

Pennsylvania Novice 2016

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Pennsylvania Novice
2016

Packet 12 Tossups

1. This work begins with the word “Hwæt!” [hu-waat] and includes the saga of Finn, a Frisian warrior. The title character of this work falls for a day through swampy water only to have the sword Hrunting fail to destroy a descendent of Cain. (*) Wiglaf brings gold to show to the title character after that character dies while battling a dragon after having slain both the man-eating monster Grendel and Grendel’s mother. For 10 points, name this epic about a Geatish warrior, written in Old English.

ANSWER: Beowulf

2. This man’s political differences with his son, who was a governor of New Jersey, led to that son being disowned. The quip “we must, indeed, all hang together, or most assuredly we shall all hang separately” is attributed to him. One of this man’s political illustrations depicts a (*) snake segmented into eight pieces. This Pennsylvanian is the only man to sign all three of America’s founding documents. For 10 points, name this Founding Father also known for his experimentation with kites and lightning.

ANSWER: Benjamin Franklin

3. Milton Friedman argued that controlling the money supply was key to slowing this phenomenon. Capital gains taxes are not currently indexed for this phenomenon. Purchasing gold may hedge against this phenomenon, which is often measured with a percentage increase in the CPI. This phenomenon can lead to “menu costs” as restaurants must update (*) prices. When accompanied by slow growth, this phenomenon’s name may be combined with “Stag” and its rapid occurrence is known as its “hyper” form. For 10 points, name this economic phenomenon that occurs when overall prices rise.

ANSWER: inflation

4. For a magnetic dipole, this quantity is given by the cross product of the dipole moment with the magnetic field. This quantity’s integral with respect to angular displacement gives power if it is calculated about the center of mass. This quantity, which equals the time derivative of (*) angular momentum, can also be calculated as the cross product of radius and force, often by using the right hand rule. For 10 points, name this quantity denoted tau and measured in newton-meters, the angular analogue of force.

ANSWER: torque (prompt on tau before mention)

5. This man led a raid to rescue his wife with his friend Jamuka, who later turned on him as a rival warlord. This ruler destroyed the Khwarezmian empire by sacking Samarkand. He was succeeded by his son, Ogedei, and his descendants founded China's (*) Yuan dynasty. This man's grandson was named Kublai; that grandson would control the largest land empire in history. For 10 points, name this man born as Temujin, who became the first emperor of the Mongols.

ANSWER: Genghis Khan (accept Temujin until read)

6. In one of this man's paintings, a man wearing yellow and green stripes leans over a table and reaches for the title object. That painting, *The Cardsharps*, provides an example of this man's prominent use of chiaroscuro, as does his *The (*) Supper at Emmaus*. Light streams through an open window on the top right of another of his paintings, obscuring one central figure and illuminating the other as Jesus points at the title character. For 10 points, name this Italian Baroque artist of *The Calling of Saint Matthew*.

ANSWER: Michelangelo Merisi da Caravaggio

7. This mathematician's sum of powers conjecture was disproven in 1966. A formula named for this mathematician states that in a planar graph, the sum of the vertices and faces is two more than the number of edges in the graph. This mathematician proved that the Seven (*) Bridges of Königsberg problem has no solution. This man lends the first letter of his name to the base of the natural logarithm. For 10 points, name this namesake of the mathematical constant e.

ANSWER: Leonhard Euler

8. This work argues that tyranny and oligarchy are forms of monarchy and aristocracy, and claims that out of the three types of commonwealths, a monarchy is best-positioned to avoid a civil war. This work states that the natural condition of mankind is a "war of every man against every man" and that life is (*) "nasty, brutish, and short." The name of this work comes from a powerful sea-monster in the Book of Job who is equated to the power of an absolute sovereign. For 10 points, name this 17th-century political tract arguing for a powerful central government by Thomas Hobbes.

ANSWER: Leviathan

9. This King died when his horse bucked him after the horse stepped on hot ashes. A year before his death, this man ordered the creation of the Domesday Book, which listed all landholders and their lands in his new realm. His achievements are recorded in the (*) Bayeux Tapestry. After the death of Edward the Confessor, this man fought against Harold Godwinson for the English throne. For 10 points, name this duke of Normandy who was victorious at the Battle of Hastings in 1066 and became the first Norman King of England.

ANSWER: William the Conqueror (or William I)

10. This author envisioned a dystopian society where business trusts formed an oligarchy before being overthrown by the socialist Brotherhood of Man in his *The Iron Heel*. “Hump” Van Weyden serves and later flees the brutal seal-hunting Captain Larsen in this author’s *Sea Wolf*. Weedon Scott tames the title character of another novel by this man, who travels with Gray Beaver. Another novel by this man sees the (*) prospector Thornton’s death by the Yeehats avenged before Buck turns feral. For 10 points, name this American author of *White Fang* and *The Call of the Wild*.

ANSWER: Jack London

11. While on Mount Helicon, this creature created a spring known as the Hippocrene. This animal’s most famous companion captured him at the Pierian Spring. This animal’s ultimate fate was to carry thunderbolts for Zeus. This animal sprang fully formed from the blood emptying from the neck of (*) Medusa after her decapitation. While trying to reach Olympus, Bellerophon was struck and fell off of this creature. For 10 points, name this winged horse of Greek mythology.

ANSWER: Pegasus

12. The far west of this country includes the Lop Nur marsh in the Tarim Basin, where members of the Uighur [WEE-gurr] minority group live. This country’s Pearl River delta includes the former Portuguese gambling enclave of Macau [muh-COW]. This country’s Shandong Peninsula juts into the (*) Yellow Sea, and it shares the Gobi Desert with Mongolia. The northeast of this country includes Manchuria, and its massive Three Gorges Dam impounds the Yangtze River. For 10 points, name this country, the most populous in the world, whose capital is Beijing.

ANSWER: China

13. This type of compound is considered polyprotic if it has multiple equivalence points. These compounds in water increase the presence of hydronium ions, which are symbolized H_3O^+ plus. These compounds accept an electron pair according to the Lewis definition, while (*) Brønsted-Lowry defines them as proton donors. Molecules of this kind with a low pKa are given the adjective “strong,” and include HNO_3 and HCl. For 10 points, name these compounds which decrease the pH of solutions, and are contrasted with bases.

ANSWER: acids

14. This state was once governed by 1936 Republican Presidential nominee Alf Landon. In this state, Confederate raider William Quantrill led men who sacked the city of Lawrence. Cowboys drove cattle to major shipping towns like Dodge City in this state. The (*) Lecompton Constitution, which would have allowed slavery in what is now this state, was controversially put forward during this state’s “Bleeding” period. For 10 points, name this state, which along with Nebraska was the subject of a namesake act allowing popular sovereignty.

ANSWER: Kansas

15. This architect designed a system of proportions based on a six-foot-tall man, known as the modulator system. His building at Harvard is the Carpenter Center for Visual Arts. This urbanist called a house a “machine for living” and included an Open Hand monument in his design for the Indian city of (*) Chandigarh. He laid out “Five Points” in his book, *Towards a New Architecture*, and used them to design a house outside Paris. For ten points, name this Swiss-French architect of the Villa Savoye.

ANSWER: Le Corbusier (or Charles-Édouard Jeanneret-Gris)

16. Grom Hellscream's drinking of the blood of Mannoroth resulted in a Blood Curse on these creatures, who use Altars of Storm to channel magic via warlocks. These creatures were forced to leave Draenor by the forces of the Burning Legion and have a subclass of laborers called (*) peons whose condition was improved by the warchief Thrall. Their enemies have historically been the Alliance of Lordaeron and the Night Elves in Azeroth. For 10 points, name these humanoid creatures with impressive strength and green skin from the computer game series Warcraft.

ANSWER: orc

17. This number names a group of composers from Montparnasse that included Arthur Honegger and Darius Milhaud who worked in 1920s France. This number denotes Beethoven’s Opus 68 Symphony in F that includes a scene by a brook and a shepherd's song after a storm. This number is the number of Beethoven’s (*) Pastoral symphony. This number is the number of strings on a standard classical guitar. For 10 points, give this number, the number of notes in a hexatonic chord.

ANSWER: six

18. In one part of this work, the First Mover speech is delivered by Theseus, while in another section of this work, a knight is tasked to discover what women most desire. This work’s prologue begins with the line “When April with his showers sweet with fruit” and describes a gathering at the Tabard Inn before its characters start on a (*) pilgrimage to Thomas Becket's shrine. For 10 points, the Reeve, the Pardoner, and the Wife of Bath tell stories in what 14th century work by Geoffrey Chaucer?

ANSWER: *The Canterbury Tales* (prompt on Knight’s Tale until “ women”)

19. In this novel, a large sum of money is hidden in Peter Wilks’ coffin after the performers of *The Royal Nonesuch* pose as long-lost English relatives. The Grangerfords and the Shepherdsons feud in this novel, where some robbers are left on the sinking *Walter Scott*. Two conmen who call themselves the (*) Duke and the Dauphin in this novel sell one character to the Phelps before Tom Sawyer arrives. For 10 points, name this work by Mark Twain in which the escaped slave Jim and the title character raft down the Mississippi.

ANSWER: The Adventures of Huckleberry Finn

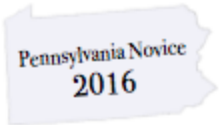
20. This process stops once the Hayflick limit is reached, starting a period known as senescence. This stage directly follows the G2 phase. The steps of this process form the acronym PMAT. For animals, this process begins with the activation of microtubule organizing centers called centrosomes. During its M phase, kinetochores connect with (*) spindle fibers to pull chromosomes away from each other. Stages of this process include prophase and metaphase. For 10 points, name this eukaryotic process of cell division that produces two identical cells, unlike meiosis.

ANSWER: mitosis (prompt on cell division or cell growth; do NOT accept “meiosis”)

TB. This national park includes the brilliant blue-green Havasu Falls on the Supai Reservation. The Precambrian Vishnu Complex outcrops at the lowest point of this national park. Phantom Ranch provides accommodations for hikers on this park’s Bright Angel Trail, which descends from its (*) South Rim Visitor Center. Its main feature is over a mile deep and up to eighteen miles wide. For 10 points, name this national park in Arizona where the Colorado River eroded the namesake steep-walled feature.

ANSWER: Grand Canyon National Park

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Packet 12 Bonuses

1. Answer the following about literary works involving the city of Chicago, for 10 points each.

[10] This Upton Sinclair work with Jurgis Rudkus as its protagonist revealed the horrors of the late-19th century Chicago meatpacking industry and helped lead to the 1906 Meat Inspection Act.

ANSWER: The **Jungle**

[10] This poet used the terms “Freight Handler to the Nation” and “City of the Big Shoulders” to describe the city in his poem “Chicago”.

ANSWER: Carl **Sandburg**

[10] Chicago’s areas of extreme poverty are detailed in this Richard Wright novel in which Bigger Thomas is sentenced to death for murder.

ANSWER: **Native Son**

2. Answer the following questions about the wonderful world of sheet music, for 10 points each.

[10] Music that is intended to be played loudly is marked by this dynamic. This dynamic’s opposite is piano.

ANSWER: **forte** (accept **fortissimo**)

[10] The identities of the notes on a musical staff are determined by this symbol, which appears at the beginning of each line. Examples of this symbol include the “treble,” “bass,” and “alto” varieties.

ANSWER: **clef**

[10] This symbol denotes a point in a piece of music where the performers hold a note for longer than its given time value. This symbol is sometimes nicknamed the “bird’s eye.”

ANSWER: **fermata**

3. This 16th century student of Giorgione created an equestrian portrait of Charles V. For ten points each,

[10] Name this Italian whose more famous works include a depiction of the *Rape of Europa* and *Sacred and Profane Love*.

ANSWER: **Titian**

[10] This most well known work by Titian includes a sleeping dog and some maids looking through a chest behind a reclining nude goddess.

ANSWER: **Venus of Urbino**

[10] Titian was from this Italian coastal city and the most prominent figure of its namesake “school.” Its most recognizable features are St. Mark’s Square and gondolas on its many canals.

ANSWER: **Venice**

4. Answer some questions about spectroscopy techniques in chemistry, for 10 points each.

[10] Many techniques take advantage of this phenomenon that occurs when low energy light is emitted from a material while being hit with a light source. This phenomenon is unlike phosphorescence, which can continue to emit light in the dark.

ANSWER: **fluorescence**

[10] Circular dichroism measures the amount of this process occurring in a crystal. Louis Pasteur observed this process when shining light through differently shaped crystals of tartaric acid.

ANSWER: optical **rotation** (or plane polarization **rotation**)

[10] Beer's law indicates the extinction coefficient times path length times concentration equals this value, which corresponds to how much light didn't make it through a sample.

ANSWER: **absorbance** (prompt on A)

5. For ten points each, answer these questions about Beer Hall Putsch:

[10] This political party led by Adolf Hitler attempted a coup d'état in 1923 in the Beer Hall Putsch.

ANSWER: **Nazi** Party (or **National Socialist German Workers' Party** or **NSDAP**)

[10] The Beer Hall Putsch happened in this city. This capital of Bavaria was also the site of the 1972 Summer Olympics, where 12 Israeli athletes were murdered.

ANSWER: **Munich**

[10] This man joined the Nazi Party when Hitler was released from prison a year after the Beer Hall Putsch. He later became Hitler's propaganda minister.

ANSWER: Joseph **Goebbels** [sounds like "Gur-bulls"]

6. William of Baskerville attempts to solve a murder mystery in a medieval monastery's labyrinthine library in a novel by this man. For 10 points each:

[10] Name this author of *The Name of the Rose*. He also wrote *Foucault's Pendulum* and most recently *The Prague Cemetery*.

ANSWER: Umberto **Eco**

[10] Eco's *Name of the Rose* is set at a monastery in this country's Piedmont region. The author of the science fiction story collection *Cosmicomics*, Italo Calvino, is also from this European country.

ANSWER: **Italy**

[10] In Calvino's *if on a winter's night a traveler*, this second person pronoun is used to describe the reader's actions as the reader pieces together different parts of the novel and meets Ludmilla at a bookstore.

ANSWER: **you** or **tu**

7. A number of emperors named Jayavarman once ruled the territory that is this modern day nation. For 10 points each:

[10] Name this Southeast Asian Nation where one could find the massive temple complex of Angkor Wat or visit its capital, Phnom Penh.

ANSWER: **Cambodia** (or **Kampuchea**)

[10] In the 1970s, this Communist government ruled Cambodia. It liquidated millions of people, giving rise to the term "killing fields" for the massacres of populations.

ANSWER: **Khmer Rouge**

[10] This man was the leader of the Khmer Rouge. He forced urban populations to be removed to the countryside in pursuit of a collectivized agrarian economy.

ANSWER: **Pol Pot** (or Saloth **Sar**)

8. One story in this faith tells how Izanagi begot his children Amaterasu, Susanoo, and Tsukuyomi from his eyes and nose. For 10 points each:

[10] Name this East Asian myth system, which believes in spirits called Kami which inhabit all things.

ANSWER: **Shintoism**

[10] Shinto is largely practiced in this country, where it originated. The Jesuit Francis Xavier later introduced Christianity in this country.

ANSWER: **Japan** (or **Nippon**)

[10] Anthropologists of religion use this term to describe religions such as Shinto which believe that non-human things like plants and animals have spiritual essences. It was coined by Edward Tylor.

ANSWER: **animism** (accept word forms)

9. Because this operation is the inverse of exponentiation, its graph is a reflection across $y = x$ of the corresponding exponential function. For 10 points each:

[10] Identify this mathematical operation that relates the base, its exponent, and the output.

ANSWER: **logarithm** (or natural **logarithm**; prompt on **log**)

[10] In computer science, the “quick” type of this algorithm has a runtime of big O of $n \log n$. These algorithms arrange elements in a list in a particular order.

ANSWER: **sorting** algorithm (or **quicksort**)

[10] Another sorting algorithm, bubblesort, has this runtime. This word names an equation which contains an expression called the discriminant, $b^2 - 4ac$.

ANSWER: **quadratic** runtime (or **quadratic** equation)

10. Polonius is killed while hiding in Gertrude’s room by the title character of this play. For 10 points each:

[10] Name this Shakespeare play in which the title prince of Denmark seeks revenge upon his uncle Claudius for the death of his father.

Answer: **Hamlet**

[10] Shakespeare frequently uses this literary device in *Hamlet* where a character’s thoughts are shown by the character speaking aloud while alone. One of these opens “to be or not to be.”

Answer: **soliloquy**

[10] This character, who was once a court jester, appears only as a skull, which elicits a soliloquy by Hamlet regarding mortality.

Answer: **Yorick**

11. Once the tallest structure in the United States West of the Mississippi, this structure was built for the 1962 World’s Fair. For 10 points each:

[10] Name this observation tower that contains the SkyCity restaurant and overlooks Puget Sound.

ANSWER: **Space Needle**

[10] The Space Needle is in this west coast city, the most populous in the state of Washington.

ANSWER: **Seattle**

[10] Seattle’s most popular tourist attraction is this oldest continuously running farmers’ market in the country, where the first Starbucks Coffee operated.

ANSWER: **Pike Place** Market

12. Little is known about this ruler, whose daughter Isabel converted to Christianity and received an encomienda. For 10 points each:

[10] Name this last emperor of the Aztecs who ruled until his Empire was conquered by the Spanish in 1521.

ANSWER: **Montezuma II** (or **Moctezuma II**, or **Motecuhzoma Xocoyotzin**)

[10] This Spaniard conquered the Aztec Empire. He destroyed his own ships to encourage his men to press on.

ANSWER: Hernando **Cortes**

[10] The Aztec capital was this city, noted for its Pyramid of the Sun and floating gardens. It was built on an island in a lake, and modern Mexico City stands where it once did.

ANSWER: **Tenochtitlan**

13. This author's novel *The Day the Leader Was Killed* is set around the time of the assassination of Anwar Sadat. For 10 points each:

[10] Name this Egyptian author, whose other works include *Sugar Street* and *Palace Walk*.

ANSWER: Naguib **Mahfouz**

[10] *Sugar Street* and *Palace Walk*, along with *Palace of Desire*, comprise a Mahfouz trilogy named for this city, the capital of Egypt.

ANSWER: **Cairo**

[10] Another novel by Mahfouz is titled for *The Thief and the* [these animals]. The character Tock in Norton Juster's *The Phantom Tollbooth* is also one of these animals, as are Old Dan and Little Ann in *Where the Red Fern Grows*.

ANSWER: **dogs**

14. Air pollution is linked to an increased risk of developing this respiratory disease. For 10 points each:

[10] Name this disease, typically characterized by difficulty breathing and periodic muscle contractions that prevent breathing.

ANSWER: **asthma**

[10] This other respiratory disease is caused by an infection of *Mycobacterium* and is one of the leading causes of death in the developing world. The Mantoux test can diagnose this disease, historically known as consumption.

ANSWER: **tuberculosis**

[10] This other respiratory disease results in wheezing and shortness of breath due to the destruction of small air spaces in the lungs. Smoking is the number one cause of this condition.

ANSWER: **chronic obstructive pulmonary disease** (or **emphysema**; or **COPD**; or **chronic bronchitis**)

17. Answer some questions about animals in music, for 10 points each:

[10] This Camille Saint-Saens suite, which includes movements named for the lion and the elephant, contains a famous cello solo in its last movement, the swan.

ANSWER: The **Carnival of the Animals**

[10] Giacomo Rossini wrote an opera with a famous overture titled for a "thieving" one of these birds.

ANSWER: **magpie**

[10] This Tchaikovsky ballet, which figures prominently in a Natalie Portman movie of a similar title, follows the story of a princess who is turned into a swan.

ANSWER: Swan Lake

16. Loki was constantly causing mischief among the Norse pantheon. For 10 points each:

[10] After Loki claimed to have slept with Sif, this god of thunder, Sif's husband, threatened to behead him. This god is destined to defeat Jormungandr at Ragnarok, only to succumb to its poison moments later.

ANSWER: **Thor**

[10] Thor wielded this hammer, which, thanks to Loki's interference, was accidentally forged with a handle too short to be wielded with both hands.

ANSWER: **Mjolnir**

[10] The brothers Sindri and Brokkr [BROKE-er], two of these people, forged Mjolnir. These people were known for their smithing skills.

ANSWER: **dwarves**

17. Packages sent back to Washington, D.C. by this duo included dinosaur fossils and live prairie dogs. For 10 points each:

[10] Name these two men, one a former secretary and the other a military lieutenant, who reached the Pacific Ocean on November 20, 1805.

ANSWER: Meriwether **Lewis** and William **Clark** (either order acceptable)

[10] This Shoshone woman gave birth to a son named Pompey and rediscovered her old tribe while guiding the Lewis and Clark expedition.

ANSWER: **Sacagawea**

[10] The Lewis and Clark expedition set out from this state. Commemorating the USA's western expansion, the location of their departure is now marked by the 630-foot tall Gateway arch.

ANSWER: **Missouri**

18. This phenomenon was predicted in 1916 by Einstein's general relativity, but not observed until 100 years later. For 10 points each:

[10] Name these ripples caused by massive distortions of spacetime.

ANSWER: **gravitational waves** (or **gravity waves**)

[10] This observational collaboration has been searching for gravitational waves since 2002, succeeding in 2016. Their main observatory utilizes laser interferometers for that purpose.

ANSWER: **LIGO** (or **Laser Interferometer Gravitational-Wave Observatory**)

[10] The gravitational waves detected by LIGO probably propagated from the collision of two of these astronomical bodies, from which no light can escape.

ANSWER: **black holes**

19. Police chief David Brown called for people in this city to "become a part of the solution" by joining its police force in the wake of a deadly July 2016 attack. For 10 points each:

[10] Name this city where five police officers were shot by Micah Johnson, who was later killed by a

bomb delivered by a robot.

ANSWER: **Dallas**

[10] The police officers had been protecting demonstrators from this movement, which demands government action to address police brutality against a certain ethnic group.

ANSWER: **Black Lives Matter** (or **BLM**)

[10] Black Lives Matter protests took place in this capital city of Louisiana after the shooting death of Alton Sterling. This city was also badly affected by flooding in August 2016, which sparked a visit by Donald Trump.

ANSWER: **Baton Rouge**

20. In honor of the completion of the first PA Novice Set, answer the following about some state symbols of Pennsylvania, for 10 points each:

[10] Pennsylvania's State dog is this breed. Among the largest types of domestic dog, fictional examples of this originally German hunting dog breed include Scooby Doo.

ANSWER: **Great Dane**

[10] The Pennsylvania state fossil, the trilobite, dates back to this geologic period. Its namesake "explosion" resulted in multicellular organisms becoming common.

ANSWER: **Cambrian**

[10] A Sci-Fi TV Show where Mal Reynolds and Zoe Washburn use the spaceship *Serenity* shares its name with this luminescent state insect of Pennsylvania.

ANSWER: **Firefly** (prompt on "lightning bug")

TB. The number of shielding electrons is subtracted from this value to calculate Z effective. For 10 points each:

[10] Name this quantity, symbolized Z, which represents the number of protons in the nucleus. Every element has a unique value for this quantity.

ANSWER: **atomic number**

[10] This quantity, which quantifies an element's ability to attract electrons, depends on both the atomic number and the distance to the electron being attracted towards it. On one scale, hydrogen has a value of 2.2 for this quantity.

ANSWER: **electronegativity**

[10] That previously mentioned scale of electronegativity is named for this chemist, who won a Nobel Prize in Chemistry as well as a Nobel Peace Prize. Watson and Crick beat him to discovering the structure of DNA.

ANSWER: Linus **Pauling**