

by Bill Tressler

with thanks to Alex Dzurick, Bern McCauley, and the Great Valley Quiz Team

Tossups

1. **One person classifying these communications was Alan Gardiner, who started with a category for “Man and his occupations”. Thomas Young studied them, as did Jean-François Champollion, who consulted the Philae obelisk. “Uniting” was the meaning of a Shen ring with two whips when shown among these (*) ideograms. A cartouche was used to encircle rulers’ and gods’ names in these, such as “Anubis” or “Tutankhamun”. The Rosetta Stone helped to decipher—for 10 points—what writings of ancient Egypt?**

answer: hieroglyphics

2. **This author wrote “Beat! beat! drums!—blow! bugles! blow!” in a poem meant to rally Union troops. An assassination prompted him to write “O the bleeding drops of red / Where on the deck my Captain lies / Fallen cold and dead”. A stroke caused him to move to (*) Camden, New Jersey, where he later produced a “deathbed edition” of his collected poems; that collection includes “I Sing the Body Electric” and “Song of Myself”. For 10 points—who is this poet of *Leaves of Grass*?**

answer: Walt(er) Whitman

3. **Visitors to this man’s museum see a stuffed polar bear carrying a net-shaded lamp, lip-shaped sofas, and portraits of his wife Gala. Tigers are shown leaping in his painting *Dream Caused by the Flight of a Bee*. To settle a paternity claim, this man’s remains were (*) exhumed in July 2017. One of his best known paintings is a depiction of a rocky landscape with ants crawling on a clock, which is near melting watches. *The Persistence of Memory* is by—for 10 points—what Spanish surrealist?**

answer: Salvador Dalí (or Salvador Domingo Felipe Jacinto Dalí i Domènech, Marquis of Dalí de Púbol)

4. **Some methods of creating these figures are named Wichmann-Hill, Blum Blum Shub, and xorshift [EX-or-shift]. They can mimic any statistical distribution by starting with uniform values from zero to one and applying the inverse CDF. They describe stochastic processes such as Brownian motion, and could be used to simulate the (*) ups and downs of the stock market. RSA tokens might show sequences of these a user would enter for security access. For 10 points—give these values a computer could use to simulate bingo numbers or a game of chance.**

answer: (pseudo-)random number (generation) (accept related terms like randomness)

5. **In a Tony Kushner play, Prior Walter goes to this location and tells its inhabitants he will not deliver a message. A character named Eddie meets the waitress Ruby and his former army captain here in a Mitch Albom book. Empyrean is its highest level in a 14th century work, and (*) Beatrice guides an author through this locale to meet exalted rulers and various saints. That work follows descriptions of hell and purgatory. For 10 points—name this reward for the faithful, an abode of God.**

answer: Heaven or Paradise (or Paradiso) [Tony Kushner wrote *Angels in America*, Mitch Albom wrote *The Five People You Meet in Heaven*, and Dante wrote *Paradiso*]

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6. In 2016 the *USCGC Monomoy* drifted into the waters of this country, and the nation briefly detained the U.S. personnel onboard. Its ruling Guardian Council consists of twelve law experts and is partially selected by its parliament, the Majlis. In 2010 the Stuxnet computer worm destroyed around 900 (*) centrifuges in this country. Its 2017 election saw Hassan Rouhani winning a second term, in part for the treaty that ended sanctions on this country when it limited its nuclear program. For 10 points—name this country with capital Tehran.

answer: Islamic Republic of Iran or Jomhuri-ye Eslāmi-ye Irān

7. This title character proclaims that one day he saw the sunset 44 times. He uses volcanoes to heat his breakfast, and is made a Minister of Justice and then Ambassador by a ruler. He visits places numbered 325 through 330, and sees a tippler as well as a (*) streetlamp with a lamplighter. This diminutive person meets an aviator who crashed in the desert and explains his life on asteroid B-612. Antoine de Saint-Exupéry wrote about—for 10 points—what small royal character?

answer: The Little Prince or Le Petit Prince (prompt on "the Prince")

8. Robert Caro's biography of this person includes the volumes *Master of the Senate* and *The Passage of Power*. This leader appointed Abe Fortas and Thurgood Marshall to the Supreme Court. The federal Department of Education building is named for this man, as is a Dallas freeway. This man defeated (*) Barry Goldwater in a presidential election, and he approved Medicare and Medicaid upon signing a 1965 act, as part of his Great Society initiative. Lady Bird was the wife of—for 10 points—what Texan often referred to by three initials?

answer: LBJ or Lyndon B(aines) Johnson (prompt on "Johnson")

9. This composer included a Paul Gerhardt hymn in his "Do not fear" motet. For Christian, Duke of Saxe-Weissenfels, this musician created the *Hunting* and *Shepherd* cantatas. In legend, the organist Louis Marchand fled a competition against this Kapellmeister who used a Marchand theme in the fifth of a set of six concertos. A (*) 1741 work by him presents an aria and then uses its bass line in thirty variations. For 10 points—name this German Baroque composer of the *Brandenburg Concertos* and the *Goldberg Variations*.

answer: J(ohann) S(ebastian) Bach

10. This organization currently directed by David J. Skorton runs a tropical research center on a Panamanian island. The Megatherium Club was a group of its early naturalist employees who organized sack races in its Castle, a red building on Jefferson Drive Southwest. It owns the Arthur M. Sackler Gallery as well as the (*) National Zoological Park, and its newest additions concern Native Americans and African American culture. For 10 points—name this institution whose Washington D.C. landmarks include the Air and Space Museum.

answer: Smithsonian Institution

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11. **A complex for this religion in Robbinsville, New Jersey claims to be its largest place of worship. Its Smarta tradition was developed by an 8th-century theologian who treated several deities as all equal. The veena musical instrument is a symbol of this religion's god Saraswati. Its Kumbh Mela (*) pilgrimage can see millions gather at the Godavari or Shipra rivers for bathing rituals. Its scriptures include the Vedas, the Upanishads, and the Bhagavad Gita. For 10 points—name this religion practiced by 80 percent of Indians.**

answer: Hinduism

12. **The Lomonosov Ridge traverses the floor of this body of water that can be entered through the Fram Strait. Currents in this body include the Beaufort Gyre and a drift stream that begins in the Laptev Sea. In 1958 the *USS Nautilus* submarine traveled this body of water, a (*) difficult feat due to inaccurate compass readings. Territories here include Russia's Franz Josef Land and Norway's Svalbard Archipelago. For 10 points--name this ocean that covers the North Pole.**

answer: Arctic Ocean

13. **The Iguvine Tablets were written by this peninsula's ancient Umbrian people, and the Messapii who lived here sided with the Samnites in a 4th-century BC conflict. Legend states females on this peninsula gave themselves to invaders to stop a war, an act known as the Rape of the (*) Sabine Women. This peninsula also included the Etruscans [you-TRUSS-cans], who were assimilated into a powerful republic. For 10 points—name this peninsula that saw the ancient eruption of Mount Vesuvius, a volcano on the Gulf of Naples.**

answer: the Italian peninsula or Apennine peninsula (or Italy or Italia; accept the Italian "boot")

14. **In Tintin stories, Sir Francis Haddock commands a ship named for this organism. The Throne Chair of Denmark was said to be composed of them, and in Neil Gaiman's *Stardust*, one of these animals flights a lion for a crown. In venture capitalism, this slang term is used for startups (*) worth \$1 billion, but Canadian tech firms also are called narwhals. These legendary creatures are sometimes labeled monoceruses [mah-NOSS-cer-us-ezz] and their bony head projections purportedly had medicinal value. For 10 points—name these one-horned creatures.**

answer: unicorn

15. **In 2015, University of Washington mathematicians devised one of these shapes that can tile the plane, making it the 15th known example. A pyramid with one of these shapes as its base has 10 edges. A regular one of these polygons has internal angles measuring 108 degrees and has diagonals that draw a (*) star. The truncated icosahedron has 20 hexagons and 12 of these as its faces, as seen in soccer balls. The Defense Department is housed in a building whose shape is—for 10 points—what five-sided polygon?**

answer: pentagon

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16. **A character dressed in a green robe tells this former coworker of Dick Wilkins about 1800 brothers. When a visitor mentions the destitute, this character asks about the treadmills run by prisoners to make flour. This former employee of Mr. Fezziwig sees the face of an old partner in place of his (*) door knocker, and that partner later appears in chains made of cash boxes and purses. This character is shown his own poorly-attended funeral and the Cratchits' grief over Tiny Tim's death. Three ghosts visit—for 10 points—what miser in *A Christmas Carol*?**

answer: **Ebenezer Scrooge** (accept either underlined name)

17. **Theodor Zincke's reaction prepares the pyridinium examples of these compounds which are typically non-combustible. William Christopher Zeise described an organometallic example, and Johann Glauber discovered one in spring water. Other examples include zinc acetate, potassium dichromate, and the (*) magnesium sulfate found in Epsom, England. Water and these compounds are the results of acid-base neutralizations. For 10 points—give these compounds that include sodium chloride, which is found on dinner tables.**

answer: **salt** (accept **Zincke salt**, **Zeise salt**, or **Glauber salt**)

18. **In 1863 Congress set the gauge for this object to be 4 feet, 8 and 1/2 inches. While he was an army captain, George McClellan traveled from St. Paul to Puget Sound to gather survey data for this venture. Modern Interstate 80 parallels much of this historical (*) thoroughfare. Its construction was by the Central Pacific and Union Pacific companies, who met at Promontory Summit in Utah. For 10 points—name this transportation project that connected Iowa to the west coast.**

answer: (First) **Transcontinental Railroad** (prompt on "Pacific Railroad" or "Overland Route")

19. **This man's book *What is Life?* predicted DNA would be in structures he called aperiodic crystals. In his representation of quantum mechanics, observables are kept fixed while state vectors evolve. He names an equation stating total energy equals kinetic energy plus potential energy, which is written with the (*) wave function. He also proposed a hypothetical experiment in which an organism is both alive and dead until it is directly observed. For 10 points—name this Austrian physicist who described a box containing a cat.**

answer: Erwin **Schrödinger**

20. **On one episode of this show, Jack Gruber's use of electricity allows him to command Aaron Danzig. Towards the end of its third season, a former member of the Falcone crime family died for a second time and characters on this show sought the antidote to the (*) Alice Tetch virus. Other characters on this series include Edward Nygma, Ivy Pepper, and the butler Alfred Pennyworth. Ben McKenzie plays police detective James Gordon on—for 10 points—what FOX series named for the city protected by Batman?**

answer: **Gotham**

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21. The *Larix* and *taxodium* are two genera of these living organisms that exhibit cladoptosis, the abscission of portions of their structure. Wouter Van Hoven discovered one species of these organisms that produces tannin to ward off predators and emits ethylene to warn neighbors. The age of these organisms is studied by (*) dendrochronologists and the Inyo National wilderness area includes bristlecone examples of these over 4,000 years old. For 10 points—give the term for these organisms such as aspen, juniper, and oak.

answer: trees (prompt on “plants”)

22. After the 1859 Battle of Cepeda two portions of this country were united. Due to promotion of immigration, a majority of this South American country’s residents have at least one Italian ancestor. Its current president, Mauricio Macri, succeeded Cristina Fernández de Kirchner. General Leopoldo Galtieri launched Operation (*) Rosario during which this country tried to capture the Falkland Islands. Its Córdoba province is in the pampas region, while to the south of this country is the Drake Passage. For 10 points--name this country with capital Buenos Aires.

answer: Argentine Republic or República Argentina

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Bonuses

1. A bridge across the River Thames links this area with the Lambeth district. For 10 points each—

A. Name this area of London that includes Buckingham Palace and a structure where the British Parliament meets. Its name reflects that central London is it to its east.

answer: **Westminster**

B. Blowing up the House of Lords to assassinate King James I ["the first"] was the goal of this 1605 plot. The British celebrate its failure on Guy Fawkes Day.

answer: **Gunpowder** Plot

C. This group injured eleven when it detonated a bomb at Parliament in 1974. It historically had goals similar to, and shared some leaders with the Sinn Féin [SHIN FAYN] political party.

answer: (P)**IRA** or (Provisional) **Irish Republican Army**

2. This author's time in the Imperial Police inspired his novel *Burmese Days*. For 10 points each—

A. Name this British author whose character Gordon Comstock attempts to live a life not dependent on money in this writer's novel *Keep the Aspidistra Flying*.

answer: George **Orwell** or Eric Arthur **Blair**

B. The adjective Orwellian usually means a totalitarian society in which Big Brother watches, a reference to this novel about Winston Smith.

answer: **Nineteen Eighty-Four**

C. "All animals are equal, but some animals are more equal than others" is a phrase used in this Orwell novella in which the pigs Napoleon and Snowball vie for power.

answer: **Animal Farm**

3. It's often called the fourth state of matter. For 10 points each—

A. Name these hot ionized gas mixtures now common in televisions.

answer: **plasma**

B. Plasma discharge can be seen during this natural phenomenon whose prevalence is predicted by the Keraunic equation. Fulgurites are rocks formed by this phenomenon that has ribbon, ball, and anvil crawler varieties.

answer: **lightning**

C. Plasma discharges can be seen emanating from these devices which include two capacitors connected by a spark gap. These radio frequency oscillators were invented by a Serbian in 1891.

answer: **Tesla coil** (prompt on partial answers)

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4. For 10 points each—give these answers related to personality psychology:

A. Schizophrenia may include this condition in which individuals are sensitive to setbacks, persistently hold grudges, and are sure everyone is out to “get them.”

answer: **paranoid** personality disorder or **paranoia**

B. Also called negativist personality, Theodore Millon proposed vacillating and abrasive types for this condition. Its behaviors include door slamming, gossip, work procrastination, and other acts that avoid direct confrontation.

answer: **passive-aggressive** behavior (prompt on “PA”)

C. Adolph Stern coined this term for a condition he viewed as between psychosis and neurosis. People with this condition exhibit wild mood swings, show an intense fear of abandonment, and do dangerous things.

answer: **borderline** personality disorder

5. For 10 points each—name these historical penal colonies:

A. James Oglethorpe wanted this American colony to be a place where prison debtors could start anew. In reality few convicts were brought here, and instead it allowed slavery in 1749.

answer: **Georgia**

B. The British Empire sent convicts to this country's state of New South Wales in 1788. Those settlers built its city of Sydney.

answer: Commonwealth of **Australia**

C. After his conviction, the French sent Alfred Dreyfus to this island of the Salvation's Islands, which are off the coast of French Guiana.

answer: **Devil's** Island or Ile du **Diable**

6. For 10 points each—name these works that involve sacrifice:

A. Katniss Everdeen participates in a title competition to the death in this Suzanne Collins work, whose sequels are *Catching Fire* and *Mockingjay*.

answer: The **Hunger Games**

B. In this Shirley Jackson short story about a mob mentality or adherence to tradition, Tessie Hutchinson is stoned to death by her townspeople.

answer: The **Lottery**

C. In this book of the Bible, Jephthah defeats the Ammonites but then must sacrifice his daughter. This book also includes the stories of Ehud, Deborah, and Gideon.

answer: Book of **Judges**

7. For 10 points each—give these answers related to World War I aviation:

A. Tom Rees was on the first aircraft shot down by this German fighter pilot credited with 80 combat victories.

answer: The **Red Baron** or Manfred von **Richthofen**

B. The L 11 was one of these rigid airships that flew reconnaissance and bombing missions during the Battle of Jutland. Germany built one christened the *USS Los Angeles* after the war.

answer: **Zeppelin**

C. The craft this company built for the British military included the 1½ Strutter, the Triplane, and the Camel.

answer: **Sopwith** Aviation Company or **Sopwith** Aviation & Engineering

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8. For 10 points each—name these star systems:

A. This system with three stars is the closest at 1.3 parsecs away. Its name incorporates, but is not the same as, mythical creatures with human torsos and horse legs.

answer: **Alpha Centauri** (prompt on “Centauri”)

B. A binary system 2.6 parsecs away, this is in the Canis Major constellation. This system includes the brightest star in the sky, which some call the “Dog Star”.

answer: **Sirius**

C. This single star system is the alpha star of the constellation Lyra. A blue-white main sequence star, it forms the Summer Triangle with Altair and Deneb.

answer: **Vega**

9. For 10 points each—give these answers about filmed slave narratives:

A. An astounding 85% of homes with televisions saw at least part of the 1977 adaptation of this Alex Haley novel centered on the character Kunta Kinte **[KIN-tay]**. The 2016 History Channel remake was not as popular.

answer: **Roots**

B. Solomon Northup wrote this memoir of the dozen years he worked on Louisiana plantations.

answer: **Twelve Years a Slave**

C. Oprah Winfrey starred in a 1987 film based on this author’s *Beloved*. Her other writings include *Song of Solomon* and *The Bluest Eye*.

answer: Toni **Morrison** (or Chloe Ardelia **Wofford**)

10. For 10 points each—give these answers related to probability:

A. A term also used in set theory, for a given event A, this is the term for the event "not A". It is often denoted with a prime mark or a superscript letter "c".

answer: **complementary** event

B. This is the probability of an event that always occurs. The probability of A plus the probability of "not A" must sum to this value.

answer: **1** or **100%**

C. Events with two possible outcomes are often called this man's "trials". Another member of his family developed a principle stating an increase in fluid velocity results in a pressure decrease.

answer: Jacob **Bernoulli** (accept **Bernoulli trials**) [Daniel Bernoulli developed Bernoulli's principle]

11. This civilization's kings include Enmerkar, who built the city of Uruk. For 10 points each--

A. Name this ancient civilization whose king Lugal-Zage-Si was captured by Sargon of Akkad.

answer: **Sumer** (accept **Sumeria** or **Sumerian**)

B. Sumer was among the civilizations that lived in this region between the Tigris and Euphrates rivers.

answer: **Mesopotamia**

C. The Sumerian king list states this figure ruled between king Dumuzid and his own son Ur-Nungal. In an ancient story, this figure loses his friend Enkidu and learns the secret of immortality.

answer: **Gilgamesh** (or **Bilgamesh**)

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12. For 10 points—give these answers related to Japanese art:

A. *Sadako and the Thousand Paper Cranes* is a book about a girl who does this art of paper folding to earn a granted wish.

answer: **origami**

B. Katsushika Hokusai did a series of 36 woodblocks depicting this Japanese landmark near the Aokigahara Forest.

answer: Mount **Fuji** (accept **Thirty-six Views of Mount Fuji**)

C. *Reading in a Bamboo Grove*, an ancient scroll, is one of these items deemed important by Japan's Agency for Cultural Affairs. Skilled craftsmen can become living ones of these.

answer: **national treasures** or **kokuho**

13. This god was also known as Adrestia or Invidia. For 10 points each--

A. Give this Greek god whose name comes from a word meaning "to give what is due". This daughter of Nyx is often depicted with a lash.

answer: **Nemesis**

B. In one story Nemesis became a goose attempting to evade Zeus. In that tale, Nemesis is the mother of this woman whose abduction by Paris sparked the Trojan War.

answer: **Helen** of Troy

C. Nemesis punished this beautiful hunter for rejecting the love of Echo. Nemesis lured him to a pool of water where he was unable to leave the image he saw.

answer: **Narcissus**

14. The military built Fort Gibson here in 1795. For 10 points each—

A. Name this island that processed 12 million newcomers when it housed an immigration station. This island is about a mile north of the Statue of Liberty.

answer: **Ellis** Island

B. One person who passed through Ellis Island is Bruno Richard Hauptmann. In 1936 Hauptmann was executed for kidnapping and killing the son of what aviator who crossed the Atlantic?

answer: Charles **Lindbergh**

C. This man worked as an interpreter at Ellis Island before serving as New York's mayor from 1934 to 1945. An airport is named for him.

answer: Fiorello **La Guardia**

15. The first of these was organized by the architect and graphic designer Richard Saul Wurman in 1984. For 10 points each—

A. Name these presentations often held in Vancouver, and then posted on the web under the slogan "Ideas worth spreading."

answer: **TED** talks (or conferences) [TED stands for "Technology, Entertainment, Design"]

B. This figure did a 2014 TED talk entitled "Here's how we take back the Internet." But he had to speak over video as he's wanted by the U.S. for leaking NSA documents.

answer: Edward **Snowden**

C. This man has hidden in an Ecuadorian embassy since 2012, a saga stemming from sexual assault charges now dropped. His 2010 talk was "Why the World Needs Wikileaks".

answer: Julian **Assange**

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16. For 10 points each—name these portions of the electromagnetic spectrum:

A. Freckles and sunburn are caused by these rays used in blacklights. They can be absorbed by sunscreen.

answer: **UV** or **ultraviolet** (accept **UVA**, **UVB**, or **UVC**)

B. Wilhelm Röntgen [RENT-gen] discovered this portion of the EM spectrum useful in computed tomography and medical diagnostics.

answer: **X-rays**

C. The universe's brightest electromagnetic events consist of these rays with frequencies above 10 exahertz. Ernest Rutherford gave them a name to denote they were found after two other types of decay.

answer: **gamma** rays [gamma is the third letter of the Greek alphabet]

17. For 10 points each—name these California governors:

A. This man with a colorful name is currently serving his fourth term as California governor, having held the office in the 1970s.

answer: (Edmund Gerald) Jerry **Brown** (Jr.)

B. In 2011, Brown succeeded this Austrian actor. This star of *Conan The Barbarian* and *The Terminator* also hosted *The New Celebrity Apprentice*.

answer: Arnold **Schwarzenegger**

C. When this man served as governor between 1967 and 1975, he controversially sent highway patrolmen to quell Berkeley student protests.

answer : Ronald (Wilson) **Reagan**

18. Species capable of this process include zebra sharks and honey bees. For 10 points each—

A. Name this type of reproduction in which offspring arise from a single organism. Examples of this process include fission, budding, and parthenogenesis.

answer: **asexual** reproduction (do not accept "sexual" or "hermaphroditism", prompt on "cloning")

B. Females of this *Varanus* genus member have produced asexually in zoos, with the surviving offspring being all male. This monitor lizard native to Indonesia can grow to 10 feet.

answer: **Komodo dragon** or *Varanus komodoensis*

C. Populations of these hemipterans [huh-MIP-tair-uns] are typically all female clones, except in the fall when males are produced to fertilize eggs. Consumed by ladybugs, some species of ants protect these creatures.

answer: **aphid** (prompt on "plant lice", "greenfly", "blackfly", or "whitefly")

19. For 10 points each—give these answers related to patriotic songs:

A. Francis Scott Key wrote the lyrics to this song after seeing the bombardment of Fort McHenry. Each verse concludes "O'er the land of the free and the home of the brave."

answer: The **Star-Spangled Banner**

B. Julia Ward Howe wrote this song's text. Its chorus states "Glory, glory, hallelujah! / His truth is marching on."

answer: The **Battle Hymn of the Republic** (or **Mine Eyes Have Seen the Glory**)

C. "Semper Fidelis" and "The Stars and Stripes Forever" are by this composer who asked James Welsh Pepper to develop a tuba easier to play while standing.

answer: John Philip **Sousa** [that instrument is the Sousaphone]

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20. For 10 points each--name these characters in Mark Twain works:

A. This figure and the escaped slave Jim float on the Mississippi together. When Jim is captured and held on the Phelps farm, this boy is mistaken for his friend Tom Sawyer.

answer: **Huckleberry Finn** (accept either underlined name for all parts)

B. Tom takes this girl he loves to a cave, where they become trapped for a few days. Her father is a judge.

answer: **Becky Thatcher**

C. In *The Prince and the Pauper*, the prince is the future King Edward VI ["the sixth"] while the lookalike Pauper is this boy.

answer: **Tom Canty**

21. In January 2017 this measure of the stock market first hit twenty thousand. For 10 points each—

A. Name this Industrial Average of thirty companies created by a *Wall Street Journal* editor.

answer: **Dow** Jones Industrial Average

B. One company currently in the Dow is this athletic apparel company founded by Phil Knight, which uses a swoosh logo.

answer: **Nike**

C. A longtime member of the Dow is this chemical company headquartered in Wilmington, Delaware. Its employees discovered kevlar and teflon.

answer: **DuPont** (or E. I. **du Pont** de Nemours and Company)

22. High values for this vital sign are called hypertension. For 10 points each—

A. Name this vital sign often expressed as systolic and diastolic values, such as 110 over 80.

answer: **BP** or **blood pressure**

B. High blood pressure causes damage to blood vessels, including these smallest vessels that connect arteries and veins.

answer: **capillaries**

C. Heart patients may carry this vasodilator to widen vessels and lower pressure. This substance is also an ingredient in dynamite.

answer: **nitroglycerin**