



1. **This artist didn't finish carving the monkey that wraps around the leg of a man with bands around his chest, the subject of his *Dying Slave*. This sculptor used horns in order to display vast intelligence in his statue of Moses, created for the tomb of Pope Julius II. Another work by this artist has a base meant to depict the rock of (*) Golgotha and shows Mary holding her dead son. For 10 points, name this Italian Renaissance artist of such sculptures as *David* and *La Pieta*.**

ANSWER: Michelangelo di Lodovico Buonarroti Simoni [accept either underlined portion]

064-11-41-08102

2. **An early part of this speech warns against the idea that a nation can be too large to be ruled as a republic, and states that sectionalists are just seeking their own power. It also notes that political parties are themselves a road to "frightful despotism." This speech, which is read in the Senate every year on February 22nd, warned against the dangers of permanent (*) foreign alliances, often misquoted as "beware of foreign entanglements." For 10 points, name this speech given before a retirement to Mount Vernon as the final speech of the first President.**

ANSWER: George Washington's Farewell Address

048-11-41-08103

3. **One example of this type of document claimed Soviet power was "impervious to the logic of reason," but that it was also "highly sensitive to the logic of force." That document was sent to the Treasury Department by George F. Kennan. One message of this type offered the return of Arizona and California in exchange for Mexican cooperation with (*) Germany; that message was intercepted on its way to Arthur Zimmermann. For 10 points, identify this type of message, usually sent using an invention of Samuel Morse.**

ANSWER: telegrams [or Long telegram; or Zimmerman telegram]

002-11-41-08104

4. **One work about this philosophy states that "rites and music are symptoms of dissipations and license". This philosophy states that rulers must use the tools of special tactics and charisma in order to govern. Promoted by figures like Li Si, Lord Shang, and Han Fei Zei, it states that human nature is fundamentally (*) foolish and malicious and that personal freedom should only exist to strengthen the ruler. For 10 points, name this authoritarian ancient Chinese philosophy, implemented during the Qin (chin) Dynasty, and often contrasted with Confucianism.**

ANSWER: Legalism

048-11-41-08105

5. **In this novel, the protagonist's wife Mildred listens to the sounds of the ocean via the "Seashell Radios" in her ears. The protagonist of this novel is assisted by an English professor named Faber, who helps him flee from the Mechanical Hound. In this novel, Beatty is (*) incinerated while trying to convince the protagonist, Guy Montag, to continue burning dangerous books. For 10 points, name this novel by Ray Bradbury titled for a temperature.**

ANSWER: Fahrenheit 451

080-11-41-08106

6. **This culture believed that those who died of leprosy or lightning went to the southern paradise. Reaching the underworld of these people required undergoing nine trials including climbing an obsidian mountain. The crocodile Cipactli [See-pacht-lee] bit off the foot of one god of these people known as the smoking mirror. That god forced another god of these people known as the (*) feathered serpent to flee after drugging him with magic mushrooms. For 10 points, name these people whose gods included Tezcatlipcoa [Tez-cat-lee-poke-uh] and Quetzalcoatl [Kwet-zal-co-aut-al].**

ANSWER: Aztecs

123-11-41-08107

7. **A type of gas discharge lamp that has high and low pressure varieties is named for this element. A compound consisting of this element and boron is used in the borax bead test. The D-lines in stellar spectra indicate its presence, and this element burns bright yellow in flame tests. Like other alkali metals such as lithium and (*) potassium, this element reacts violently with water. For 10 points, name this element whose chloride is commonly known as table salt and whose atomic symbol is Na.**

ANSWER: sodium [accept Na before it is read]

066-11-41-08108

8. **One of these works is a collection of poems from the Codex Regius and opens with a prophecy called the Voluspa. A translation of that work by J.R.R. Tolkien was published in 2009. One of these works written by Snorri Sturluson works to explain the various kennings found in the older skaldic poetry. They both function as sources of stories about figures such as (*) Tyr, Freya, Thor, and Odin. For 10 points, name the *Poetic* and *Prose* pieces of Icelandic literature that detail Norse mythology.**

ANSWER: The Eddas

147-11-41-08109

9. **Many members of this phylum have renette glands in their excretory system. Though not priapulida (pree-ah-PUH-lih-dah), this phylum of worms is part of the group ecdysozoa (eck-dih-SOH-zoh-ah), which are protostomes. One member of this phylum has had the developmental of its 1,031 cells mapped. Secernentea (seh-cer-NEN-tee-ah), which is a class in this phylum, includes the organism C. (*) elegans. The worm that causes trichinosis is a member of this phylum. The doubly opened tube of their digestive tract separates them from flatworms. For 10 points, name this phylum of roundworms.**

ANSWER: nematoda [or nematode; prompt on "roundworms" before mentioned]

127-11-41-08110

10. **One insurgent group in this country killed oppressors in "Operation Heads" and was called the Home Army. This country was separated from its eastern neighbor by the Curzon Line. While visiting this nation in 1970, Willy Brandt spontaneously knelt in a gesture of penance. This country was invaded a week after the signing of the (*) Molotov-Ribbentrop Pact, and it was the site of the Treblinka and Auschwitz concentration camps. For 10 points, name this country invaded by Germany on September 1, 1939, which later saw the Warsaw Ghetto Uprising against the Nazis.**

ANSWER: Republic of Poland [or Rzeczpospolita Polska]

052-11-41-08111

11. **The world's largest mosaics are in this city's Cathedral Basilica. Its zoo and World's Fair Pavilion are in its Forest Park. Its Italian population used to be concentrated in the Hill neighborhood. This city's eastern neighbor, which shares its name with this city, is home to the (*) Gateway Geyser. This city is the home of the Jefferson National Expansion Monument. For 10 points, name this largest city in Missouri, home of the Gateway Arch.**

ANSWER: St. Louis

137-11-41-08112

12. **One character in this work falls into a quarry pit and dies after accidentally crippling his brother's horse Wildfire. The title character of this novel returns to Lantern Yard with the daughter of a man who marries Nancy Lammeter. The title character adopts a baby he names (*) Hephzibah, who is left by his fireplace on New Year's Eve. Earlier, his cherished gold is stolen by Dunstan Cass. For 10 points, name this novel about Eppie and the title "Weaver of Raveloe" written by George Eliot.**

ANSWER: Silas Marner

014-11-41-08113

13. **In one work, this man imagines the title character as an ancient Egyptian whose death caused his followers to create Judaism. In addition to writing *Civilization and its Discontents* and *Moses and Monotheism*, this man, in his *Beyond the Pleasure Principle*, classifies human psyche among the (*) id, ego, and superego. In his most famous work he developed the idea of the Oedipus complex. For 10 points, name this author of *The Interpretation of Dreams* and father of psychoanalysis.**

ANSWER: Sigmund Freud

140-11-41-08114

14. **This leader orchestrated a bailout of the Hypo (HEE-poh) Real Estate company and was criticized for stating that multiculturalism had utterly failed. This leader was made the Minister of Environmental and Nuclear Safety in the cabinet of Helmut Kohl, who regarded this leader as his protegee. This leader agitated for a "privileged partnership" with Turkey as opposed to outright granting of membership. This leader succeeded (*) Gerhard Schroeder in 2005 to become her country's first female chancellor. For 10 points, name this current leader of Germany.**

ANSWER: Angela Dorothea Merkel [or Angela Dorothea Kassner]

020-11-41-08115

15. **One work in this form features a three-voice fugue similar to its composer's *Grosse Fuge*. Another work in this form commemorates the composer's patron's departure from Vienna. The player depresses the pedal during the entire first movement of a C minor work in this form subtitled "Quasi una fantasia," whose title was inspired by Lake (*) Lucerne at night. Beethoven composed those examples, *Hammerklavier*, *Les Adieux*, and *Moonlight*. For 10 points, name these works for solo piano.**

ANSWER: piano sonatas by Ludwig van Beethoven [prompt on "sonatas"; prompt on "Beethoven works" or "Beethoven sonatas" or similar answers]

079-11-41-08116

16. **The protein cytochrome c is found in this structure. It's not a chloroplast, but this organelle has a double membrane, contains extranuclear DNA, and is thought to have originated as a separate organism according to endosymbiotic theory. One part of this structure has folds called cristae, which maximize the surface area where the reactions of the electron (*) transport chain can take place. In eukaryotic (yoo-kah-ree-AH-tick) cells, this is where aerobic cellular respiration takes place. For 10 points, name this organelle, a cellular "powerhouse" that produces ATP.**

ANSWER: mitochondria [or mitochondrion]

142-11-41-08117

17. **This character describes how "the native hue of resolution is sicklied o'er with the pale cast of thought." In that speech, this character mentions the inevitability of shuffling off "this mortal coil," claims that "conscience does make cowards of us all," and considers taking "arms against a sea of troubles." This character wonders "whether 'tis (*) nobler in the mind to suffer the slings and arrows of outrageous fortune" after stating, "To be, or not to be, that is the question." For 10 points, name this Prince of Denmark who titles a tragedy by Shakespeare.**

ANSWER: Prince Hamlet

020-11-41-08118

18. In one of this man's paintings, a green-clad man holds a rope tied to the arm of Jesus, who is clad in a red cloak. He depicted a crowd of nobles gathering behind the gold-clothed figures of Saints Stephen and Augustine, who carry the central figure's body, in another work. Both extant landscapes by this artist of *El Espolio* and *The (*) Burial of Count Orgaz* depict his adopted hometown of Toledo. For 10 points, name this Spanish artist whose nickname refers to his birthplace of Crete.

ANSWER: El Greco [or Domenikos Theotokopolous]

134-11-41-08119

19. This country is revealed to be the true employer of Kevin Costner's character at the end of the film *No Way Out*. An attempt to protect people fleeing from this country forms the plot of the James Bond film *The Living Daylights*. A song about this country orders "honey disconnect the phone" and states "you don't know how (*) lucky you are." Refugees from an invasion by this country are the main characters of *The Kite Runner*. For 10 points, name this country which the Beatles were "back in" and which often opposed the U.S. in Cold War dramas.

ANSWER: USSR [or Union of Soviet Socialist Republics; or Soviet Union; or CCCP; or Soyuz Sovetskikh; do not accept or prompt on "Russia"]

019-11-41-08120

20. This man names a unit which is approximately equal to the spin magnetic moment of the electron, and he also developed the complementarity principle. The Rydberg formula is derived from one model that this scientist proposed. That model solved the puzzle of spectral lines being unique for different elements and was a modification of (*) Rutherford's model. For 10 points, name this Danish physicist who names a model of the atom in which electrons travel in discrete orbits around the nucleus.

ANSWER: Neils Henrik David Bohr

066-11-41-08121

21. One commander of this group signed the Peace of Montpellier and unsuccessfully enlisted the aid of the Duke of Buckingham during the Siege of La Rochelle. This group of people was confined to the Cévennes region after the Edict of Fontainebleau took away their freedoms. Gaspard de Coligny was a martyred member of this group, which was barred from settling in New (*) France despite the Edict of Nantes granting their religion equal status to Catholicism. Catherine de Medici ordered the St. Bartholomew's Day Massacre of, for 10 points, what group of French Protestants?

ANSWER: Huguenots [accept French Protestants before mention; prompt on Protestants before mention]

020-11-41-08122

22. One enzyme in this pathway contains a carbamated lysine in its active site and requires magnesium as an active site. In one step in this series of reactions, the enzyme transketolase catalyzes the production of erythrose 4-phosphate. In an earlier step, PGA molecules are phosphorylated by ATP then reduced by NADPH. This series of reactions begins with the carboxylation of RuBP by (*) RuBisCO, and it takes place in the stroma of chloroplasts. For 10 points, name this series of reactions that follows the light-dependent reactions in photosynthesis.

ANSWER: Calvin cycle [or Calvin-Benson cycle; or light-independent reactions; or dark reactions]

014-11-41-08123

23. **One character created by this author is forced to return thousands of dollars that he stole from Fitzgerald and Moy's when a detective finds him in Montreal. That character, who earlier woos the title character away from Charles Drouet in Chicago, is named George (*) Hurstwood.** Another novel by this man sees the protagonist flee Kansas City after a fatal accident with a stolen car and eventually put on trial for the drowning of Roberta Alden. For 10 points, name this creator of Clyde Griffiths who wrote *Sister Carrie* and *An American Tragedy*.

ANSWER: Theodore **Dreiser**

123-11-41-08124



1. Name these facts about a Greek conqueror, for ten points each.

[10] This Macedonian became king after the murder of his father and he defeated Darius III to conqueror the Persian empire.

ANSWER: **Alexander the Great** [or **Alexander III**; or **Alexander of Macedonia**; prompt on **Alexander**]

[10] This predecessor and father to Alexander the Great won the Battle of Chaeronea and also created the League of Corinth.

ANSWER: **Philip II** [or **Philip of Macedonia**; prompt on **Philip**]

[10] Soon after cutting the Gordian Knot, Alexander defeated Darius at this battle near the Pinarus River that is the subject of a famous mosaic.

ANSWER: Battle of **Issus**

123-11-41-08201

2. Name some parts of bacteria, for 10 points each:

[10] Certain bacteria cell walls are made out of this polymer, which is dyed in the Gram stain.

ANSWER: **peptidoglycan** (pep-tih-doh-GLY-kan) [prompt on **murein**]

[10] Some bacteria have this tail-like cell structure that is used for travel. Unlike those of eukaryotes (yoo-KAH-ree-oats), bacterial ones rotate instead of whipping in a sideways motion.

ANSWER: **flagella** [or **flagellum**]

[10] Some bacteria can create this structure, which when activated causes the bacteria to enter a dormant state that can survive extreme conditions. Usually a bacterium will use this structure in response to low amounts of food.

ANSWER: **endospore** [prompt on **spore**]

140-11-41-08202

3. The courtesan Phryne was the inspiration for this sculpture, whose copies include the Kaufmann head and depictions of the same figure in the Barberini Collection and the Capitoline museum. For 10 points each:

[10] Name this statue of the Greek goddess of love, which depicts her holding a cloth in her left hand and placing her other hand over her genitals.

ANSWER: **Aphrodite of Cnidus** [accept **Venus Pudica**]

[10] This Athenian sculptor created the *Aphrodite of Cnidus*, and is also famous for a depiction of Apollo standing next to a tree with a lizard crawling up it.

ANSWER: **Praxiteles**

[10] Another Praxiteles statue shows this Greek god holding the infant Dionysus. In that sculpture, his sandals lack their traditional wings.

ANSWER: **Hermes**

048-11-41-08203

4. Name these things about an Italian city-state, for 10 points each.

[10] A guild of wool carders called the ciompi led a revolt in this city-state ruled by the Medici family during the Renaissance.

ANSWER: **Florence** [or **Firenze**; or **Florentia**]

[10] This member of the Medici family and ruler of Florence was a patron of the arts, as well as the focus of the Pazzi conspiracy along with his brother Giuliano.

ANSWER: **Lorenzo** de' Medici [or **Lorenzo** the Magnificent]

[10] This preacher predicted the invasion of Charles VIII and led Florence in the Bonfire of the Vanities.

ANSWER: Girolamo **Savonarola**

123-11-41-08204

5. It was adapted from its composer's string quartet, Opus 11, and it was supposedly inspired by a passage from Virgil's *Georgics* about a trickle of water growing into a deluge. For 10 points each:

[10] Name this remarkably sad composition that was debuted in 1938 by the NBC Symphony Orchestra under Arturo Toscanini.

ANSWER: **Adagio for Strings**

[10] This American composer of the *Adagio for Strings* set some James Agee prose in his *Knoxville: Summer of 1915* and composed the opera *Vanessa*.

ANSWER: Samuel Osborne **Barber**

[10] Barber's four-movement piece *Excursions* was written for this instrument and debuted by Vladimir Horowitz. Other performers on this instrument include Glenn Gould, Thelonious Monk, and Jelly Roll Morton.

ANSWER: **piano** [or **pianoforte**; or **fortepiano**]

040-11-41-08205

6. The Wolseley Expedition put down the Red River Rebellion in this country. For 10 points each:

[10] Name this country where the Mounties serve as horsemounted policemen.

ANSWER: **Canada**

[10] This man was Canada's first Prime Minister and served during the Red River Rebellion. His second term as Prime Minister was marred by the Pacific Scandal.

ANSWER: John **Macdonald**

[10] This woman served as Queen of Great Britain during MacDonal'd's premiership. She was made Empress of India and is the longest serving British monarch.

ANSWER: Alexandrina **Victoria**

149-11-41-08206

7. This writer created Joseph Schwartz in his novel *Pebble in the Sky*. For 10 points each:

[10] Name this American science fiction author of the *Foundation* series who also coined the term "robotics."

ANSWER: Isaac **Asimov**

[10] Arthur C. Clarke, another science fiction writer, co-wrote the screenplay to *2001: A Space Odyssey* with this American film director.

ANSWER: Stanley **Kubrick**

[10] This earlier science fiction author who wrote in Czech coined the term "robot" in his play *R.U.R.*

ANSWER: Karel **apek** (CHAH-pek)

014-11-41-08207

8. Name some things related to Reconstruction, for 10 points each.

[10] This term was used by Southerners to refer to Northerners who moved to the South during Reconstruction. Its name came from the type of luggage many of them carried.

ANSWER: **carpetbaggers**

[10] During Reconstruction, this government agency was created to distribute food and other commodities to former slaves. It also set up schools for former slaves and their families.

ANSWER: **Freedmen's Bureau**

[10] Reconstruction policies were abandoned after this man controversially won the presidency over Samuel Tilden after the Compromise of 1877.

ANSWER: Rutherford Birchard **Hayes**

134-11-41-08208

9. The main character in this book meets a man named Ostrinski, a socialist who eventually employs him. For 10 points each:

[10] Name this novel which exposed the meat-packing industry in Chicago.

ANSWER: *The **Jungle***

[10] *The Jungle* is a novel by this American novelist and muckraker. He also wrote *Oil!*

ANSWER: Upton **Sinclair**

[10] This Lithuanian immigrant is the protagonist of *The Jungle*.

ANSWER: **Jurgis** Rudkis [or Jurgis **Rudkis**]

120-11-41-08209

10. Name these things about popular unrest in England, for ten points each.

[10] The 15th Hussars and Cheshire Volunteers attacked a crowd during this event, which was sparked by Henry Hunt's oration on St. Peter's Field.

ANSWER: **Peterloo** Massacre [or Battle of **Peterloo**]

[10] The Training Prevention Act was one of these laws passed by Lord Liverpool in response to Peterloo.

ANSWER: **Six Acts**

[10] The Peterloo Massacre and the passage of the Six Acts occurred at the end of this monarch's reign, which lasted sixty years and included the American Revolution.

ANSWER: **George III** of England [or **George William Frederick**; prompt on **George**]

123-11-41-08210

11. This poem parodies a children's song with the line "Here we go round the prickly pear." For 10 points each:

[10] Name this poem described figures "leaning together headpiece filled with straw" that ends by saying that the world ends not with a bang but a whimper.

ANSWER: "The **Hollow Men**"

[10] This American modernist poet wrote "The Hollow Men" in addition to "The Waste Land" and "The Love Song of J. Alfred Prufrock."

ANSWER: Thomas Stearns **Eliot**

[10] Each member of this group of poems by Eliot is geographically titled. They include "Burnt Norton" and "Little Gidding."

ANSWER: **Four Quartets**

120-11-41-08211

12. In one experiment, animals that were given random electric shocks eventually laid down, whined, and didn't do anything to stop the shocks, exhibiting signs of depression. For 10 points each:

[10] That experiment, run by Martin Seligman, demonstrated what psychological phenomenon in which humans and animals do nothing to stop a negative stimulus?

ANSWER: **learned helplessness**

[10] The subjects of that experiment were these animals. Ivan Pavlov trained these animals to salivate upon hearing the sound of a bell.

ANSWER: **dogs**

[10] Pavlov's work was an example of this form of simple stimulus-response conditioning.

ANSWER: **classical** conditioning

079-11-41-08212

13. For 10 points each, answer the following about the Great Lakes of Africa.

[10] This is the largest lake in Africa and is named after a nineteenth-century British monarch.

ANSWER: Lake **Victoria**

[10] The African lakes are mainly found in this series of valleys in eastern Africa that technically extends as far north as the Middle East.

ANSWER: **Great Rift Valley**

[10] This southernmost of the African Great Lakes lies on the western border of Mozambique.

ANSWER: Lake **Malawi** [or Lake **Nyasa**]

064-11-41-08213

14. Uzume's dancing made this goddess curious enough to peak out of the cave she was hiding in and see her reflection in a mirror. For 10 points each:

[10] Name this goddess of the sun who fled to a cave after her brother Susanoo threw a horse carcass into her weaving room.

ANSWER: **Amaterasu** [or **Omikami** or **Tensho Daijan**]

[10] Amaterasu is one of these spirits from the Shinto faith who reside in shrines. Other examples of these spirits include ancestors, Tenjin, and Tsukiyomi.

ANSWER: **kami**

[10] Amaterasu was born from this god's left eye and Susanoo was born from his nose. This god of the sky created the world with his wife and sister.

ANSWER: **Izanagi** [do not accept or prompt on "Izanami"]

124-11-41-08214

15. In this novel, Ronny Heaslop sends Mrs. Moore back to England so that she cannot testify at a trial. For 10 points each:

[10] Name this novel in which Dr. Aziz is wrongfully accused of sexually assaulting Adela Quested during a trip to the Marabar Caves.

ANSWER: **A Passage to India**

[10] This author of *A Passage to India* wrote another novel in which Lucy Honeychurch falls in love with George Emerson entitled *A Room with a View*.

ANSWER: Edward Morgan **Forster**

[10] In this other Forster novel, Margaret Schlegel inherits the title estate after Henry Wilcox reevaluates his disdain for the lower class Bast family.

ANSWER: **Howards End**

134-11-41-08215

16. These objects were the subject of the paper *Experiments on Plant Hybridization*. For 10 points each:
[10] Identify this type of plant which was studied by a certain monk at St. Thomas' Abbey. Experiments with this type of plant led to the development of the Law of Independent Assortment regarding genetic inheritance.

ANSWER: **pea**

[10] This man was the monk who studied pea plants between 1856 and 1863. Often considered the father of genetics, his papers were unfortunately not widely cited during his lifetime.

ANSWER: Gregor Johann **Mendel**

[10] An example of a genetic disorder inherited through Mendelian principles is this condition, which greatly affects cognitive abilities and causes jerky movements called a chorea (KOOR-ee-ah). It is named after an American physician.

ANSWER: **Huntington's** Disease [or **HD** or **Huntington's** chorea]

052-11-41-08216

17. It is produced by fermentation during anaerobic respiration. For 10 points each:

[10] Name this acid with formula $C_3H_6O_3$ that causes milk to curdle and which also builds up in muscles during a workout, causing fatigue.

ANSWER: **lactic** acid [or **lactate**]

[10] This acid ferments to lactic acid during anaerobic respiration. It is made from glucose via glycolysis (gluy-KAH-lah-sis).

ANSWER: **pyruvic** acid [or **pyruvate**]

[10] This man discovered the bacteria that produces lactic acid. He also discovered the optical properties of tartaric acid isolated from wine.

ANSWER: Louis **Pasteur**

079-11-41-08217

18.

Their garments included an infula, which was white and woolen, a veil called a suffibulum, and a palla, which was typical of the dress worn by most women at the time. For 10 points each:

[10] Name this group of Chaste priestesses in ancient Rome.

ANSWER: **Vestal Virgins**

[10] The Vestal Virgins' vows of chastity lasted for this many years.

ANSWER: **thirty**

[10] The Roman goddess Vesta, as well as her Greek counterpart Hestia, are considered goddesses of this object, which is a term for a fireplace or kitchen.

ANSWER: **hearth**

040-11-41-08218

19. A dangling shoulder-strap in the original version of this painting caused a scandal at the Paris Salon, leading its artist to repaint it. For 10 points each:

[10] Identify this painting of a pale Virginie Gautreau in a black dress.

ANSWER: *Portrait of **Madame X***

[10] *Madame X* is likely the most famous work of this portraitist, who depicted a dancer in *El Jaleo* and showed two girls lighting Chinese lanterns in his *Carnation, Lily, Lily, Rose*.

ANSWER: John Singer **Sargent**

[10] In this Sargent painting, a group of soldiers with bandaged eyes, the survivors of a chemical attack, are being led into a medical tent.

ANSWER: **Gassed**

005-11-41-08219

20. Angular velocity times this quantity equals angular momentum. For 10 points each:

[10] Name this rotational analogue of mass symbolized capital I .

ANSWER: mass **moment of inertia** [or **rotational inertia**; or **angular mass**]

[10] The moment of inertia for a solid sphere equals this fraction times the mass times the radius squared.

ANSWER: **two-fifths**

[10] Using this theorem, one can calculate the moment of inertia of a rigid body about an axis if one knows the moment of inertia about another axis going through the object's center of mass and the distance between the two axes.

ANSWER: **parallel axis** theorem [or **Huygens-Steiner** theorem]

079-11-41-08220

21. Polar substances have the highest property for this value when dissolved in other polar substances, an effect termed "Like Dissolves Like". For 10 points each:

[10] Name this property that is defined as the highest amount of a substance that can be dissolved in a given amount of another substance at some constant temperature.

ANSWER: **solubility**

[10] This law states that the solubility of a gas in a solvent is directly proportional to the partial pressure of the gas above the solvent.

ANSWER: **Henry's law**

[10] This effect is the decrease in solubility of an ionic compound that results when a salt that contains an ion that already exists in chemical equilibrium in the solvent is added.

ANSWER: **common-ion effect**

066-11-41-08221