

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

Tossups

1. **A difference of two of these quantities is in the formula of Archimedes number of fluid motion, and they are used to find Atwood numbers. The cosmological constant is related to an energy one. A particular measurement of this among osteoporosis patients denotes negative T-scores as dangerous. Among stable elements at standard conditions, iridium and osmium have its (*) highest values. The dimensionless specific gravity compares two of them. For 10 points—give this mass per unit volume that describes a substance’s compactness or an area’s crowdedness.**

answer: **density** (accept **bone density** after “anatomical”)

2. **One of these created in Britain’s Blue Peacock project was kept operable through chickens’ body heat. Jody Williams shared a Nobel for efforts to eliminate these objects targeted by the ICBL coalition. Forbidden by the 1997 Ottawa Treaty, the Danish film *Under sandet* depicts German prisoners forced to remove some. Northeastern Egypt has (*) 20 million including those left from Erwin Rommel’s defense at El Alamein, and those devices are reportedly scavenged for ISIS’s agenda. For 10 points—give these weapons that can use a tripwire, or are triggered by a soldier’s boot.**

answer: land**mines** or anti-personnel **mines** (or AP **mines**) or anti-tank **mines** (prompt on “bomb”, and prompt on “nuclear bomb” until “Williams”) [ICBL is the International Campaign to Ban Landmines]

3. **In one of these locales, Jane Elliott conducted a 1968 study that discouraged intragroup mingling. Participants watched an empty channel in this kind of place in Ron Jones’ Third Wave, a fascism experiment. The Rosenthal–Jacobson study affected people in one and demonstrated importance of expectations. Tennessee’s Project (*) STAR concluded the group with 13 to 17 participants in each of these outperformed others. For 10 points—give this type of place where one might memorize vocabulary or take a test.**

answer: **classroom** (accept high **school** or elementary **school** until “13 to 17”; do not accept “university” or “college”) [STAR stood for Student-Teacher Achievement Ratio]

4. **The 1991 March Madness champions from this city included Larry Johnson and coach Jerry Tarkanian. Evel Knievel suffered a month-long coma after a 1967 jump over fountains here. In 1987, Sugar Ray Leonard and Marvin Hagler boxed in this city, and Floyd Mayweather and Conor McGregor recently fought here. A (*) hockey team including David Perron, Jonathan Marchessault, and William Karlsson based here made the 2018 Stanley Cup final in its inaugural season. The T-Mobile Arena is in—for 10 points—what home of the Golden Knights, a Nevada city known for casinos?**

answer: Las **Vegas**, Nevada (accept **Paradise**, Nevada, since many of these events occurred on the Strip; accept **UNLV** or the **University of Nevada, Las Vegas** on an early buzz)

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

5. **A coin-flipping bank with bright red lips is smashed in this novel, but its protagonist has difficulty discarding the pieces. That character assists Lucius Brockway and ruins seventy-five Liberty Paint buckets. When its narrator wears dark glasses, he is mistaken for Rinehart. In its beginning its narrator is expelled from college for showing a trustee unseemly places. (*)** Tod Clifton leaves this novel's Brotherhood to sell Sambo dolls, and Ras The Exhorter incites Harlem riots. Ralph Ellison wrote—for 10 points—what novel about a male who feels he is not seen?

answer: Invisible Man (do not accept "The Invisible Man", as that is an H.G. Wells work)

6. **Shu and Johnson introduced the submerged method of producing this compound also manufactured in the Koji process. Isolated by Carl Wilhelm Scheele, Carl Wehmer found Penicillium mold fermented this compound when grown in sugar. This compound with a pH below 3.2 is used in cosmetics as a skin peeler. Aerobic organisms use this (*)** tricarboxylic compound in acetyl-CoA oxidation through reactions studied by Hans Adolf Krebs, and known as Krebs' "cycle". For 10 points—give this acid comprising up to 8 percent of lemons' and limes' weights.

answer: citric acid

7. **Because he lived on a farm, Ralph Abernathy said he learned about this period "from a college textbook". This two-word term may originate from a 1934 Lionel Robbins work that discusses a London swindle, industry cartels, and credit volumes. Many say legislation by Reed Smoot and Willis Hawley exacerbated this event. The Bonus Army sought federal (*)** assistance during this time, living in a Hooverville as many veterans were unemployed. The 1929 stock market crash preceded—for 10 points—what period of economic hardship?

answer: Great Depression

8. **This character battles the Japanese and crashes on Sumatra in a 1947 title on him "and the Foreign Legion". He rescues Gretchen von Harben in the same city where Waziri members and this character quested for an immortality drug. A mutiny on the *Fuwalda* stranded this character's parents, and his father was killed by Kerchak. This husband of (*)** Jane Porter learns to swim after fleeing the lioness Sabor and is able to traverse the jungle trees. Edgar Rice Burroughs created—for 10 points—what child raised by wild apes?

answer: Tarzan or John Clayton, Viscount Greystoke or Lord Greystoke (accept any underlined name; accept Tarzan and the Foreign Legion)

9. **This was the westernmost of the four political divisions named in the 1867 Constitution Act. During the Ipperwash Crisis, its police killed the Ojibwa protestor Dudley George. Opinicon Lake and Smith Falls are on the province's Rideau Canal. Its southern border contains the Thousand Islands of salad dressing fame. Landmarks here include the (*)** CN Tower and the Hockey Hall of Fame, both of which are near this province's namesake Great Lake across from New York. For 10 points—name this province whose cities include Hamilton, Ottawa, and Toronto.

answer: Ontario

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

10. During this war, one person said “I have saved the bird in my bosom” as he fell. John Beaufort and John Talbot died during it, and Audley’s Cross marks James Touchet’s defeat during Blore Heath. It included two battles at Saint Albans. Sir Percival Thirlwall is said to have carried the colors until he died at this conflict’s 1485 Battle of (*) Bosworth Field, which also saw Richard III’s [“the thirds”] fatality. The Lancaster and York houses fought for the English throne in—for 10 points—what conflicts known for the flowery symbols of the combatants?

answer: War(s) of the Roses (or Red and White Rose War)

11. Pathologist Paul Wolf suggested this painting’s colors were due to digitalis affecting its artist’s eyes. A few months after this painting, its artist painted *The Garden of Saint-Paul Hospital*, and also did a similar motif “Over the Rhône”. Michael Benson suggests astronomer William Parsons’ (*) Whirlpool Galaxy drawing influenced it. Saint-Martin’s Collegiate Church may have provided the bottom center steeple in this artwork with a left Cypress tree and a top-right crescent moon. A blue sky dominates—for 10 points—what Vincent Van Gogh painting of a twinkling evening?

answer: The Starry Night or La Nuit étoilée

12. A symbol of Roman Pax deities, one of these is in the arm of Pietro Baratta’s statue at Pavlovsk Palace. Two appear at the bottom of Idaho’s state seal. In another myth it was created by the Naiads after Achelous [ah-kei-LOW-us] lost an militaristic head structure. The Roman Pluto also used one to bestow gifts. A literary (*) site with this name typically sees bloodbaths, and in the 74th Hunger Games this object provides the tributes a feast. For 10 points—give this object filled with harvest bounty in Thanksgiving icons, which is also known as the horn of plenty.

answer: cornucopia (accept horn of plenty until read)

13. Robert Winch’s psychological “needs” theory using this term says a person’s sought partners often possess personality traits he or she lacks. The enzyme reverse transcriptase produces this kind of DNA. In grammar, one of these after a linking verb increases subject understanding. In math, for a given set P, this is the set of elements (*) not in P. This term describes the contrasting orange and indigo at opposite sides of the color wheel. It also names two angles whose measures sum to 90 degrees. For 10 points—give this term sometimes shown as superscript C.

answer: complementary (the psychological theory is sometimes complementarity)

14. In this colony’s early years its governorship rotated between John Haynes and Edward Hopkins. The Rogerenes religious movement began in this colony which deported the preacher James Davenport in 1742. Samuel Stone and Thomas Hooker led settlers here, and those residents adopted the Fundamental Orders governing it. In 1662 its (*) royal charter was hidden in an oak tree now on its state quarter. The Saybrook and New Haven colonies were merged with—for 10 points—what colony with capital Hartford?

answer: Connecticut (colony)

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

15. Alex Barker is president of the American Association of this social science. The character of nations was a topic Immanuel Kant included in a text about it from a “Pragmatic Point of View”. A symbolic form of this discipline emphasizing rituals and customs was pioneered by Clifford Geertz. Franz Boas founded the U.S.’s oldest department at Columbia, and taught (*) Ruth Benedict and Margaret Mead. Although archeology is a subfield, that usually focuses on artifacts and sites. For 10 points— give this study of past and present humans.

answer: anthropology

16. A theorem stating magnetization of an electron gas vanishes is named for this man and Hendrika Johanna van Leeuwen. This coauthor with John Wheeler of 1939’s “The Mechanism of Nuclear Fission” used Carlsberg brewery funding to establish a scientific institute. A constant on the order of 10^{-11} [“ten to the negative eleventh”] meters is named for this scientist and is a (*) space between a hydrogen nucleus and an electron, a distance called this man’s radius. The Rutherford description was improved by—for 10 points—what Danish physicist who modeled the atom?

answer: Niels Bohr

17. In one part of this work a group of people are called “exasperating, irritating, / vacillating, calculating, agitating”. Its characters sing the “Ascot Gavotte” at a racecourse, and some drinking companions perform “With a Little Bit of Luck”. A breakthrough in this work involves “The rain in Spain stays mainly in the plain”. (*) Rex Harrison and Julie Andrews starred in this musical in which Henry Higgins improves the social graces of Eliza Doolittle. George Bernard Shaw’s *Pygmalion* is the source of—for 10 points—what musical about a pretty good woman?

answer: My Fair Lady

18. One colony of this empire was expanded by the Treaty of Fez and used Buea as a capital after 1910. The Maji Maji Rebellion pitted this empire against the Matumbi and Ngoni tribes. The *Eber* and *Adler* were ships it lost in the Apia cyclone defending Samoan interests. It gained the Caprivi Strip to enlarge its southwest African colony that is now (*) Namibia. After an 1870 European war, this empire annexed Alsace-Lorraine from France. Prussia was a significant portion of—for 10 points—what empire led by Kaiser Wilhelm II and Otto von Bismarck?

answer: German (colonial) empire or Deutsches Kolonialreich or Deutsches Kaiserreich or Deutsches Reich or Imperial Germany

19. This novel’s protagonist thinks some French coins read *Bon Sour One Frank*. In Bruce Coville’s *The Monster’s Ring*, Russell Crannaker reads this book after finishing homework. This book begins with the protagonist on a bus to New Zebedee, Michigan to live in a home formerly owned by Isaac and Selena Izard. In this (*) John Bellairs work, Uncle Jonathan freezes when a tower bell rings, and its other characters include Tarby Corrigan and Lewis Barnavelt. For 10 points—name this work about a dwelling containing a timepiece adapted into a Jack Black film.

answer: The House With a Clock in its Walls

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

20. **The Surgeon General was authorized by a 1955 act to research this phenomenon which P2 Acts aim to decrease. Arie Jan Haagen-Smit linked an example of it to a photochemical reaction. Bakersfield, California schools use green to purple flags for daily readings of levels of this phenomenon surprisingly affected by farm fertilizers. (*) Volkswagen was fined billions for programming cars to comply with standards of these only during diagnostics. For 10 points—give this general term for unwanted particles that can cause acid rain or difficult breathing.**

answer: air pollution (accept factory or vehicle emissions; prompt on “soot”, “smog”, or “ozone”)

21. **People are described by this word in the title of the last book of John Jakes' *Kent Family Chronicles*. Susan Sontag's account based on Polish actress Helena Modjeska is in this place. Christopher Newman tours Europe in a Henry James work titled for a citizen of this country. The Patriot baseball league is featured in a (*) Philip Roth title including this word as an adjective. Clyde Griffiths' unhappy relationship with Roberta ends with Roberta drowning in Theodore Dreiser's novel about this kind of tragedy. For 10 points—give this term for something from the United States.**

answer: American(s) [the works are *The Americans*, *In America*, *The American*, *The Great American Novel*, *An American Tragedy*]

22. **Cliff Biffle created one of these evaluated using Scrabble scoring. A Stack Overflow survey rated Rust and Kotlin among the least disliked. CHILL is one example of this technology designed for telephone exchanges and Grace Hopper's Flow-Matic was innovative in the NLP paradigm. A concatenative example might not have (*) variables, and examples in the functional paradigm include Haskell, Mathematica, and Python. For 10 points—give the term for these instruction sets that can create apps for your phone or desktop.**

answer: programming languages or computer languages or computer code (prompt on partial answers; accept other answers that indicate a machine is being programmed)

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

Bonuses

1. This novel influenced the video game *Far Cry 2*. For 10 points each—

A. Name this novella in which Charles Marlow travels up the Congo River to find Kurtz has assumed a god-like role. Its title suggests a gloomy cardiac organ.

answer: **Heart of Darkness**

B. *Heart of Darkness* is by what author of *Lord Jim* and the *Secret Agent*?

answer: Joseph **Conrad** or Józef Teodor Konrad **Korzeniowski**

C. *Heart of Darkness* is often compared to the 1885 H. Rider Haggard depiction of Africa in a title about this man's mines. This wise son of David is the traditional author of the bible's Book of Proverbs.

answer: **Solomon** (accept **King Solomon's Mines**)

2. For 10 points each—name these U.S. frontiersmen:

A. Known as the “king of the wild frontier”, this Tennessee congressman was a scout during the Creek War and later took part in the Texas Revolution.

answer: (David) Davy **Crockett**

B. This man used the Cumberland Gap during an unsuccessful 1773 expedition to settle Kentucky. He later rescued his daughter Jemima from Cherokee kidnappers.

answer: Daniel **Boone**

C. An 1806 expedition by this explorer sought the source of the Arkansas and Red rivers. He failed to climb a mountain, and the Spanish governor Nemesio Salcedo held him prisoner for a time.

answer: Zebulon **Pike**

3. For 10 points—give these answers related to a work of political philosophy:

A Alexis de Tocqueville visited the U.S. in 1831 and later published his societal observations in volumes titled for what form in government “in America”?

answer: **Democracy** in America or De La **Démocratie** en Amérique

B. The fourth chapter of *Democracy in America* is titled for this principle of a body governing itself. De Tocqueville said it spreads freely here.

answer: **sovereignty** of the people (or **souveraineté** du peuple)

C. In Chapter 15, De Tocqueville describes an 1812 Baltimore mob smashing printing presses to warn against this four-word phrase. The title of a Lani Guinier essay collection, John Stuart Mill said it is “among the evils against which society requires to be on its guard”.

answer: **tyranny of the majority**

4. For 10 points each—name these canals:

A. U.S. Secretary of State John Hay negotiated several treaties that brought this Central American waterway to fruition. In 1999 control was passed to a country east of Costa Rica.

answer: **Panama** Canal

B. Anwar Sadat attempted to nationalize this canal in 1956, which prompted Britain, France, and Israel to invade Egypt.

answer: **Suez** Canal (accept **Suez Crisis**)

C. Articles 380 to 386 of the Treaty of Versailles dealt with this canal in Schleswig-Holstein. Ships can use it instead of sailing around Denmark's Jutland Peninsula.

answer: **Kiel** Canal

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

5. For 10 points—give these forms of organism communication:

A. Termites follow trails of Cembrene A, one of these message-transmitting chemicals. The gathering example Myrcenol is used by a beetle.

answer: **pheromones**

B. Eötvös Loránd University researchers have found canines do understand information in neighborhood howls. So these terms Dodie Smith used in *The Hundred and One Dalmatians* and its sequel for that noise have some legitimacy.

answer: **twilight barking** or **starlight barking** (accept **barking chain**)

C. Karl von Frisch was among the first to decipher this dance performed by honeybees to communicate a resource's distance and direction.

answer: **waggle** dance (accept word forms)

6. For 10 points each—give these answers that are also items found on a desk:

A. Classical geometric constructions only allow a straightedge and what pointed tool used in drawing arcs and circles?

answer: **compass**

B. Noah Calhoun reads to a nursing home resident to trigger her memories in what Nicholas Sparks novel whose characters are related to those in *The Wedding*?

answer: The **Notebook**

C. Germans including Helmut Hölzer and Wernher **VERN-er** von Braun were collected together to work on U.S. scientific projects in what secret 1940s operation?

answer: Operation **Paperclip**

7. The volume of this three-dimensional object equals pi times the minor radius squared, times two pi, times the major radius. For 10 points each—

A. Give the mathematical term for this shape seen in donuts and inner tubes.

answer: **torus** (plural **tori**)

B. This other value for a torus equals 4 pi squared times the product of the radii. This term generically describes the two dimensional regions on the outside of a figure.

answer: **surface area**

C. While 2-D maps never need more than four colors to shade adjacent regions differently, coloring a torus's surface area can require up to what higher number?

answer: **7**

8. While in the California prison system, this folk singer produced the bootleg album *Live at San Quentin*. For 10 points each—

A. Name this man whose "Family" conducted the Tate murders. This cult figure died in November 2017.

answer: Charles **Manson** (or Charles **Maddox**)

B. Manson's song "Cease to Exist" was reworked and released by this group. These men including Mike Love and Brian Wilson sang about surfing waves and driving down the shore.

answer: The **Beach Boys**

C. Manson's song "Look at Your Game, Girl" was covered by this hard rock group whose recent *Not in This Lifetime...* Tour reunited them with the guitarist Slash. Their hit "Sweet Child o' Mine" was on their *Appetite for Destruction* album.

answer: **Guns N' Roses**

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

9. This scientist described the blue pincushion herb while on Matthew Flinders' 1801 Australian expedition. For 10 points each—

A. Name this Scottish botanist who looked in his microscope and saw particles displaying random jittery motions.

answer: Robert **Brown** (accept **Brownian motion**)

B. Brownian motion was discovered while observing these plant particles. These grains containing male gametes are spread by insects during fertilization.

answer: **pollen**

C. Brownian trees are pictures formed through random motion, and are studied as examples of these self-similar objects. Other examples are the Sierpinski Carpet and Mandelbrot set.

answer: **fractals**

10. The Small Swords Society took control of this city during the Taiping Rebellion. For 10 points each—

A. Name this Chinese city in the Yangtze River Delta, one of the world's most populous cities.

answer: **Shanghai**

B. The 1842 Treaty of Nanking, which ended the first of these wars, required Shanghai to allow foreign commerce. This war is named for a narcotic smoked in dens.

answer: First **Opium** War

C. At the time, China was ruled by this dynasty whose last emperor was Puyi. In the 17th century it overthrew the Ming dynasty.

answer: **Qing** ["ching"] Dynasty or Empire or **Great Qing**

11. Many of this author's stories about the Glass family were published in *The New Yorker*. For 10 points each—

A. Name this author of "This Sandwich Has No Mayonnaise" and *Franny and Zooey*.

answer: J(erome) D(avid) **Salinger**

B. Holden Caulfield is the protagonist of this J.D. Salinger novel that ends with Holden and Phoebe riding a Central Park carousel.

answer: The **Catcher in the Rye**

C. Many literary critics have called this Sylvia Plath novel the female version of *Catcher*. Esther Greenwood gains a New York internship in this work but finds the city disorienting.

answer: The **Bell Jar**

12. For 10 points each—give these answers related to René Magritte:

A. Magritte's best known painting may be this work showing a male wearing a bowler hat. The subject's face is obscured by a hovering green apple

answer: The **Son of Man** or Le **fils de l'homme**

B. Magritte's surrealist painting *Time Transfixed* shows one of these objects jutting out of a fireplace. It has an emitting smoke stack but the shadows suggest it's not pulling anything.

answer: **locomotive** or **train engine** (accept any underlined answer)

C. Thieves stole this painting depicting Magritte's wife Georgette but found they couldn't sell it on the black market. The title of this painting is a female name similar to, but not the same as the home of the Greek gods.

answer: **Olympia**

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

13. For 10 points each—give these subjects of presidential candidate statements:

A. In 2004, John Kerry said, “I actually did vote for the \$87 billion, before I voted against it”. Those billions were for troops in Iraq and what other country where the U.S. maintains the Bagram Airfield north of Kabul?

answer: Islamic Republic of **Afghanistan**

B. Hillary Clinton said “you could put half of Trump’s supporters into what I call” this three-word phrase. Clinton continued, “They’re racist, sexist, homophobic, xenophobic – Islamophobic – you name it.”

answer: **basket of deplorables**

C. At a private May 2012 event, Mitt Romney claimed this percent of citizens paid no income tax. Ironically, if you round Romney’s overall popular vote percentage you get this whole number.

answer: **47%**

14. For 10 points each—give these scientific constants:

A. Thought to be around 70 kilometers per second per megaparsec, this is an estimate of the universe’s expansion rate. It was devised by a U.S. astronomer for whom a telescope is named.

answer: **Hubble** constant (occasionally called **Hubble’s** constant)

B. This constant denoted lowercase “h” is named for a German physicist who studied blackbody radiation. A photon’s energy equals this constant times its frequency.

answer: **Planck’s** constant

C. 8.31 joules per kilogram-mole is one way to express this value denoted capital R which appears in the Nernst equation.

answer: **universal gas** (or **molar** gas or **ideal** gas constant; accept any of the underlined terms)

15. In the Book of Amos chapter 3, this creature is called the fleeing serpent. For 10 points each—

A. Name this sea monster whose heads are crushed by God in the 74th Psalm.

answer: **Leviathan**

B. In Peter Binsfeld’s 16th century classification, Leviathan is a prince of Hell and linked to this deadly sin, the longing to possess achievements of another. Some Catholics draw a distinction between this and jealousy.

answer: **envy**

C. *Leviathan* is a 1651 title by this English writer who discussed the English Civil War in a work known both as *Behemoth* and *The Long Parliament*.

answer: Thomas **Hobbes**

16. For 10 points—give these computer security terms:

A. In construction these barriers limit conflagrations from spreading. In computing it’s a system that controls incoming and outgoing network traffic to prevent problems.

answer: **firewall**

B. In computing this is a compromised machine commanded to perform malicious tasks like spreading spam. A humorous Max Brooks guide explains how to survive a different Halloweenish type.

answer: **zombie** (accept The **Zombie Survival Guide**)

C. IT professionals set up these decoys that look valuable but are designed to track hacking activity. Webster’s defines this term as an attractive person or a substantial amount of money.

answer: **honeypot** (accept **honeynet**)

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

17. For 10 points each—give these answers related to English earls:

A. This clothing is named for James Brudenell, the earl who led the Charge of the Light Brigade. On TV, Mister Rogers was fond of these garments fastened in the front.

answer: **Cardigan** (sweater) [Brudenell was the 7th earl of Cardigan]

B. Thought to refer to an 1830s prime minister, this tea is often made from black leaves and oil from the bergamot orange.

answer: **Earl Grey** tea [believed to be named after Charles Grey, 2nd Earl Grey]

C. Herbert Croft's *Love and Madness* described the 1779 murder of Martha Ray, this man's mistress. An island off New South Wales' Narooma is named for this man who was said to like eating and gambling.

answer: John **Montagu**, 4th Earl of **Sandwich** or **Lord Sandwich** (accept either underlined name; accept **Montague Island**)

18. This piano waltz composed by Euphemia Allen is similar to "The Coletten Polka". For 10 points each—

A. Name this piece meant to be played with the hands imitating the fast slicing motion of a chef.

answer: **Chopsticks** or The **Celebrated Chop** Waltz

B. One flamboyant version of Chopsticks was performed by this pianist whose trademark was a candelabrum. He starred in the film *Sincerely Yours*.

answer: (Władziu Valentino) **Liberace**

C. Liberace's film character sought to play this venue where Liberace did perform "Chopsticks" in 1978. This hall named for a Pittsburgh industrialist was the New York Philharmonic's home until 1962.

answer: **Carnegie** Hall

19. For 10 points each—give these values at which some scientific scales coincide:

A. This is the value where degrees Fahrenheit equals degrees Celsius. Mercury thermometers can't depict this value because it is the next even number below Mercury's freezing point in Centigrade.

answer: **-40** [mercury freezes at -38.8°C]

B. This is the value where an object's weight in pounds equals its weight in kilograms.

answer: **0** [1 kilogram = 2.2 pounds, $y=1x$ and $y=2.2x$ intersect at the origin]

C. This is the value where the measure of hydrogen ions pH equals the hydroxide ion measure pOH ["pee oh aech"].

answer: **7** [neutral substances have a pH of 7, and $\text{pH} + \text{pOH} = 14$]

20. Among this country's leaders were Walter Ulbricht and Erich Honecker. For 10 points each—

A. Name this country that ceased to exist shortly after the Two Plus Four Agreement negotiated in 1990 allowed a merger. Its second-most populous city was Leipzig.

answer: **East Germany** or **German Democratic Republic** (prompt on "GDR"; do not accept "Germany")

B. East Germany was one member of this military alliance of the socialist states of Eastern Europe. This pact was formed in 1955 and was named for Poland's capital.

answer: **Warsaw** Pact

C. East Germany's borders came from the postwar occupation zones established at this July 1945 German conference. A proclamation defining Japanese surrender terms was made during these talks.

answer: **Potsdam** Conference (accept **Potsdam** Proclamation)

by Bill Tressler

with thanks to Bern McCauley and the Great Valley Quiz Team

21. For 10 points each—give these theaters:

A. The 2012 film *Lincoln* used the Virginia Repertory Theater to reenact the assassination, which happened in what D.C. structure across from the Petersen House?

answer: **Ford's** Theater (do not accept "Ford")

B. Bruno Mars aired a November 2017 TV special from this Harlem theater where Ella Fitzgerald won an 1934 amateur night.

answer: **Apollo** Theater

C. The site of the '44 to '46 Academy Awards, this Hollywood landmark saw the '77 Star Wars premiere. A recreation with pagoda façade and sidewalk handprints used house Walt Disney's World's Great Movie Ride.

answer: **Grauman's** Chinese Theatre or TCL **Chinese** Theatre

22. This character appears in phases called "Maiden No More", "The Woman Pays", and "Fulfillment". For 10 points each—

A. Name this character who has an unhappy marriage and eventually stabs Alec d'Urberville.

answer: **Tess Durbeyfield** (accept either underlined name; accept **Tess of the D'Urbervilles**)

B. *Tess of the D'Urbervilles* was written by what English author of *The Woodlanders* and *Far from the Madding Crowd*?

answer: Thomas **Hardy**

C. Fawley is the surname of the protagonist in this Hardy novel. Its protagonist dreams of academic success, and has relationships with Arabella Donn and Sue Bridehead.

answer: **Jude the Obscure**