2018 Reinstein Set – Packet 7

Tossups

1. This author wrote about a boy throwing himself in front of train after stealing 2,000 dollars in the short story "Paul's Case", which was part of the collection *The Troll Garden*. One of this author's protagonists is groped at night by his friend's boss, who had come back early from Omaha. In a book by this author, Marie Tovesky and Emil are shot under a mulberry tree by Frank Shabata, who is visited in jail by Alexandra Bergson. This author wrote of the childhood friendship of Jim Burden and the title Bohemian girl in Black Hawk, Nebraska. Name this author of *O Pioneers!* and *My Ántonia [AN-toh-nee-uh]*.
Answer: Willa (**Sibert**) **Cather** [accept either underlined name]

2. One of the major competitions in this sport is the Challenge Roth, which is named after that competition's location in Germany. The first people to win Olympic gold medals in this sport were Brigitte McMahon and Simon Whitfield in 2000, and the first U.S athlete to win gold was Gwen Jorgensen in 2016. The world championship in this sport is held on the Big Island of Hawaii. Two of the formats of this sport are labelled 70.3 and 140.6, based on the total course length in miles. Name this sport whose big race is nicknamed the Ironman and which consists of long distance swimming, biking, and running.
Answer: **triathlon**

3. The hyaline ["HI"-uh-lin] type of this tissue can be articular. This tissue makes up the epiphyseal [EP-ih-fuh-"SEAL] plate, which is more substantial in children than adults. This tissue makes up the carina [kuh-"RYE"-nuh], which is located in the upper chest, and the cricoid ["CRY"-koyd] in the neck. The cells in this tissue are chondrocytes ["CON"-droh-"sites"], and it also contains proteoglycans [PROH-tee-oh-GLY-kanz] and collagen [KAH-luh-jen]. This tissue exists in the nose and the rib cage, and makes up the entire skeleton of sharks. Name this tissue that is harder than muscle but softer than bone.
Answer: **cartilage**

4. In Norse mythology, one of these things that was built out of fingernails and toenails of the dead is called *Naglfar* [NAG-ul-"far"], and Balder owns one called *Hringhorni* ["RING"-hor-nee]. In the *Epic of Gilgamesh*, Utnapishtim [oot-nuh-PISH-tim] built one of these things called *The Preserver of Life*. Horus and Seth were supposed to each build one of these objects out of stone, but Horus cheated and made his out of wood. Jason traveled on one of these objects, the *Argo*. Name this type of vehicle exemplified by Noah's ark.
Answer: **boat**s or **ship**s [accept **ark** before it is mentioned]

5. One of these creatures defeats a worm under Shinjuku station to prevent an earthquake, thereby saving Tokyo, in a Haruki Murakami story. One of these creatures is the title animal in a story in which the bulldog Andrew Jackson dies fighting a dog with no hind legs and coughs quail shot onto Leonidas W. Smith. One of these creatures causes the sound of water after jumping into a pond in a Matsuo Basho haiku. A group of these animals sings a refrain that annoys Dionysus [die-uh-NIE-sus] in an ancient play. Name these title creatures of an Aristophanes [ar-uh-STOF-uh-neez] play and a Mark Twain short story about a jumping contest in Calaveras County.
Answer: **frog**s [prompt on **amphibian**s]

6. In the closest thing to a fair election allowed by this president, his closest challenger was Ayman Nour of the Tomorrow Party, who got 7% of the vote. Before that election, this person was opposed by the Kefaya Movement, and afterwards he falsely claimed he was "President for Life". During protests, this person appointed Vice President Omar Suleiman, who announced this person's resignation and handed power to a military council. Name this president of Egypt who succeeded Anwar Sadat and resigned in 2011 during protests in Tahrir Square that were part of the Arab Spring.
Answer: (Muhammad) Hosni (El Sayed) **Mubarak** [HAHZ-nee moo-BAH-rahk] [or Muhammad Husni Sayyid **Mubarak**]

7. The point named after this person is the oxygen concentration above which organisms switch from fermentation to aerobic respiration. The effect named after this person is that an increase in oxygen helps yeast while decreasing fermentation. Both of those phenomena relate to this person's dispute with Justus von Liebig [YOOS-toos von LEE-bik]. The process named after this person has a "flash" version, referred to as "high-temperature short-time", and involves heating drinks to kill many of their microbes. Name this French scientist whose process is commonly used on milk.
Answer: Louis **Pasteur** [prompt on **pasteurization**]

8. This composer wrote the aria "L'onore! [loh-NOR-ay] Ladri," which convinces Bardolfo and Pistola to deliver letters for an opera based on *The Merry Wives of Windsor* and entitled *Falstaff*. In another opera by this composer, Gilda [JEEL-dah] sings "Caro nome [KAR-oh NOH-may]" when she believes that the Duke of Mantua is a student. The duke later sings about the fickleness of women in the aria "La donna é mobile [MOE-bee-lay]". Another opera by this composer is about the love between an Egyptian commander and Ethiopian slave. Name this composer of *Rigoletto* [ree-goh-LET-toh] and *Aida* ["eye"-EE-dah].
Answer: Giuseppe (Fortunino Francesco) **Verdi**

9. There were riots in this state sparked by police treatment of the cab-driver John William Smith in 1967. The Continental Army often camped in Morristown in this state. Thomas Kean was the governor of this state before chairing the 9/11 commission, Christine Todd Whitman was its governor before heading the E.P.A., and Woodrow Wilson was its governor before becoming president. The *Hindenburg* exploded while attempting to land near Lakehurst in this state. Name this state that George Washington entered by crossing the Delaware River to fight the Battle of Trenton.

Answer: **New Jersey**

10. An illusion named for this effect impacts pilots who turn their heads while their plane is turning, giving the pilot vertigo [VUR-tih-goh] and a false sense of additional motion. The magnitude of this effect is found by multiplying −2 times the cross product of angular velocity with linear velocity. This effect explains why the westerlies come from the southwest in some locations and from the northwest in others. This effect pushes projectiles to the right in the Northern Hemisphere. Name this fictitious force that affects objects in a rotating reference frame.

Answer: **Coriolis** effect or **Coriolis** force

11. One of these events is commemorated by a Lorado Taft bas-relief [BAH "relief"] that hangs in Chicago's City Hall. That event took place on Randolph Street in Chicago in 1903 at the Iroquois Theatre. A very large one of these events took place in northeast Wisconsin in October 1871 and is named after the town of Peshtigo [PESH-ti-go]. Another major one occurred at the Asch Building in Manhattan in 1911, and led to more support for the International Ladies' Garment Workers' Union and the creation of the American Society of Safety Engineers. Name this type of event, one of which in Chicago occurred the same day as the Peshtigo one and was blamed on Mrs. O'Leary's cow.

Answer: **fire**s

12. This condition is also known as "E6V" because valine [VAL-een] replaces another amino acid, causing a molecule to collapse in on itself. The combination of being a carrier of this disease along with a gene for beta thalassemia [thal-uh-SEE-mee-uh] can result in people having the full symptoms of this disease. Carriers of this disease can also have symptoms when they are dehydrated or are oxygen depleted. People who carry this disease have some resistance to *Plasmodium* because their red blood cells rupture more often; that is, they are resistant to malaria. Name this condition in which red blood cells adopt a namesake curved shape.

Answer: **sickle-cell** disease [accept **sickle-cell** anemia]

13. This author wrote about Elwin Ransom being taken against his will to the planet Malacandra [mal-uh-"CON"-druh] in the novel *Out of the Silent Planet*, which begins *The Space Trilogy*. In another series of books, this author wrote about Jill Pole and Eustace Scrubb, who join forces with Puddleglum to find Prince Rilian [RIL-ee-un], who destroys the silver chair. Jill and Eustace later help King Tirian [TEER-ee-un] in this author's *The Last Battle*. Name this English author who wrote about the Pevensie children helping the lion Aslan in Narnia in the book *The Lion, the Witch and the Wardrobe*.

Answer: C(live) S(taples) **Lewis**

14. One model of this concept is nicknamed "one-hoss shay" based on a satirical poem. In some jurisdictions, companies can dodge taxes by considering this concept to be "accelerated" on new fixed assets, while treating it as linear in financial reporting. This concept is nearly synonymous with the consumption of fixed capital, though this concept is based on historic costs rather than current value. The tax shield named for this concept allows companies to write off the value of an asset as it decreases. Give this term for the reduction in value of an asset over time.

Answer: **depreciation** or **depreciate** or **depreciating**

15. This poet wrote that crows "flap past" the title subject "to the farmer's corn", but men eat the title subject and die, in "Fame is a Fickle Food". The line "I could not see to see" ends this author's poem about a creature that made a "blue — uncertain — stumbling Buzz". This writer stopped before "a House that Seemed / A Swelling of the Ground" in a carriage that held "just Ourselves — and Immortality". Name this reclusive American poet who wrote "I Heard a Fly Buzz When I Died" and "Because I Could Not Stop for Death".

Answer: Emily (Elizabeth) **Dickinson**

16. Brahmagupta's theorem relates these points to diagonal intersection points. These points for any cyclic quadrilateral can be connected to form a parallelogram, according to Varignon's [VAR-een-yawn'z] theorem. The nine-point center of a triangle has this relationship with respect to a segment connecting the circumcenter and orthocenter. The formula named for this point separately averages the *x*- and *y*-coordinates of the endpoints of a segment. Apothems [AP-uh-thumz] connect centers to these points, and a median is a segment from a vertex to this point on the opposite side. Give this term for a point that is halfway along a line segment.

Answer: **midpoint**s of sides [prompt on **bisect**or, accept more specific answers]

17. In this country the leaders of the Green Forest Rebellion eventually defeated the leaders of the Red Eyebrow Rebellion. This country went through a chaotic period when plots to kill a group called the Ten Attendants, or the Ten Eunuchs [YOO-nuks], backfired during the Yellow Turban Rebellion, which led to this country's Three Kingdoms Era. The 10th century in this country is called the Five Dynasties and Ten Kingdoms period. Name this country where, during the early 15th century, many valuable blue and white vases were produced during the reign of the Ming dynasty.

Answer: **China** [accept **Cathay**]

18. Oskar Klein determined the spin of this interaction's gauge bosons [BOH-zahnz]. One quantity named for this interaction is zero for right-handed particles, but plus or minus 1/2 for left-handed particles. This interaction can violate parity symmetry. The Higgs mechanism explains why the gauge bosons for this interaction have mass. Those gauge bosons are called W and Z. The study of neutral current interactions allowed scientists to unify this interaction with electromagetism. Name this fundamental force that explains beta decay.

Answer: **weak** (nuclear) interaction or **weak** (nuclear) force [accept electro**weak** interaction or electro**weak** force]

19. One work attributed to this artist shows a man in a blue robe kneeling by a cardinal robe and hat that are on the ground. This artist depicted the same person inside, with his finger on a skull in one work and working hard at his desk behind a lion in another. Those works all depict Saint Jerome. A work by this artist showing an armored person on horseback also shows a creature with a goat's head and another creature riding a pale horse. Another work by this artist shows a magic square. Name this 16th century German engraver who created *Melencolia One* and *Knight, Death and the Devil*.

Answer: Albrecht **Dürer** [AHL-brekt DOO-rur]

20. This character states "I must be cruel, only to be kind; Thus bad begins, and worse remains behind" soon after his mother states "Thou hast cleft my heart in twain." That scene takes place in the mother's closet, where this character puts his sword through an arras, killing the king's adviser. This character later fights a duel with that adviser's son Laertes ["lay-AIR-tees"], and he is loved by the adviser's daughter Ophelia [oh-FEEL-yah]. Name this Shakespeare title character who is the nephew of Claudius, the son of Gertrude, and the prince of Denmark.

Answer: Prince **Hamlet** [do not accept "King Hamlet"]

21. The sum of powers of one-fourth is used to find the area inside this shape in an Archimedes [ar-kuh-MEE-dees] book about *The Quadrature of* this shape. This shape is generated in polar coordinates by graphing r equals a number divided by the quantity 1 plus the cosine theta. Parallel rays entering this shape all reflect to the same point, which is why three-dimensional versions of it are used as microphones or satellite dishes. This shape is generated by slicing a cone parallel to the slant surface. Name this shape generated by the equation y equals x squared.

Answer: **parabola** [prompt on **paraboloid** or **conic** section]

1. Some practitioners of this religion call it Sanatana Dharma [sah-NAH-tah-nah DAR-mah] because they believe it to be eternal.

A. Name this religion with about one billion practitioners, most of whom live in India. The Vedas and Upanishads [oo-PAH-nee-shahds] are scriptures of this religion.

Answer: **Hindu**ism [or **Hindu**s or **Hindu** people]

B. This holiday in Hinduism and other eastern religions is the festival of lights. On this holiday, Jains celebrate Mahavira achieving Nirvana.

Answer: **Diwali** [dih-WAH-lee] [or **Deepavali** or **Divali**]

C. Hindus and Jains often use this term as an alternative to somebody achieving *nirvana*. This major goal of Hindus is the release from the rebirth cycle.

Answer: **moksha** [MOHK-shah] [or **vimoksha** or vi**mukti**]

2. This man introduced a character called "the Cisco [SIS-koh] Kid" in his story "The Caballero's [KAH-by-YAIR-oh'z] Way".

A. Identify this author of many short stories, in one of which Jim and Della give each other ironic presents of combs and a watch fob. That story by this author is "The Gift of the Magi".

Answer: **O. Henry** or William Sidney **Porter**

B. In another story by O. Henry, Bill and Sam commit this crime to earn money from Ebenezer Dorset but end up losing 250 dollars instead. The victim of this crime called himself "Red Chief".

Answer: **kidnap**ping or child **abduct**ion [accept word forms; prompt on **ransom** or **extort**ion or word forms]

C. In O. Henry's "The Cop and the Anthem", Soapy tries to get arrested through theft, vandalism, and soliciting prostitution, but is jailed for this crime instead.

Answer: **loiter**ing [accept word forms]

3. This moon has craters named for Voltaire and Jonathan Swift.

A. Name this moon of Mars that is smaller and more distant than Phobos.

Answer: **Deimos**

B. This most-distant major moon of Saturn is known for its distinctive equatorial ridge and two-tone coloring. It is Saturn's third-largest moon.

Answer: **Iapetus** ["eye-APP"-ih-tuss]

C. Nereid [NAIR-ee-id] is the outermost major moon of this planet. This planet's largest moon by far is Triton.

Answer: **Neptune**

4. This term is used for a line that intersects two parallel lines.

A. Give this term. Geometry students often study various congruent angles created by one of these lines.

Answer: **transversal**(s)

B. These pairs of angles created by a transversal going through two parallel lines are congruent and on the same side of the transversal. One of them is an internal angle, and one of them is external.

Answer: **corresponding** angles

C. Find the sum in degrees of all eight separate angles created when a transversal intersects two lines.

Answer: **720** degrees

5. This adjective describes acids such as acetic [uh-SEE-tik] acid and bases such as ammonia.

A. Give this adjective for acids and bases that only partially ionize ["ION-eyes"] in water.

Answer: **weak** acids or **weak** bases

B. This quantity measures the strength of an acid. For water, this property is 10 to the -14 power.

Answer: acid **dissociation constant** [prompt on **dissociation** or **Ka** ["K-A"] or **acidity constant** or **acid-ionization constant**]

C. Some acids have more than one acid dissociation constant. How many acid dissociation constants does phosphoric acid have?

Answer: **3**

6. He was the only person to serve both as Secretary of Commerce and U.S. President.

A. Name this president who served during the Wall Street Crash of 1929, which started the Great Depression.

Answer: Herbert **Hoover**

B. Hoover signed this 1930 protectionist tariff that reduced trade.

Answer: **Hawley-Smoot** Tariff Act or **Smoot-Hawley** Tariff Act

C. Hoover supported the creation of this agency in 1932 that gave aid to railroads, banks, and corporations. This agency was more active under Franklin Roosevelt and was disbanded under Dwight Eisenhower.

Answer: **Reconstruction Finance Corporation** or **RFC**

7. These people were called bushi [boo-shee] in Japan, and recent attempts to honor them have referred to the bushido code.

A. Name these Japanese warriors who declined in significance under Emperor Meiji [may-jee].

Answer: **samurai**s

B. The rule that only samurai could bear arms was made by this leader, who had been a servant of Oda Nobunaga. This person is considered the second of Japan's Three Great Unifiers.

Answer: **Toyotomi** Hideyoshi [toy-oh-toh-mee hee-deh-yoh-shee] [prompt on **Hideyoshi**]

C. Two years after Toyotomi Hideyoshi died, his followers lost badly at this battle. Ishida Mitsunari [ee-shee-dah meet-soo-nah-ree] was captured and beheaded after this battle.

Answer: Battle of **Sekigahara** [seh-kee-gah-hah-rah]

8. This class of hormones amplifies the effects of progesterone [pro-JESS-tuh-rohn].

A. Name this prominent class of female steroid sex hormones that includes estradiol [ess-truh-"DIE-all"].

Answer: **estrogen**s

B. This is the primary permanent organ in women responsible for estrogen production. The adrenal [uh-DREE-nul] glands also produce estrogen.

Answer: **ovary**/ies

C. Estrogen production takes place in these somatic [soh-MAT-ik] cells in the ovary also known as follicular [fuh-LIK-yuh-lur] cells.

Answer: **granulosa** [gran-yoo-LOH-sah] cells

9. Early in this opera, Rosina sings "Una voce [VOH-chay] poco fa", which means "a voice a little while ago".

A. Name this Gioachino Rossini [joh-ah-KEE-noh roh-SEE-nee] opera about Figaro.

Answer: The **Barber of Seville** [or Il **barbiere di Siviglia**]

B. This composer used the same characters in his opera *The Marriage of Figaro*. This composer also wrote *Così fan tutte*.

Answer: Wolfgang Amadeus **Mozart** [or Johannes Chrysostomus Wolfgangus Theophilus **Mozart**]

C. Figaro marries this woman, the maid of Rosina, despite the best efforts of Count Almaviva.

Answer: **Susanna**

10. In this novel, an actress named Sibyl kills herself, leading her brother James to seek vengeance against someone whom she called "Prince Charming".

A. Name this novel in which a portrait ages rather than a person.

Answer: *The **Picture of Dorian Gray***

B. *The Picture of Dorian Gray* is the only novel by this author, who primarily wrote plays.

Answer: Oscar (Fingal O'Flahertie Wills) **Wilde**

C. This character painted the portrait that ages instead of Dorian.

Answer: **Basil Hallward** [accept either]

11. The two best-known versions of this concept define it as another quantity minus the quantity temperature times entropy.

A. Name this general concept. The Gibbs form of it equals enthalpy minus temperature times entropy.

Answer: **free energy** [prompt on **energy**; accept Gibbs **free energy**]

B. This German scientist defined a form of free energy equal to internal energy minus temperature times entropy.

Answer: Hermann von **Helmholtz** [accept **Helmholtz** free energy]

C. Lev Landau [LAN-dao] used analytic approximations of free energy functions to describe second-order types of this kind of phenomenon.

Answer: **phase transition**(s) or **phase change**(s)

12. This type of solid has congruent parallel polygons for two of its faces. The other faces are often rectangles, though technically they only need to be parallelograms.

A. Name this general type of shape. Ones made out of glass are often used in experiments with light.

Answer: **prism**s

B. Find the total number of vertices of a triangular prism.

Answer: **6**

C. Find the total number of edges of a pentagonal prism.

Answer: **15**

13. Answer the following about mound builders:

A. Monks Mound is a platform mound built at this site near St. Louis, a center of the Mississippian civilization.

Answer: **Cahokia** [kah-HOH-kee-uh] (Mounds)

B. The Fort Ancient people are credited with building a mound in southern Ohio named for this animal due to its shape. It is still debated what the oval near this animal's mouth represents.

Answer: Great **Serpent**

C. The earliest mounds built in America are at Watson Brake and Poverty Point in this state. The Monte Sano site was found in this state's capital, Baton Rouge.

Answer: **Louisiana**

14. This writer is credited with saying "It never troubles the wolf how many sheep there be" in his fifth *Eclogue* [EK-"log"].

A. Name this writer of an epic about a Trojan prince courting the Carthaginian [kar-thuh-JIN-ee-un] queen Dido ["DIE-dough"].

Answer: (Publius) **Virgil**(ius Maro)

B. Name the first section of Dante's *Divine Comedy*, in which Virgil guides Dante through the nine circles of the underworld.

Answer: ***Inferno*** [prompt on ***Hell**]

C. In this novel by Anatole France, Marbodius [mar-BOH-dee-uss]—one of the title birds—writes of descending to Hell and finding Virgil quite happy there.

Answer: ***Penguin Island***

15. This unit is equal to a joule ["jewel"] per coulomb [koo-lohm].

A. Name this unit of electric potential difference and electromotive force. Don't put a prefix on your answer.

Answer: **volt**(s)

B. During the 1920s, this American scientist developed a generator that can build a potential difference of a million volts using a rubber belt that enters a hollow metal sphere.

Answer: Robert **Van de Graaff** [accept **Van de Graaff** generator]

C. This effect is the build up of static electricity caused by rubbing two different materials together.

Answer: **triboelectric** [TRY-boh-"electric"] effect

16. This painter and Paul Signac [sin-yahk] developed pointillism ["POINT-ill"-izm].

A. Name this painter of *A Sunday on La Grande Jatte*.

Answer: Georges(-Pierre) **Seurat** [zhorzh soo-rah]

B. The bottom left corner of *La Grande Jatte* shows a man reclining on his elbow and also performing this act.

Answer: **smoking** a pipe [accept any reasonable answer including **smoking** or **smoke**]

C. In this other Seurat work, a woman stands on a white horse.

Answer: *The **Circus*** [or *Le **Cirque***]

17. This person was quoting an old song when he said "Old soldiers never die, they just fade away."

A. Name this U.S. general whom President Truman fired during the Korean War.

Answer: Douglas **MacArthur**

B. During World War II General MacArthur was in Australia when he said "I came through and I shall return" about this country. He did indeed return.

Answer: (Republic of the) **Philippines** [or (Republika ng) **Pilipinas**]

C. The Battle of the Sibuyan Sea touched off this massive 1944 naval battle in the Philippines Campaign. The Allies won.

Answer: Battle of **Leyte** [LAY-tuh] **Gulf** [prompt on **Leyte**]

18. This character lost an eye and an ear to syphilis he got from Paquette [pah-ket].

A. Name this optimist philosopher who teaches "that things cannot be otherwise than as they are".

Answer: Dr. **Pangloss** [or Professor **Pangloss**]

B. Pangloss tutors this title character of a Voltaire novella.

Answer: **Candide**

C. Candide and his companion Cacambo reach El Dorado in South America and take 102 of these things to secure their wealth.

Answer: red **sheep** [prompt on **animal**s or other less specific answers]

19. There is some historical debate about whether this queen had lesbian relationships with Sarah Jennings Churchill or Abigail Hill.

A. Name this early-18th-century English queen whose children all died young, which led to her being succeeded by her cousin George I.

Answer: Queen **Anne**

B. Anne was the last monarch from this royal house, in which she was preceded by James I, Charles I, Charles II, and James II.

Answer: House of **Stuart** or **Stuart** dynasty

C. After Anne died, this name was given to the effort to crown her Roman Catholic half-brother James the Old Pretender. The same name was given to other attempts to support Roman Catholic Stuarts.

Answer: **Jacobite** risings or **Jacobite** rebellions [prompt on **War of the British Succession**]

20. If a good statistical model is used, there is no pattern in these values.

A. Give this term for the difference between an observed value and the value predicted by a model such as a line of best fit.

Answer: **residual** [prompt on **error**]

B. A good statistical model also leads to a high value for the square of coefficients of this factor, such as Pearson's *r*.

Answer: (product-moment) **correlation** coefficient

C. This is the value of the Pearson correlation coefficient if there is a linear regression on two points that slope downward.

Answer: -1

21. In destroying its own regulations upholding this principle, the Federal Communications Commission falsely claimed that this principle was instituted by the Obama administration.

A. Name this principle that Internet service cannot discriminate among data.

Answer: **net neutrality** [prompt on **open internet**]

B. The FCC decision was made under the leadership of this person, who was appointed to the FCC by President Obama and elevated to chair by President Trump.

Answer: Ajit **Pai**

C. Ajit Pai was previously a lawyer for this communications company, an internet service provider that owns AOL and Yahoo!.

Answer: **Verizon** Communications [accept **Verizon** Wireless]