



NSC 2018 - Round 12 - Tossups

1. James Agee wrote a three-part defense of a film in which this actor says "One murder makes a villain; millions, a hero" during a final speech. This actor plays a man who marries wealthy widows before murdering them in that film, *Monsieur Verdoux*. This actor tossed around an inflatable globe in a film in which one of his characters delivers a hopeful speech over the (*) radio addressed to a love interest played by Paulette Goddard. In another film, his character gets sucked into the gears of a machine while working at an assembly line. This man played both an amnesiac Jewish barber and the Romanian dictator Adenoid Hynkel in *The Great Dictator*, his first talkie. For 10 points, name this director and actor whose film *Modern Times* features his cane-wielding Little Tramp character.

ANSWER: Charlie Chaplin [or Charles Spencer Chaplin]

<Kothari, Arts - Film>

2. Three schemas of judgment related to this capacity, such as "personal interests," are evaluated by James Rest's "defining issues test." Liberals are claimed to use fewer "foundations" for this capacity than conservatives according to Jesse Graham and Jonathan Haidt (height). A theory of this capacity based on a survey with six "dilemmas," including one about a girl who saved up to attend a concert, was criticized in (*) Carol Gilligan's *In a Different Voice*. A theory of this capacity's development that has "conventional" and "post-conventional" levels was tested using the "Heinz dilemma" about stealing a life-saving drug. For 10 points, name this capacity, the subject of a six-stage theory of its "development" devised by Lawrence Kohlberg.

ANSWER: morality [or moral judgment; accept moral development or other answers mentioning morality or ethics or morals or moral behavior]

<Kothari, Social Science - Psychology>

3. This character's "gradual initiation into a new unknown life" and his "gradual regeneration" are suggested to be the subject of a "new story" discussed in the final sentence of a novel. This character is given a cross made of cypress, rather than another character's copper cross, moments before he kisses the ground and overhears news of a villainous character's suicide. While on his way to visit (*) Razumikhin, he falls asleep in a park and has a dream in which peasants beat a mare to death. Svidrigailov (svid-ree-GUY-loff) attempts to blackmail this character, who is followed to Siberia by the prostitute Sonya after he confesses to the murder of Alyona Ivanova, an elderly pawnbroker. For 10 points, name this protagonist of Fyodor Dostoevsky's *Crime and Punishment*.

ANSWER: Rodion Romanovich Raskolnikov [or Rodion Romanovich Raskolnikov]

<Jose, Literature - European>

4. To ease public fear about smallpox inoculation, this monarch personally underwent the operation at the hands of Dr. Thomas Dimsdale. This ruler planned to install Grand Duke Constantine as the head of a revived Byzantine Empire as part of the so-called "Greek Project." This monarch borrowed the ideas of Montesquieu for a law code called the *Great Instruction*, which this leader's correspondent Diderot wrote a critique of. This ruler installed (*) Stanisław Poniatowski (STAH-nee-swaff pone-ya-TOFF-skee) on the throne of Poland. Pugachev's Rebellion was carried out in the name of this ruler's spouse, who had been assassinated by Grigory Orlov. Another of this monarch's favorites supposedly built fake villages in the Crimea to impress her and was named Grigory Potemkin. For 10 points, name this "great" empress of Russia.

ANSWER: **Catherine** the **Great** [or **Catherine II**; accept Catherine after "great" is read, but prompt before; accept **Yekaterina** Alekseyevna in place of "Catherine"]

<Brownstein, History - European>

5. The result of this technique can be predicted by starting from a base value of 214 or 253, and adding multiples of 5 or 30 depending on the structure of the compound. The chlorophyll molecules found in photosystems I and II are named based on the output of this technique. The Woodward–Fieser (FYE-zer) rules can help interpret the results of this technique, which can yield the (*) A260 (A-two-sixty) over A280 (A-two-eighty) value for DNA. Outside of fluorescent-based techniques, cuvettes (cue-VETS) are exclusively used in this technique. The path length for this technique is denoted b in the equation " A equals e times b times c ," which is Beer's law. For 10 points, identify this technique that measures absorption of light between the X-ray and infrared regions.

ANSWER: **spectrophotometry** [or **UV-vis** spectroscopy; or **ultraviolet-visible** light spectroscopy; prompt on optical **spectroscopy**; do not accept "photospectrometry" or "photospectroscopy"]

<Prieto, Science - Chemistry>

6. In this author's most recent novel, a well-digging apprentice obsessed with both *Oedipus Rex* and *Rostam and Sohrab* becomes entranced by the title actress. In another novel by this author of *The Red-Haired Woman*, the same three questions on style are posed to Butterfly, Stork, Olive, and their master, the last of whom blinds himself after entering a vast library with a character who pursues the widowed Shekure. The protagonist reunites with his childhood love (*) Ipek, who previously had an affair with the radical Blue, in a novel by this man that climaxes at a televised performance of Thomas Kyd's *The Spanish Tragedy*, where Zaim is shot by Kadife, the leader of the "head-scarf girls." For 10 points, *My Name is Red* and *Snow* are novels by which Turkish author?

ANSWER: Orhan **Pamuk** [or Ferit Orhan **Pamuk**]

<Carson, Literature - World>

7. David Schindler showed that microorganisms mediate the distribution of phosphorus in these systems. Research on these systems is done in a namesake "experimental area" in Ontario. Chronic nutrient addition to these ecosystems can cause a regime shift to an anoxic state. African cichlids (SICK-lids) underwent a dramatic parallel adaptive radiation in these ecosystems. Terms such as holomictic and meromictic describe the frequency of (*) mixing of layers in these ecosystems. These lentic ecosystems, which may become thermally stratified into an epilimnion and a hypolimnion, are especially susceptible to eutrophication (yoo-troh-fication) when shallow. For 10 points, name these ecosystems that usually comprise freshwater filling a basin, and are often larger than ponds.

ANSWER: **lakes** [accept **ponds** or **pools** until "ponds" is read]

<Kothari, Science - Biology>

8. In two different chapters of the *Kalevala*, this entity tells both Kyllikki and Marjatta where their missing children are located. The legendary shield Svalinn was created for this entity, whose representative deity was married to Glenr. *Álfröðull* is a kenning for this entity, which is depicted on an artifact called the Trundholm Chariot. The *Kalevala* often refers to this entity as being made of silver. Slavs worshipped a god of this entity called (*) Dazhbog (dahzh-BOHG), while the Norse believed that the goddess of this entity was the daughter of Mundilfari. The horses Arvakr and Alsvidr pulled the chariot of the Norse goddess of this domain, who was pursued by the wolf Sköll. For 10 points, name this object embodied by the sister of Mani, a goddess named Sol.

ANSWER: the **Sun** [accept **Sol** until it is read]

<Jose, RMP - Other Myth>

9. In one of four massive paintings commissioned by Louis XIV, Charles Le Brun depicted this man on a golden chariot behind two elephants. Wilhelm IV of Wittelsbach commissioned a painting in which a Latin inscription that praises this man floats in the sky above thousands of figures, including women in anachronistic German court dress. A work made from over a million tessera tiles depicts this man with a Medusa breastplate and was found at the House of the Faun in (*) Pompeii. A crescent moon symbolizing the contemporary defeat of Suleiman the Magnificent appears in a painting depicting a victory for this man by Albrecht Altdorfer. He is often painted with his horse, Bucephalus. For 10 points, name this general who is depicted prevailing over Darius III in *The Battle of Issus*.

ANSWER: **Alexander** the Great [or **Alexander** III of Macedon]

<Bentley, Arts - Painting>

10. A man who converted to this cause in a Portland jail launched the blue ribbon badge campaign and was named Francis Murphy. A statue in support of this cause erected by Henry D. Cogswell was torn down by an angry San Francisco mob. Simon Benson also built drinking fountains to support this movement. Frances Willard was a president of a women's organization founded to promote this movement. (*) Neal Dow's advocacy for this movement led to the passage of the Maine Law. After hearing a voice say "Go to Kiowa" (KY-oh-wuh), Carrie Nation used a hatchet to promote the goals of this movement. This movement helped pass the Volstead Act and the Eighteenth Amendment. For 10 points, the Anti-Saloon League promoted which cause, achieved at a federal level through Prohibition?

ANSWER: **temperance** [or **teetotalism**; or **anti-alcohol** movement; or **anti-drinking** movement; or **banning** the sale of **alcohol**; or equivalents; accept **Prohibition** until it is read]

<Kothari, History - American>

11. In 2016, researchers linked the iron in a blade owned by this man with the Kharga meteorite. One item owned by this man, alternatively called the Wishing Cup or Lotus Chalice, was seen by millions of visitors to an exhibit organized by Thomas P. F. Hoving at the Metropolitan Museum of Art in the 1970s that kicked off the era of "blockbuster" art exhibitions. Many items possessed by this ruler were stored in a site designated (*) KV62. A popular song about this person notes that "He gave his life for tourism" and was recorded by Steve Martin. Lord Carnarvon was supposedly cursed by this man. In 1922, Howard Carter announced that he had discovered the remains of this monarch. For 10 points, name this Egyptian pharaoh with a well-preserved tomb.

ANSWER: King **Tut** [or **Tutankhamun**; or **Tutankhaten**]

<Bentley, Mixed/Other/General Knowledge>

12. This composer's *Piano Variations* begins by sharply striking (read slowly) E C D-sharp C-sharp. This composer distinguished three planes of listening to music – the sensuous, the expressive, and the sheerly musical – in his book *What to Listen for in Music*. A concert suite by this composer depicts a gun battle with a clash between kettle drums and snare drum, and heavily quotes folk songs like "Goodbye, Old Paint" and "The Streets of Laredo." A piece by this composer begins with a slow introduction by the tam-tam, bass drum, and timpani before (*) three trumpets play the rising notes (read slowly) F, B-flat, high F, and was written to commemorate the ordinary soldiers fighting World War II. For 10 points, name this modern American composer of *Billy the Kid* and *Fanfare for the Common Man*.

ANSWER: Aaron Copland

<Magin, Arts - Music>

13. The probability distribution of the log-likelihood ratio statistic approximates this distribution, according to Wilks' theorem. The sum of independent random variables from the standard normal distribution follows this distribution. In one test using this distribution, expected values are found by multiplying the row total times the column total in a contingency table, all divided by the sample total. The most popular test using this distribution was introduced by Karl (*) Pearson. Tests whose statistic approximates this distribution use the squared differences of observed and expected cell counts for categorical data. For 10 points, name this distribution used to calculate *p*-values for independence, homogeneity, and goodness-of-fit tests, whose name contains a Greek letter.

ANSWER: chi-squared distribution

<Damisch, Science - Math>

14. Two pioneering female archaeologists, Edith Hall Dohan and Harriet Boyd Hawes, excavated ruins of this civilization at Gournia. Spyridon Marinatos discovered a Pompeii-like city of these people that contains the richly decorated House of the Admiral. This civilization produced light-on-black pottery called Kamares ware. The second-largest known complex of these people was at Phaistos. It's possible that a tsunami from a volcanic eruption on (*) Thera destroyed most of this civilization. These people used the undeciphered Linear A script. The Boxer rhyton is one of the many artifacts from this civilization that depicts bull-leaping. Arthur Evans excavated the palace of these Bronze Age people at Knossos. For 10 points, name this ancient civilization on Crete.

ANSWER: Minoans [prompt on Ancient Greeks; prompt on Ancient Cretans]

<Bentley, History - European>

15. A character with this name hoists his shoulders up "like a Frenchman" while unsuccessfully attempting to move. A character with this name owns a fishing rod called Killall that makes fish jump into his pockets. A character with this name loses a contest in a mining camp because a stranger pours quail shot into his stomach. In one work, this man spends all night addressing people such as Simon Girty, King Philip, and Judge Hathorne after they're assembled by "the (*) stranger." This is the name of the frog owned by Jim Smiley in "The Celebrated Jumping Frog of Calaveras County." In another short story, this man defends fellow New Hampshireite Jabez (JAY-bezz) Stone at a trial. For 10 points, name this historical lawyer who meets the Devil in a short story by Stephen Vincent Benet.

ANSWER: Daniel Webster [or Dan'l Webster]

<Grames, Literature - American>

16. This phenomenon produces an exotic state of matter, characterized by jet quenching, studied in the ALICE experiment. The symmetry group of this phenomenon is generated by the Gell-Mann (ghell-MAHN) matrices. By coincidence, not definition, this interaction's coupling constant approximately equals one. Feynman's parton (PAR-tawn) model was an early model of this interaction, which is mediated by a gauge boson that comes in (*) eight different types. The magnitude of this force increases with distance, a phenomenon called confinement, since it implies that one cannot isolate a particle with non-zero color charge. Gluons mediate, for 10 points, what fundamental force which holds protons and neutrons together?

ANSWER: **strong** nuclear force [prompt on asymptotic freedom before "interaction"]

<Busse, Science - Physics>

17. A museum named for this text in Los Angeles presents life-size dioramas illustrating passages from it, such as its comparison of the intellect to a man driving the horses of the senses. A translation of this text with a commentary by Swami Prabhupada was often given out in airports by his followers; that book, titled for this work "as it is," is the main text of the ISKCON religious movement, which seeks to propagate the (*) "consciousness" of one of its main characters. This text presents *jñana* (NYAH-nuh), *bhakti*, and *karma* yoga as paths of attaining *moksha*. This text explains why one of its characters must fulfill his duty of fighting his relatives in the Kurukshetra War. For 10 points, the charioteer Krishna counsels Arjuna in what Hindu religious text, a part of the *Mahabharata*?

ANSWER: *The Bhagavad Gita* [prompt on the *Gita*]

<Brownstein, RMP - Other Religion>

18. For a time, this man lived in "mansion arrest" at Ellingham Hall with Vaughan Smith. His "sexy" qualities of "bravery and courage" were detailed in an essay by former *Baywatch* star Pamela Anderson. An organization he founded came to prominence with "Collateral Murder." In the documentary *Risk*, this man told Laura Poitras that "a tawdry, radical feminist positioning thing" was to blame for his (*) assault charges. He was floated as a potential Australian Ambassador to the US in tweets sent to Donald Trump, Jr. This advocate of "radical transparency" was given shelter by Ana Alban in 2012, although his internet was recently cut off. His organization was sent the "Iraq War Logs" by Chelsea Manning. For 10 points, name this WikiLeaks founder.

ANSWER: Julian **Assange** (uh-SAWNJ) [or Julian Paul **Assange**; or Julian **Hawkins**]

<Bentley, Current Events - Foreign>

19. A head of this government was the last to wear the cloak from the Shrine of the Cloak in public. Many of its troops died after a double-crossing defector closed access to the Salang Tunnel. Although this government closed Balkh University, its name means "students" as many of its leaders trained in madrassas. The one-eyed head of this government ordered the destruction of some ancient relics in (*) Bamiyan. It was opposed by a contingent of non-Pashtun warlords known as the Northern Alliance. This government fell after it refused to extradite a man behind the USS *Cole* bombing. During Operation Enduring Freedom, this government's leaders fled the country via Tora Bora. For 10 points, name this government that ruled Afghanistan until the NATO invasion.

ANSWER: the **Taliban** [or **Taleban**; or **Islamic Emirate of Afghanistan**; or **IEA**; do not accept "Al Qaeda"]

<Bentley, History - World>

20. Francis Jeffrey disparaged writers in this movement as "whining and hypochondriacal" in one of many attacks on this movement in the *Edinburgh Review*. A writer in this movement responded to a friend's essay on "The Four Ages of Poetry" with his own essay celebrating the "unacknowledged legislators of the world." An essay that is considered to be a manifesto for this movement argues that a poet should write as a "man speaking to men." That essay, which defines poetry as the (*) "spontaneous overflow of powerful feelings," prefaces a collection by two of the "Lake Poets" who belonged to this movement. For 10 points, name this movement whose beginning is often dated to the publication of *Lyrical Ballads*, by Samuel Taylor Coleridge and William Wordsworth.

ANSWER: English **Romanticism** [accept the **Lake School** of poetry before "Ages"]

<Bollinger, Literature - British>

21. The Pedestal Convoy was the last British convoy to this place to receive heavy German resistance during World War II, and the George Cross on its flag honors the award given to all its citizens for withstanding an Axis siege. In 1972, Sir Anthony Mamo became its first post-independence leader. Until Napoleon conquered it, this country was the home of an organization that founded the Amalfitan Hospital in Jerusalem during the Crusades. Don Garcia's forces (*) relieved an Ottoman siege of this place during the reign of Suleiman the Magnificent. Charles V gave this island over to the Knights Hospitaller after they had been expelled from Rhodes. For 10 points, name this Mediterranean island nation with capital at Valletta.

ANSWER: **Malta** [or Republic of **Malta**]

<Bentley, History - European>



NSC 2018 - Round 12 - Bonuses

1. An anecdote in this story concerns Terri's ex-husband being treated in a Santa Fe hospital for ingesting rat poison. For 10 points each:

[10] Name this title short story of a Raymond Carver collection. It depicts Terri, Mel, Laura, and Nick's discussion of the central subject over a bottle of gin.

ANSWER: "**What We Talk About When We Talk About Love**"

[10] In Carver's short story "A Small, Good Thing," a boy named Scotty dies in the hospital after experiencing one of these events on his birthday. Myrtle Wilson dies in this manner in *The Great Gatsby*.

ANSWER: **car accident** [accept **automobile** or other synonyms for "car" and **collision** or other synonyms for "accident"; accept descriptions of being **hit** by a **car**; prompt on incomplete answer]

[10] This author, who claimed that "Of course all life is a process of breaking down" in his essay collection *The Crack-Up*, wrote *The Great Gatsby*.

ANSWER: Francis Scott Key **Fitzgerald**

<Kalathiveetil, Literature - American>

2. Vandana Shiva claimed that this movement's shift of emphasis to productivity had disastrous results on India in her book on the "Violence" of it. For 10 points each:

[10] Identify this term given to the surge in agricultural productivity following World War II. Norman Borlaug won a Nobel Peace Prize for his role in this movement.

ANSWER: **Green Revolution** [or **Third Agricultural Revolution**]

[10] The CIMMYT and the Rockefeller Foundation worked to bring the Green Revolution to this North American country, where many crops were still grown as part of the hacienda system.

ANSWER: **Mexico** [or **United Mexican States**; or **Estados Unidos Mexicanos**]

[10] This country started exporting rice thanks to efficiencies gained from adopting IR8 rice. This country became a "Tiger Cub" economy during the presidency of Fidel Ramos in the 1990s.

ANSWER: The **Philippines** [or Republic of The **Philippines**]

<Bentley, History - World>

3. In 1963, Arno Penzias (**PEN-zee-us**) and Robert Wilson thought that the background noise generated by this phenomenon was just an error resulting from pigeons dropping a "white dielectric substance" within their horn antenna. For 10 points each:

[10] Name this faint signal that originates from the surface of last scattering.

ANSWER: **cosmic microwave background** radiation [or **CMBR**; prompt on partial answers or **relic** radiation]

[10] The CMBR is thought to be a remnant of this event, which resulted in the formation of the universe from a single point over 13.7 billion years ago.

ANSWER: **Big Bang**

[10] The CMBR was experimentally shown to have a black-body power spectrum until the launching of this satellite. The DIRBE telescope attached to this project, and surveyed the infrared regime.

ANSWER: **COBE** [or **Cosmic Background Explorer**]

<Jose, Science - Astronomy>

4. Conman Gregor MacGregor established his "Poyais Scheme" in this region, and Allie moves his family here in a namesake Paul Theroux (**thuh-ROO**) novel. For 10 points each:

[10] Name this region. When it was a British protectorate, its capital was Bluefields.

ANSWER: **Mosquito** Coast [or **Miskito** Coast; or **Miskito** Kingdom]

[10] The Mosquito Coast is named for the Miskito tribe of Native Americans, which predominantly live in this country in the Central American isthmus. The Treaty of Managua, which adjudicated the status of the Mosquito Coast, was signed in its capital.

ANSWER: Republic of **Nicaragua**

[10] The English occupied Bluefields so that they could harvest this commodity. In the 1980s, Earth First's practice of "spiking" caused disruption to the machines that processed this commodity.

ANSWER: **wood** [or **hardwood**; or **timber**; accept **logs** or **trees**; accept **logging**]

<Jose, Geography - World>

5. Pingdeng, the ninth of ten Taoist Kings, rules over a realm called Avici that contains tall walls made of this substance. For 10 points each:

[10] Identify this substance. It appears in the nickname of one of the Eight Immortals who is known for walking around with a gourd slung over his shoulder.

ANSWER: **iron** [accept **Iron** Crutch Li]

[10] In a Chinese Buddhist tale, Mu-Lien visits one of these realms named for iron beds. These realms are called Naraka in Buddhism, and, like the place of this type in Christianity, are where souls of wrongdoers are tormented.

ANSWER: **hells** [or **underworlds**; or **purgatory**]

[10] Henan (**HUH-nahn**) Province contains a brick building of this type named for its iron color. These religious buildings are common across East Asia and are distinguished by their multiple layers of eaves.

ANSWER: **pagodas**

<Bentley, RMP - Other Religion>

6. To court Ernestine von Fricken, this composer wrote 12 variations on Ernestine's father's theme, a falling C-sharp minor arpeggio followed by a dotted A and two G-sharps, which ends with variations on a different D-flat major theme. For 10 points each:

[10] Name this composer of *Symphonic Études* for piano. He wrote the cheerful "Abegg" (**AH-beg**) Variations and bleak Ghost Variations at the start and end of his career.

ANSWER: Robert **Schumann**

[10] This composer's 30th and 32nd piano sonatas unusually end with long variation movements featuring evolving trills. He wrote 32 Variations in C minor and 33 Variations on a "cobbler's patch" theme from Diabelli's C major waltz.

ANSWER: Ludwig van **Beethoven**

[10] This composer adapted his own lieder (**LEE-der**) into variations for his Trout Quintet and Death and the Maiden string quartet.

ANSWER: Franz **Schubert**

<Lifshitz, Arts - Music>

7. The speaker of this poem is troubled by "a vast image out of Spiritus Mundi" after hearing the title words. For 10 points each:

[10] Identify this poem that ends by describing a "rough beast" that "slouches towards Bethlehem to be born."

ANSWER: "The **Second Coming**"

[10] This Irish poet described a "falcon" who "cannot hear the falconer" in his poem "The Second Coming."

ANSWER: William Butler **Yeats**

[10] The fourth line of "The Second Coming" describes this two-word phrase being "loosed upon the world." This two-word phrase follows the line "Things fall apart; the center cannot hold."

ANSWER: "**mere anarchy**"

<Bentley, Literature - British>

8. A king of this country sometimes known as the Fairy Tale King attempted to copy Versailles Palace at Herrenchiemsee (**HAIR-en-KEEM-zay**). For 10 points each:

[10] Name this defunct kingdom ruled by a man who decorated his castle Neuschwanstein (**noysh-von-shtyne**) with murals from Richard Wagner operas, King Ludwig II.

ANSWER: Kingdom of **Bavaria** [or Königreich **Bayern**]

[10] King Ludwig II of Bavaria was known as "The Mad King," as was this British monarch who ruled during the American Revolution.

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

[10] Ludwig II supposedly refused to march with his troops into the Seven Weeks War because he felt a helmet would ruin his hair. The decisive battle in that conflict was this July 3rd, 1868, victory for the needle-gun-equipped Prussians over the Austrians under General Benedek.

ANSWER: Battle of **Königgrätz** [or Battle of **Sadowa**; or Battle of **Sadowa**]

<Bentley, History - European>

9. Juan Downey's wife Marilys (**MAIR-uh-liss**) faux-scientifically narrates this tribe's story of "The Man With the Pregnant Leg" in *The Laughing Alligator*, an experimental film about this tribe. For 10 points each:

[10] Name this tribe that Napoleon Chagnon (**SHAG-nun**) controversially described as "The Fierce People" in films such as *The Ax Fight*.

ANSWER: **Yanomamo** (**yah-nuh-MAH-moh**) [or **Yanomamö**; or **Yanomami**; or **Yanomama**]

[10] The co-director of *The Ax Fight*, Tim Asch, was influenced by this anthropologist, who helped develop visual ethnography by co-creating the book *Balinese Character* with her husband Gregory Bateson.

ANSWER: Margaret **Mead**

[10] The Yanomamo mostly live on the border of Venezuela and this country. Nancy Scheper-Hughes studied the death of children in the favelas (**fuh-VAY-luhs**) of larger cities in this country.

ANSWER: **Brazil** [or Federative Republic of **Brazil**; or República Federativa do **Brasil**]

<Kothari, Social Science - Anthropology>

10. The creator of this device built a room coated in metal and showed the absence of electric charge on its walls after striking the room with high-voltage discharges. For 10 points each:

[10] Name this device used to block electromagnetic fields, typically made by using a mesh of conductive materials.

ANSWER: **Faraday cage** [or **Faraday shield**]

[10] Michael Faraday devised a law describing this phenomenon, in which a changing magnetic field generates a voltage difference.

ANSWER: electromagnetic **induction**

[10] Written in differential form using vector calculus, Faraday's law states that one operation applied to the electric field equals the negative of another operation applied to the magnetic field. Give both operations in order, starting with the one applied to the electric field.

ANSWER: the **curl** of the electric field AND the partial **time derivative** of the magnetic field [accept **del cross** in place of "curl"; prompt on "partial derivative" in place of "time derivative"; do not accept or prompt on "del" or "gradient"]

<Kalathiveetil, Science - Physics>

11. Identify the following about portrait photographer Philippe Halsman, for 10 points each.

[10] This artist holds the spine of an animal in a frontal portrait by Halsman from 1967. This artist's large flower paintings include *Black Iris* and *Jimson Weed*, and were often inspired by the scenery of Taos, New Mexico.

ANSWER: Georgia **O'Keeffe** [or Georgia Totto **O'Keeffe**]

[10] Halsman, who was born in Latvia, was able to enter the United States thanks to the intervention of this man, whom he captured with a pen clipped to his sweater collar in a close-up. Arthur Sasse captured this physicist sticking out his tongue.

ANSWER: Albert **Einstein**

[10] Halsman photographed this politician from behind, staring at a country landscape, in a 1951 portrait. He scowls and holds the back of a chair in an iconic photograph by Yousuf Karsh.

ANSWER: Winston **Churchill** [or Sir Winston Leonard Spencer-**Churchill**]

<Bentley, Arts - Photography>

12. This state's unusually democratic 1776 constitution was drafted by lower-class "associators" such as math teacher James Cannon. For 10 points each:

[10] Identify this state whose constitution had a 12-member council rather than a governor. Benjamin Rush, a resident of this state, denounced its constitution as "mob government."

ANSWER: **Pennsylvania**

[10] In practice, Pennsylvania's constitution disenfranchised many members of this sect because they refused to swear an oath to the constitution. William Penn was a member of this non-violent sect.

ANSWER: **Quakers** [or **Society of Friends**]

[10] In New York, populists scored a victory with the 1777 election of George Clinton to Governor. Clinton defeated this more genteel candidate, the father-in-law of Alexander Hamilton.

ANSWER: Philip (John) **Schuyler** (SKY-ler)

<Bentley, History - American>

13. A 16th-century debate over the standardization of this language was eventually decided in favor of the ideas of Pietro Bembo, who sought to base the standard version largely on the vernacular works of Petrarch. For 10 points each:

[10] Name this Romance language. Bembo's opponents in the debate over it included Niccolò Machiavelli, part of a faction based in Florence.

ANSWER: **Italian** [or **italiano**; or lingua **italiana**]

[10] Petrarch's prominent vernacular Italian work, *Il Canzoniere* (eel kont-son-ey-AY-ray), is filled with expressions of courtly love for a woman with this first name, who Petrarch first encountered on Good Friday in 1327.

ANSWER: **Laura** (LAO-rah) [accept **Laura** de Noves]

[10] In 1350, Petrarch wrote a letter to his brother in which he claimed to have become the first person since antiquity to have performed this action solely for the aesthetic pleasure derived from completing it.

ANSWER: **climbing a mountain** [or **climbing** Mount **Ventoux**]

<Carson, Literature - European>

14. Answer the following about the mythological beast Typhon, for 10 points each.

[10] Typhon fathered a large number of other monsters, including the Nemean Lion and the Hydra, with this cave-dwelling monster who was half-woman, half-serpent.

ANSWER: **Echidna** (ee-KID-nuh)

[10] Typhon initially gained the upper hand in his battle against Zeus by stealing the thunderbolts and these other items from Zeus, thus disarming and immobilizing the god.

ANSWER: Zeus's **sinews** [or Zeus's **tendons**]

[10] In Nonnus's *Dionysiaca*, Zeus retrieves his thunderbolts with the help of this brother of Europa, the mythical founder of Thebes, who disguises himself as a shepherd and plays the pipes to distract Typhon.

ANSWER: **Cadmus**

<Carson, RMP - Greco-Roman Myth>

15. This protein and Hunchback localize to the anterior section of an embryo during development, opposite to the Nanos and Caudal proteins. For 10 points each:

[10] Name this protein. Mutants of this protein lack a head and thorax; instead, they have posterior appendages on both ends of their body.

ANSWER: **Bicoid**

[10] The gene encoding the Bicoid protein is thought to have evolved from the *Hox3* gene. *Hox* genes are a subset of these genes, which encode transcription factors that direct cells to form different parts of the body.

ANSWER: **homeotic** genes

[10] Many morphogens, including Bicoid, were discovered in these model organisms, leading to the genesis of the field of evo-devo. Thomas Hunt Morgan pioneered the study of these organisms.

ANSWER: **Drosophila melanogaster** [or **fruit fly**]

<Ramaswami, Science - Biology>

16. A one-penny tax per person given to the man holding this office started being collected in England during Saxon rule and increased to about two hundred pounds for the kingdom after the Conquest. For 10 points each:
[10] Identify this person whose supremacy over the Church of England was ended during the reign of Henry VIII.

ANSWER: the **Pope** [or **papa**; or **Bishop of Rome**]

[10] This pope's *Saepe Venerabilis* formalized the collection of Peter's Pence. He became known as the "Prisoner of the Vatican" during Italian unification.

ANSWER: **Pius IX** [or Giovanni Maria **Mastai-Ferretti**; prompt on **Pius**]

[10] Matthew Paris credits this king of Mercia with starting the tradition of giving Peter's Pence. During his reign, construction on a dyke between Mercia and Wales was begun.

ANSWER: **Offa**

<Bentley, History - European>

17. A book named for this concept by Sam Harris uses neuropsychological research to argue that this idea is an illusion. For 10 points each:

[10] Identify this two-word concept roughly defined as the ability for an agent to choose their own actions. This concept is often at odds with determinism.

ANSWER: **free will**

[10] This book by David Hume wonders if free will is just a "false sensation." This book argues that human reasoning is based on the idea of "cause-and-effect."

ANSWER: *An **Enquiry Concerning Human Understanding***

[10] This class of views and theories supposedly resolves the problem of free will by claiming that the thesis of determinism does not contradict free will. Harry Frankfurt's "mesh theory" of psychology is this kind of theory.

ANSWER: **compatibilism** [accept **compatibilist** or other word forms]

<Jose, RMP - Philosophy>

18. *Sophrosyne* (soh-FROH-soo-nee), which can be translated as "prudence" or "moderation," is a recurring theme in this play, which opens in front of the royal palace of Troezen, where Aphrodite gives a speech swearing vengeance on the title character. For 10 points each:

[10] Name this play in which that goddess induces Phaedra, the stepmother of the title son of Theseus, to fall in love with him.

ANSWER: **Hippolytus**

[10] *Hippolytus* is a play by this ancient Greek tragedian, whose other plays include *The Bacchae* and *Medea*.

ANSWER: **Euripides**

[10] *Hippolytus* helped earn Euripides one of his few recorded victories at this Athenian festival, in which three playwrights each presented a trio of tragedies accompanied by a satyr play on consecutive days.

ANSWER: the (City) **Dionysia**

<Carson, Literature - World>

19. These religious works were usually made for private homes rather than churches and were displayed above eye-level, similar to windows. For 10 points each:

[10] Identify this type of circular painting, one of which is named for the Doni family.

ANSWER: **tondo** [or **tondi**]

[10] This Renaissance artist's *Doni Tondo* is his only finished panel painting still extant. He also painted the ceiling of the Sistine Chapel.

ANSWER: **Michelangelo** [or Michelangelo di Lodovico **Buonarroti** Simoni]

[10] This artist's *Madonna of the Pomegranate* is in the tondo format. In one of his best-known paintings, set in an orange grove, Mercury holds up a caduceus on the left of the canvas.

ANSWER: Sandro **Botticelli** [or Alessandro di Mariano di Vanni **Filipepi**]

<Bentley, Arts - Painting>

20. You have put on a pair of safety glasses and a lab coat to perform an experiment in a chemistry lab. For 10 points each:

[10] Since you are working with volatile chemicals, you are working in one of these spaces with constant ventilation and a closeable sash. If the airflow is too low, alarms will go off.

ANSWER: fume **hood** [or **fumehood**]

[10] Your experiment requires a vacuum, so you connect tubing to the outlet on the side of the hood. The outlet for vacuum is typically this color, which represents chemical reactivity on the NFPA diamond.

ANSWER: **yellow** [do not accept or prompt on "orange"]

[10] Your experiment also requires very cold temperatures, so you prepare a liquid nitrogen bath in one of these flasks that contains two walls with a vacuum in between, named for the scientist that invented it.

ANSWER: **Dewar** (**DEW-er**) flask [prompt on vacuum flask; prompt on Thermos]

<Prieto, Science - Chemistry>

21. This work suggests that the reader "Trust thyself: every heart vibrates to that iron string." For 10 points each:

[10] Name this essay that claims "whoso would be a man, must be a nonconformist." It appeared in its author's *First Series of Essays* published in 1841.

ANSWER: "**Self-Reliance**"

[10] "Self-Reliance" is by this Transcendentalist writer, whose other works include a volume holding up Emanuel Swedenborg as the ideal mystic, *Representative Men*.

ANSWER: Ralph Waldo **Emerson**

[10] Another of Emerson's essays reckons that these people are "the masterpiece of nature." In that essay Emerson states that he treats these people like he treats his books.

ANSWER: **friends** (The essay is *Friendship*.)

<Jose, Literature - American>

