER: **Rhine** River

[10] This German city is one of Siemens' main headquarters and BMW's main headquarters. It grew its tech industry via the High-Tech-Offensive, even though it's not in the Ruhr.

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

20) The main character of this author's novel *Crabwalk* is born at the exact instant that the Wilhelm Gustloff was sunk by a Soviet submarine. For 10 points each:

[10] Name this German author who included the novels *Cat and Mouse* and *Dog Years* with his novel about the dwarf Oskar Matzerath in his *Danzig Trilogy*.

ANSWER: Günter **Grass**

[10] This other German author wrote at the same time as Grass. Architect Robert Faehmel purposely destroyed the Abbey designed by his father while serving in the military in this man's *Billiards at Half-Past Nine*.

ANSWER: Heinrich **Böll**

[10] Heinrich Böll, and to a degree Gunter Grass, were part of this postwar German literary movement, which focused on the aftermath of Nazism and Germany's defeat in World War II.

ANSWER: **Rubble Literature** or **Trümmerliteratur** <JG>