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

Tossups

1. In a 1987 paper Olivier Blanchard explained hysteresis in this economic concept—once it is high it tends to remain high. Okun's law states when this goes up a country's potential GDP is reduced, and it is used in Okun's misery index calculation. The frictional type results from a (*) person trying to improve a current situation, while the structural type is a mismatch between the skills offered and sought. The 2017 U.S. level was less than five percent. For 10 points—give this situation in which workers would like jobs but do not have them.

answer: <u>unemployment</u>

2. Towards the end of this man's story, he goes to Portugal to claim profits from his Brazilian estate. One night this character is jarred awake by a parrot calling his name. He keeps a journal of October 1659 after procuring pistols, powder horns, and swords from a (*) shipwreck. He meets a man who helps him bury two attackers and burn a pile of bones, and that companion he saved from cannibals gets named Friday. Daniel Defoe created—for 10 points—what man stranded on an island for twenty-six years?

answer: Robinson Crusoe (accept either underlined name)

3. One man in this family founded the 1926 Down-With-Imperialism Union. A female general in this family led the Light Industry Department during the Arduous March, but the outside world isn't sure if she is still alive. Its members are in the Mount Baektu Bloodline and are publicly called (*) "Great Leader" and "Dear Leader". The current ruling man in this family called an enemy a "dotard" and has controversially flown his country's rockets over Japan. North Korea has been ruled by—for 10 points—what family that includes II-sung, Jong-iI, and Jong-un?

answer: Kim (accept Kim II-sung, Kim Kyong-hui, Kim Jong-il, or Kim Jong-un)

4. One of this actress's roles was a fast food worker who wins a snowboarding championship. This actress also played a literature student who marries a brilliant scientist with motor neuron disease. In a 2016 film her character Dr. Sienna Brooks attempts to unleash a (*) virus but is stopped by Robert Langdon. Another 2016 film saw her character infiltrate a base on Scarif to exploit a vulnerability her father placed into the Death Star. Jyn Erso was portrayed by--for 10 points—what star of Rogue One?

answer: Felicity **Jones**

5. Theodore Richards won the 1914 Chemistry Nobel for determinations of these values. This calculation is properly expressed using Weiser and Coplen intervals in some cases. Prout's hypothesis said these had to be integers, but careful study of chlorine resulted in a decimal value. Because they are defined using terrestrial sources, increasing (*) protons does not always imply an increase in these values. For 10 points—give this value determined by calculating an average based on the abundances of an element's isotopes and their atomic masses.

answer: standard <u>atomic weight</u> (accept <u>relative atomic mass</u> before "atomic masses", but do not accept "atomic mass")

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

6. This poet used a boating metaphor, saying there was "Rowing in Eden" in the poem "Wild Nights! Wild Nights!". In another writing, this poet describes mourners going "to and fro" in the poem "I Felt a Funeral in My Brain". She states only those who fail often can comprehend victory in (*) "Success is Counted Sweetest" and wrote another poem in which a kind figure brings a horse-driven carriage to collect her for eternity. The play *The Belle of Amherst* is about—for 10 points—what poet of "Because I Could Not Stop For Death"?

answer: Emily **Dickinson**

7. The One That Got Away is an account of this war told from the patrol Bravo Two Zero's viewpoint. One leader in this war paraded British child Stuart Lockwood onto television to remind enemies of hostages. Forty-two SCUD missiles were fired into Israel during this conflict partially started by a dispute over the (*) Rumaila oil field. Coalition forces in this war were led by Norman Schwarzkopf and Joint Chiefs Chairman Colin Powell. For 10 points—name this conflict that began in 1990 after Iraq invaded Kuwait.

answer: First <u>Gulf War</u> or Persian <u>Gulf War</u> or Operation <u>Desert Storm</u> or Operation <u>Desert Storm</u> or Operation <u>Desert Shield</u> (prompt on "Iraq War"; do not accept "Second Gulf War")

8. This is the one word in common to a Cormac McCarthy novel set after a cataclysm and an Erskine Caldwell story about Georgia sharecroppers. A '47 Cadillac is driven by Sal Paradise and Dean Moriarty at over 100 miles per hour in another novel with this word in its title. One of these goes to Wigan Pier in a George Orwell title, and (*) Nicholas Sparks put a bend in one of these thoroughfares. For 10 points—name these pathways that could be smaller than highways or streets.

answer: <u>road</u> (accept <u>The Road</u> or <u>a road</u>, otherwise do not accept multi-word answers or full titles, like "Tobacco Road" et cetera) [The works are *The Road*, *Tobacco Road*, *On the Road*, *Road to Wigan Pier*, and *A Bend in the Road*]

9. Some of these organisms produce dikaryon containing two nuclei after sexual reproduction. The *Cordyceps* genus of these infect insects and burst from their dead bodies. This taxonomic classification includes *Physoderma alfalfae*, which harms crops, and *Agaricus bisporus*, which is edible. Mycologists study these components of (*) lichens, which can have spherical fruitbodies like those in puffballs and release clouds of spores. For 10 points—name this kingdom that includes yeasts, molds, and mushrooms.

answer: <u>fungi</u> or <u>fungus</u> (prompt on "mushroom")

10. Ben Barnes starred as this literary character in a 2009 film, and Reeve Carney played this character in the TV series *Penny Dreadful*. In *The League of Extraordinary Gentlemen* film, he is immortal until exposed to a personal object. In the original novel, he is cruel to the actress Sibyl Vane, meets (*) Harry Wotton and Basil Hallward, and maintains his youth while his misdeeds corrupt a hanging object. Oscar Wilde created—for 10 points—what character who appears in a hideous "picture"?

answer: <u>Dorian Gray</u> (accept either underlined name; accept The <u>Picture of Dorian Gray</u>, but do not accept "Portrait of Dorian Gray")

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

11. Your answer may describe the object. Congressman Mike Rogers introduced HR 1813, a remittance tax with proceeds going to this endeavor. The Penna Group protested how its proposal for a prototype of this object was rejected. This object was proposed in a June 2015 speech in a New York skyscraper's lobby. Projected to cost (*) \$21 billion, its champion said it would have a "big, beautiful door" to allow legal immigration. For 10 points—give this structure President Trump wants to construct to purportedly stop Latin American drugs and crime from coming here.

answer: President Trump's proposal to build a <u>wall</u> on the Mexican <u>border</u> (or the United States' <u>southern border</u>) (accept <u>Trump</u>'s <u>wall</u>; accept any answer indicating a <u>barrier</u> or <u>fence</u> or similar is to be built on the U.S.-Mexican border)

12. The Stiver and Mackay equation measures the rate of this process, which increases when a substance is exposed to faster wind. Norbert Rillieux invented a "multiple-effect" device named for this process, and a similar device concentrates "black liquor" during paper production. This endothermic process is measured by atmometers. (*) Plants exploit this process to cool themselves during transpiration, and you do too after perspiration. For 10 points—give this process by which swimming pools can lose gallons every day.

answer: <u>evaporation</u> or <u>vaporization</u> (accept word forms; accept <u>multiple-effect evaporator</u> or <u>black liquor evaporator</u>; prompt on answers like "phase change" or "changing from liquid to gas"; do not accept "transpiration" as that includes all water movement in plants)

13. Thrissur, India has a museum named for this type of art, as does Oceanside, California. Thomas Hart Benton controversially included the KKK in one of these owned by Indiana University. Some Mexican artists known for these included José Clemente Orozco and Diego Rivera. Westward the Course of Empire Takes Its Way is one of these (*) Emanuel Leutze [LOO-zah] did for the U.S. capitol, and that work measures 20 feet by 30 feet. For 10 points—give the term for these paintings on building walls.

answer: **mural** (prompt on "painting")

14. This opera character sings the provocative "Rods of the Sistrums Jingle" song, and her entrance includes the "Love is a rebellious bird" aria. She escapes an arrest by implying a guard will have a good time at Lillas Pastia's tavern. While Escamillo is in the bullfighting arena, this woman is killed by Don José. In act three this character reads (*) fortunes predicting that death, as this Georges Bizet bee-ZAY character is a gypsy. For 10 points—give this opera character who has the same name as a celebrity surnamed Electra and a fictional crime villain Sandiego.

answer: <u>Carmen</u>

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

15. The Stefan-Boltzmann law says blackbody luminosity is proportional to this quantity squared and the fourth power of temperature. For a torus this equals four pi squared times the product of the inner and outer radii and this is radical three times side length squared in a tetrahedron. This quantity in a rectangular box is (*) two times the quantity width length, plus height length, plus height width, and is related to the paper needed to wrap such a box as a gift. For 10 points—give this term for the two-dimensional measurements on the outside of a three dimensional object.

answer: (lateral) **surface area** (prompt on "area")

16. Goldberg and McCann ruin one of these times for Stanley in a Harold Pinter play. In 2016 the judge in the case Good Morning to You Products versus Warner Music declared a song often used at this time is in the public domain. Mathematicians have calculated that if there are (*) twenty-three people in a room there is a fifty percent chance two people have the same one. The Spanish Quinceañera [kin-SEE-ah-NAIR-ah] and the Jewish Bat Mitzvah are held on or near—for 10 points—what time when a person's age increases?

answer: <u>birthday</u> or <u>birthdate</u> (accept The <u>Birthday Party</u> or <u>Happy Birthday</u> to You)

17. The 7th-century writer Isidore of Seville linked the name of this creature to its purple color, similar to a dye sold by ancient traders of Tyre. Herodotus said these organisms were transported in eggs of myrrh to Heliopolis. Saint Clement of Rome said this avian lived (*) five hundred years, nested among its parent's bones, and is an emblem of Christian resurrection. In *X-Men* storylines, Jean Grey dies and comes back as a character with this name. An Arizona city is named after—for 10 points—what bird that bursts into fire and is reborn?

answer: **phoenix** [Tyre was one capital of ancient Phoenicia]

18. The family in this book invites Mr. Edwards to Christmas dinner, and when Edwards arrives he brings cups, candy, and pennies from Santa. In the beginning of this work the characters attach hickory bows to a wagon, stretch canvas across the bows, and sell possessions. This book's family saves the title (*) structure from a fire but must move away from it due to tensions with nearby Osage tribe members. Laura Ingalls Wilder wrote—for 10 points—what work about living in the central grasslands that was preceded by Little House in the Big Woods?

answer: Little House on the Prairie

19. The Cowan-Reines experiment sought these particles that Bruno Pontecorvo predicted would oscillate. These particles arrive hours before photons, allowing astronomers to position telescopes in advance of supernovas. There exist tau, muon, and electron flavors. The KATRIN experiment hopes to detect the mass of these particles by measuring the products of (*) tritium decay. These particles rarely interact with normal matter and trillions pass through you each second. For 10 points—give these particles whose name means "little neutral one".

answer: <u>neutrino</u> (accept <u>antineutrino</u>) [KATRIN stands for Karlsruhe Tritium Neutrino]

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

20. John Trout Greble died in this state as part of the Battle of Big Bethel here. The Wilson-Kautz cavalry raid followed a campaign in this state that included engagements at Wilson's Wharf, Yellow Tavern, and Trevilian Station. Abraham Lincoln met with Alexander Stephens here for the (*) Hampton Roads Conference. This states' two battles north of Manassas, also called the Battles of Bull Run, were about thirty miles from Arlington Cemetery. For 10 points—name this state bordering Maryland and North Carolina.

answer: <u>Virginia</u>

21. A May 2017 study from a Villanova team led by Stephen Strader says deaths from these events will triple by 2100 partially due to urban sprawl. The NOAA now has an average lead-time for these events of 13 minutes. La Niña years increase the likelihood of these events, particularly in (*) Arkansas and eastern Oklahoma. Often accompanied by downbursts, the intensity of these events is measured by both the Fujita and the TORRO scales; on the latter a T11 sees speeds above 300 miles per hour. For 10 points—name these meteorological events of violent spinning air.

answer: <u>tornado</u> (accept <u>twister</u> or <u>cyclone</u>; prompt on "the weather" or similar until "13 minutes")

22. In an 1857 document known by this name, the Qajar dynasty relinquished claims to the city of Herat. A 1763 text with this title allowed France to regain Martinique and established British control over French Canada. In another agreement of this name the U.S. gained Guam and Puerto Rico. The U.S. promised no more confiscation of (*) Loyalist property in a 1783 agreement with this name. The Spanish-American war and the American Revolutionary War were ended with—for 10 points—treaties named for what French city?

answer: Treaty (or Peace) of **Paris**

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

Bonuses

1. One translation for these two terms are the sunny and shady sides of a hill. For 10 points each—

A. Give this pair of terms combined in a Taijitu tie-GEE-tool symbol, a circle with black and white sections in a reverse "S" shape. These concepts can also symbolize masculine and feminine.

answer: **yin** and **yang**

B. Yin and yang are important in this belief system that has Lingbao and Shangqing [shang-CHING] schools. This philosophical tradition emphasizes harmony.

answer: <u>Taoism</u> or <u>Daoism</u>

C. Yin and yang are also important in this system of arranging buildings and landscapes in relation to the flow of qi [CHEE] energy. These Chinese words mean "wind-water."

answer: <u>feng shui</u> [FUNG SHWAY]

2. It is said this queen committed suicide by allowing an asp to bite her. For 10 points each—

A. Name this Egyptian queen whose forces lost the Battle of Actium.

answer: Cleopatra VII Philopator

B. Cleopatra's father and brother both had this Greek name. The first ruler of the dynasty of this name ruled in 305 B.C.

answer: <u>Ptolemy</u> [TOL-ah-mee] (accept <u>Ptolemaic Dynasty</u> or <u>Ptolemaic Kingdom</u>)

C. The Greek Ptolemaic [tol-ah-MAY-ick] Kingdom was established after this Macedonian invader died. This man conquered much of the Middle East.

answer: Alexander the Great or Alexander III of Macedon

3. For 10 points each—give these tests:

A. This simple chemistry lab test detects an element by burning the sample and noting the resulting color. For example, bismuth produces blue.

answer: **flame** test

B. Electrical engineers start circuit testing with this easy routine: apply power to the device, and if combustion is seen or smelt, disconnect the power.

answer: **smoke** test

C. More commonly known as the psychological conformity experiment, this test can be named for its Swarthmore originator. Participants are asked to identify lines of similar length, except all but one of the respondents are confederate actors who purposely give wrong answers.

answer: <u>Asch</u> test (or conformity experiment)

4. This architect is overseeing the Philadelphia Museum of Art expansion. For 10 points each—

A. Name this architect who used silver sails in his design of L.A.'s Walt Disney Concert Hall.

answer: Frank **Gehry** ["gary"]

B. Gehry also designed the Museum of Pop Culture in this Pacific Northwest city. Other landmarks here include Safeco Field and the Space Needle.

answer: **Seattle**, Washington

C. Both Abu Dhabi and Bilbao have Gehry-designed additions to this museum group. The original New York gallery in this group has a cylindrical building at 89th and Fifth.

answer: (Solomon R.) **Guggenheim** Museums

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

5. For 10 points each—give these terms that describe matrices:

A. This is a mathematical matrix that has the same number of rows and columns. In geometry, this is a regular quadrilateral.

answer: **square** matrix

B. If the positive integers 1 to "n" are placed in a square matrix such that each row, column, and diagonal has the same sum, the square is known by this name.

answer: <u>magic</u> square

C. A square matrix that has ones on the main diagonal and zeroes everywhere else is known by this term since it preserves the other factor during multiplication.

answer: **identity** matrix

6. This character appeared in the 2009 posthumous book The Blythes are Quoted. For 10 points each—

A. Name this orphan who goes to live with Marilla and Matthew Cuthbert on their farm at Green Gables.

answer: Anne Shirley (accept either underlined name; accept Anne of Green Gables)

B. The Anne of Green Gables series is by what Canadian author who also wrote Jane of Lantern Hill?

answer: L(ucy) M(aud) Montgomery

C. This character becomes a doctor and marries Anne in the series. He is the father of Jem, Shirley, and Rilla.

answer: Gilbert Blythe (prompt on "Blythe")

7. This show debuted in January 2017 with the murder of Jason Blossom, whose body is found in a lake by Kevin and Moose. For 10 points each—

A. Name this CW series based on Archie Comics.

answer: Riverdale

B Riverdale's Jughead is played by this actor who starred with his twin brother Dylan on TV's The Suite Life on Deck and in the film The Kings of Appletown.

answer: Cole (Mitchell) **Sprouse**

C. Archie's father Fred is played by this star of *Jeremiah* who must find it strange to be surrounded by teen heartthrobs since that used to be his job as Dylan McKay on *Beverly Hills*, *90210*.

answer: Luke **Perry**

8. One type of this organelle is involved in lipid metabolism, the other is covered by ribosomes on its outer surface. For 10 points each—

A. Name this manufacturing and packing system of the cell, an organelle that has smooth and rough forms.

answer: **ER** or **endoplasmic reticulum**

B. The endoplasmic reticulum is involved in the production of these molecules comprised of amino acids. Examples of these molecules include collagen, actin, and rhodopsin.

answer: **protein**s

C. The sarcoplasmic reticulum, which stores calcium ions, is the analogous structure to the ER in what cells in muscle tissue?

answer: <u>myocyte</u>s

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

9. For 10 points—give these answers related to anti-discrimination laws:

A. Congress has passed several acts with this title to protect individual freedoms. Title III ["three"] of the 1964 act with this name forbids public facility access restrictions based on race.

answer: Civil Rights Act

B. The 24th amendment forbids these payments as a prerequisite for voting. Mississippi's equaled two dollars in 1966.

answer: **poll tax**

C. This 1990 Act required public facilities to be generally accessible, and required businesses to make reasonable employee workplace accommodations for conditions such as epilepsy or cerebral palsy.

answer: ADA or Americans with Disabilities Act of 1990

- 10. This airline suffered a public relations disaster in April 2017 when it bumped passenger David Dao and dragged him off a plane. For 10 points each—
- A. Name this airline led by CEO Oscar Munoz.

answer: <u>United</u> Airlines

B. Month and day required. United Airlines flights 175 and 93 were two of the planes hijacked on this date in 2001. The former was crashed into the World Trade Center south tower.

answer: <u>September 11</u>, 2001 (or <u>9/11</u>, 2001)

C. United uses this George Gershwin composition in its advertising. This piece for solo piano and jazz band debuted at the "Experiment in Modern Music" concert in 1924.

answer: Rhapsody in Blue

11. Book V ["five"] of Virtuvius's [vih-TRUE-vee-USS-sez] Architecture is an early example of this field; he discusses placing brazen vases in a theater to improve the audience experience. For 10 points each—

A. Name this branch of physics concerned with sound and sound waves.

answer: <u>acoustics</u>

B. Waves above twenty thousand hertz, the upper limit of human hearing, are given this term. Pregnant women can undergo a procedure using these to view a fetus.

answer: **ultrasound** (or **ultrasonic**)

C. Ultrasonic waves can also be used in this technique of destroying kidney or gallstones, a procedure pioneered by William P. Mulvaney.

answer: **lithotripsy**

12. For 10 points each—name these works featuring horses:

A. Rocinante [RAH-see-NON-tay] is the horse of this figure created by Miguel de Cervantes. This title man of La Mancha attacks windmills he believes to be giants.

answer: Don Quixote or The history of the valorous and wittie Knight-Errant Don-Quixote of the Mancha or El ingenioso hidalgo don Quixote de la Mancha

B. Farmer Grey is the first owner of a dark-haired horse who pulls London cabs in this Anna Sewell novel.

answer: <u>Black Beauty</u>

C. This Peter Shaffer play features Alan Strang, a boy with a pathological fascination with horses. A controversial 2007 West End production had a teenage Daniel Radcliffe playing Alan and appearing nude on stage.

answer: **Equus**

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

- 13. A simulation might use this data structure to model customer lines at a bank or grocery store. For 10 points each—
- A. Name this data structure where new items are placed at the back and processed items are removed from the front. They are commonly used to store a computer printer's pending jobs.

answer: queue

B. Queues are a F-I-F-O data structure, where that acronym stands for these four words describing the way data is handled.

answer: First-In First-Out

- C. One application of queuing theory is to study these industrial processes where items are passed from one operation to the next until the product is finished. Henry Ford used them to build the model T. answer: assembly line (accept variants like moving assembly line or multi-stage production line)
- 14. Pieter Bruegel the Elder depicted this structure in a 1563 painting. For 10 points each—
- A. Name this biblical structure built tall enough to reach the heavens. It went unfinished as God caused its builders to speak different languages.

answer: <u>Tower of Babel</u>

- B. The Library of Babel, which contains all possible 410-page books, appears in a short story of this Argentine author. His other works include "The Garden of Forking Paths" and *Book of Imaginary Beings*. answer: Jorge Luis **Borges**
- C. The Babel fish, which allows one to understand any language of any alien creature, appears in this Douglas Adams series. The series title comes from a book all space travelers should read. answer:

 The <u>Hitchhiker's Guide to the Galaxy</u> (prompt on partial answers)
- 15. This emperor gained power in 527, and wanted to remove conflicts among the laws, an effort known as his "code". For 10 points each—
- A. Name husband of Theodora who executed Hypatius [high-PAT-tee-US] after the Nika [NEE-kah] riots. answer: Justinian the Great or Justinian I ["the first"]
- B. Justinian was a leader of this region also called the Eastern Roman Empire. It was centered at Constantinople until its 15th century demise.

answer: **Byzantine** Empire

C. Justinian ended the North African kingdom of this Germanic tribe in a 533 war. The name of this tribe led by Hilderic and Gelimer now describes a person who destroys property.

answer: <u>Vandal</u>s

- 16. For 10 points each—give these terms related to galaxies:
- A. The Milky Way and Pinwheel Galaxy are examples of this galactic shape with a central bulge and rotating arms.

answer: <u>spiral</u> galaxy (accept <u>barred spiral</u>)

B. The Sextans Dwarf and Large Magellanic Cloud are these kinds of galaxies that orbit a larger one. In this case they orbit the Milky Way.

answer: <u>satellite</u> galaxy

C. These brightest objects in the universe are galactic nuclei with supermassive black holes. Some of these are named the Cloverleaf and Einstein Cross.

answer: quasar or quasi-stellar objects

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

17. For 10 points—give these answers related to European territorial disputes:

A. Spain lost this southwestern part of the Iberian Peninsula in a 1713 treaty but would like Britain to give it back. A "Rock" here is only 9 miles from Africa.

answer: Gibraltar (accept Rock of Gibraltar)

B. In 2014 Russia sent troops into this peninsula on the Black Sea's northern coast, a region still claimed by Ukraine.

answer: <u>Crimea</u>(n Peninsula)

C. Russia has also flexed its military strength in the Abkhazia [ab-KAY-she-ah] and South Ossetia [oh-SET-tee-ah] regions that claim independence from this country. One name for the this country's major ethnic group is the Kartvelians.

answer: <u>Georgia</u> or <u>Sakartvelo</u>

18. For 10 points each--give these Italian terms used in music:

A. Literally "in chapel style," this is music sung without accompaniment.

answer: <u>a cappella</u>

B. Derived from a verb meaning "to go," this tempo is often described as a "walking pace." Musicians using this tempo play around 76 to 108 beats per minute.

answer: andante

C. This term means a joke and tells the musician to play a piece lively. They are often written in ³/₄ ["three four"] time and can replace the minuet in a larger work.

answer: scherzo (or scherzi)

19. The French thinkers of this movement were known as les Lumières [LAY LOO-me-air]. For 10 points each—

A. Give this 18th century movement whose name suggests it was a time of gaining wisdom.

answer: Age of **Enlightenment** or Age of **Reason**

B. The Age of Reason was a pamphlet by this American whose other political writings included Agrarian Justice and Common Sense.

answer: Thomas Paine

C. Many Enlightenment writers discussed this concept where individuals give up some freedom in exchange for government protection. This agreement titles a 1762 work by Jean-Jacques Rousseau.

answer: social contract

20. For 10 points each—give these terms from population ecology:

A. This term also describing mountain summits refers to the top predator in a food chain, upon which no organism feeds.

answer: <u>apex</u> predator

B. Robert Paine coined this term for a species that has a disproportionate effect on the ecosystem. It keeps the environment balanced the way the central element of an arch holds the rocks in place.

answer: **keystone** species

C. Often abbreviated "K", this is the equilibrium population size at which a set of organisms will stabilize when its supply of resources remains constant.

answer: <u>carrying capacity</u>

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

21. Its text stated "the American continents [are] not to be considered as subjects for future colonization by any European powers". For 10 points each—

A. Give this foreign policy named for the fifth U.S. president.

answer: Monroe Doctrine

B. Much of the doctrine was written by this secretary of state under Monroe. Both this man and his father served as president.

answer: <u>John Quincy Adams</u> (do not accept "John Adams"; prompt on "Adams")

C. The Monroe Doctrine didn't stop the British Empire from declaring this country a British Crown Colony in the 1860s. This country was called British Honduras until 1973.

answer: Belize

22. For 10 points each—name these times in the Christian calendar:

A. A candle wreath is lit during these four weeks preceding Christmas. The term means "arrival." answer: Advent

B. The Twelve Days of Christmas ended on this day representing the Magi's visit to Jesus. It is traditionally January 6th or a close Sunday.

answer: **Epiphany**

C. Trinity Sunday follows this observance 50 days from Easter. It commemorates the Holy Spirit enabling the apostles to speak in other languages.

answer: Pentecost