

2015-16 High School Championship  
Packet 1

Tossups

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- 1. This event's perpetrator resigned after noting his need "to perform the duty of a son," and was fined \$300. A cartoon bearing the caption "Southern Chivalry" depicted this event, which occurred two days after an accusation that a "mistress" "polluted in the sight of the world" had been taken by (\*) Andrew Butler. The speech "The Crime Against Kansas" prompted—for 10 points—what 1856 event carried out by Preston Brooks?**

answer: caning of Charles Sumner (on the floor of the Capitol) (accept answers that mention that Charles Sumner was attacked or beaten or hit with a cane by Preston Brooks; prompt on partial answers such as "Preston Brooks's attack")

<404605>
- 2. Alport syndrome results from defects in the synthesis of type IV ["four"] of this protein in basement membranes. A deficiency of vitamin C causes scurvy because vitamin C is required for the synthesis of this protein. This protein, found in (\*) skin and connective tissue, is the most abundant in the human body. For 10 points—name this protein, in which every third residue is glycine [GLY-seen], giving it a triple-helix structure.**

answer: collagen [KAH-luh-jin]

<402411>
- 3. This author wrote about a monocle-wearing "black stranger" with two missing fingers who confronts Spencer Brydon in the story "The Jolly Corner." In a novella by this author, a letter addressed to a resident of Harley Street is burned by a ten-year-old boy, who dies in the arms of his governess after uttering the phrase (\*) "Peter Quint — you devil." For 10 points—name the author of the ghost story *The Turn of the Screw*.**

answer: Henry James

<405489>
- 4. This world leader renounced interference in the "domestic conflicts" of postcolonial African nations in the La Baule [boh] speech. Relations with New Zealand were strained after this president ordered the sinking of the (\*) Greenpeace ship *Rainbow Warrior*. In a system called "cohabitation," this man shared power with his eventual successor, Jacques Chirac [ZHAAHK sheer-AHK]. For 10 points—name the first Socialist president of France.**

answer: François Mitterrand (or François Maurice Adrien Marie Mitterrand)

<397497>

5. **This word is the name of a type of function from a set of sets to some element of each constituent set; such a function is required to exist to prove the well-ordering theorem. The existence of a function by this name on every set is equivalent to the statement that you can always (\*) pick one element from each of a set of sets, which is called the "axiom of" it. For 10 points—give this synonym of "selection."**

answer: choice (accept choice function or axiom of choice; prompt on "choose" or "choosing")

&lt;405876&gt;

6. **In this state, the U.S. government built a secret nuclear bunker for Congress underneath The Greenbrier luxury resort. This state's quarter depicts the steel-arch New River Gorge Bridge, which overlooks a tributary of the (\*) Kanawha [kuh-NAW] River. After hosting a convention in Wheeling, it became a new state in 1861. For 10 points—name the state that seceded from its eastern neighbor during the Civil War.**

answer: West Virginia

&lt;387365&gt;

7. **This character wonders what "grain will grow" from the "seeds of time" while speaking to mysterious bearded figures. In a prophetic vision, this man follows a procession of "eight kings." At Forres, he worries that a friend has "played most foully" to obtain the titles of "king, (\*) Cawdor, Glamis [glahmz], all, / as the weird women promised." Fleance [FLAY-ahntz] is the son of—for 10 points—what Scottish lord, who is murdered in Shakespeare's *Macbeth*?**

answer: Banquo [BANK-woh]

&lt;386468&gt;

8. **Spencer Elden appeared on the cover of this album, which concludes with the hidden track "Endless, Nameless." This album was produced by Butch Vig. Its title follows the phrase "oh well, whatever" in a song whose opening line is "load up on guns, bring your friends." This album included the singles (\*) "In Bloom," "Lithium," and "Come As You Are." "Smells Like Teen Spirit" also appears on—for 10 points—what 1991 album, by Nirvana?**

answer: Nevermind

&lt;403427&gt;

9. **This project added large test mass optics suspended by fused silica fibers, and a better seismic isolation system, in its "Advanced" stage, which started its first observing run in September 2015. Two days later, it registered a change of about  $10^{-18}$  [<sup>10 to the negative 18</sup>] meters in the (\*) 4-kilometer-long arms of its interferometers [IN-tur-fuh-RAH-muh-turz]. For 10 points—name this project, which announced in February 2016 that it detected gravitational waves.**

answer: (Advanced) LIGO [<sup>LIE-go</sup>] (or aLIGO or Advanced Laser Interferometer Gravitational-Wave Observatory)

&lt;405980&gt;

10. **The arity [<sup>AIR</sup>-ih-tee] of these entities is reduced by "currying." A programming paradigm named for these things avoids side effects, and is employed in the language Haskell [HASS-kul]. " $\lambda x \cdot x$ " is an expression in the lambda calculus for the (\*) "identity" example of this kind of relation. Like their same-name analogues in math, they produce one output for each valid input. For 10 points—give the term for a map from a domain to a range.**

answer: functions (accept functional programming; accept operators before "effects"; prompt on "method(s)" or "subroutine(s)" before "effects")

&lt;405530&gt;

11. **The Samail Valley runs from this country's capital to its central mountains. During the 1960s, this country's Dhofar region was the site of a Marxist insurgency that was put down by British and Iranian forces. It owns the exclave Musandam [moo-SAHN-dum], which borders the (\*) emirate of Fujairah [foo-JYE-rah] and the Strait of Hormuz [hor-MOOZ]. For 10 points—name the easternmost sultanate on the Arabian Peninsula, whose capital is Muscat [<sup>MUSS</sup>-kaht].**

answer: Oman (or Sultanate of Oman or Saltanat Uman)

&lt;354765&gt;

12. **This author described a dream of an Arab "semi-Quixote" [<sup>semi</sup> kee-HOH-tay], as well as his own ascent of Mount Snowdon, in a 14-book poem. John Keats dismissed the "egotistical sublime" of this poet, who praised a leech-gatherer in (\*) "Resolution and Independence." This author reflected on his life in the epic *Prelude*. For 10 points—what Englishman wrote that "five years have passed" at the beginning of his poem "Tintern Abbey"?**

answer: William Wordsworth

&lt;404282&gt;

13. **This man's son held a controlling interest in the Colorado coal mine where over 20 strikers were killed during the Ludlow Massacre. This man partnered with Henry Flagler to buy out rivals in what became known as the Cleveland Massacre. From 1902 to 1904, his company's practice of (\*) horizontal integration was criticized in *McClure's Magazine* by the muckraker Ida Tarbell. For 10 points—name the founder of Standard Oil.**

answer: John D(avidson) Rockefeller (Sr.)

&lt;385116&gt;

14. **This action and “buck” name a series of single-wing formation plays designed by Pop Warner. After this was done by tight end Frank Wycheck, Kevin Dyson scored on a play called the “Music City Miracle.” The running back performs it immediately before the quarterback throws a deep ball on a (\*) flea flicker. A “hook and ladder” play can involve many examples of—for 10 points—what kind of football passes that travel backward?**

answer: lateral pass (accept laterals or lateraling or onside pass(es); accept buck lateral or hook and lateral; accept backward(s) pass(es) before “backward”; prompt on “pitch(ing the ball)” or “toss(ing the ball)”; prompt on “backward(s)” before “backward”; prompt on “(football) pass(es)” before “passes”)

&lt;405799&gt;

15. **Hydrocarbon compounds that are completely conjugated and have this property are called annulenes [“ANN-you-leans”]. A six-carbon compound with this property has boat and chair conformations. Some planar conjugated compounds with this property are (\*) aromatic. Elemental sulfur often occurs as an eight-atom compound with this property. For 10 points—name this property, in which the atoms of a molecule are connected to form a ring.**

answer: cyclic compound (accept cycle; accept ring before “ring”)

&lt;405946&gt;

16. **This syllable follows “The Immovable” in the title of a Percy Grainger [“GRAIN”-jur] work parodying an organ's stuck key. In English, this syllable replaced “ut” [oot] in a system first developed by Guido d'Arezzo [GWEE-doh dah-RAY-zoh]. There are competing systems in which this syllable is either “moveable” or “fixed” on (\*) C natural, is a minor second above “ti” [“tee”] and a whole step below “re” [“ray”]. For 10 points—give this solfège [“SOUL”-fej] syllable, linked in song to a female deer.**

answer: do [doh] (accept The Immovable Do)

&lt;402526&gt;

17. **This deity will walk nine steps and die after slaying his nemesis, which once tried to consume an ox head that this god brought on a fishing trip with Hymir [“HI”-meer]. The peasant Thjalfi [thee-YAHL-fee] becomes this god's servant to atone for injuring one of this god's goats, which (\*) resurrect themselves after being eaten. At Ragnarök [RAG-nuh-“rock”], the Midgard serpent kills and is killed by—for 10 points—what Norse god, who owns the hammer Mjölnir [M“YOHL-needr]?**

answer: Thor

&lt;372780&gt;

18. **For ideal gases, this quantity's differential equals the isobaric [“EYE”-soh-BAR-ik] heat capacity times the temperature differential. For homogeneous [hoh-moh-JEE-nee-uss] systems, this state function equals internal energy plus the product of pressure and volume. Its standard value “of (\*) formation” is zero for elements in their standard states. Hess's law applies to—for 10 points—what thermodynamic quantity, often called “heat,” whose symbol is *H*?**

answer: enthalpy [EN-thul-pee] (accept enthalpy of formation; prompt on “heat (of formation)” before “(often called) heat”; prompt on “H” before “H”)

&lt;381242&gt;

19. **This man tried to unify his doctrine with Heinrich Bullinger's [HYN-rik “BULL”-in-gur'z] in the *Consensus Tigurinus* [tye-GUR-in-us] of 1548. He had the intellectual Michael Servetus [sur-VEE-tus] executed for rejecting the Trinity. The mnemonic [neh-MAH-nik] “TULIP” [“tulip”] spells out the (\*) “Five Points” of his denomination, including “Irresistible Grace” and “Total Depravity.” *Institutes of the Christian Religion* is by—for 10 points—what Geneva-based Protestant reformer, who advocated predestination?**

answer: John Calvin (or Jean Cauvin)

&lt;386740&gt;

20. **In 2015 Bill John Baker was re-elected as the head of this group, which is headquartered in Tahlequah** [TAL-eh-kwah]. **In 2012 Baker called for an apology from Elizabeth Warren, who had claimed an affiliation with this group. It was sued for excluding slave-descended "freedmen" from enrollment based on the (\*) Dawes Rolls.** For 10 points—name this Oklahoma-based Native American tribe, the second-largest in the U.S. after the Navajo [NAV-uh-hoh].

answer: Cherokee Nation (or Cherokees or Cherokee tribe or Tsalagihi Ayeli)

&lt;384304&gt;

21. **This author wrote about a Polish refugee who falls in love with the son of a gardener in a 2015 novel titled *The Japanese Lover*. In a memoir, this author described the coma that ended the life of her daughter Paula. A novel by this author depicts a storyteller's romance with (\*) Huberto Naranjo** [oo-BAIR-toh nah-RAHN-hoh]. *Eva Luna* [AY-vah LOO-nah] is by—for 10 points—what author, whose novel *The House of the Spirits* was inspired by the history of Chile?

answer: Isabel Allende [ˈeye-YEN-day] (Llona)

&lt;384980&gt;

22. **In 1683 this city was looted by the Dutch pirates Nicholas van Hoorn** [ˈhorn] **and Laurens de Graaf** [ˈgraph], **who took captives to the nearby Isle of Sacrifices before fleeing an approaching Spanish treasure fleet. Fortresses on the island San Juan de Ulúa** [oo-LOO-ah] **defend this city, which U.S. troops occupied in (\*) 1914 and 1847. The conquistador** [kohn-KEESS-tah-dor] **Hernán Cortés founded—for 10 points—what eastern Mexican port, whose name is Spanish for "true cross"?**

answer: Veracruz [vay-rah-KROOZ] (or Cuatro Veces Heroica Veracruz; accept Villa Rica de la Vera Cruz)

&lt;404731&gt;

23. **The last of these phenomena to be discovered weakens as distance decreases, a behavior called asymptotic** [aa-sim-"TOT"-ik] **freedom. Sheldon Glashow, Abdus Salam, and Steven Weinberg won a Nobel Prize for discovering the unification of two of them at petakelvin** [PAY-tuh-kel-vin] **temperatures. Each of these forces is (\*) mediated by a gauge boson, such as the photon for electromagnetism. Gravity is the weakest of—for 10 points—what four forces?**

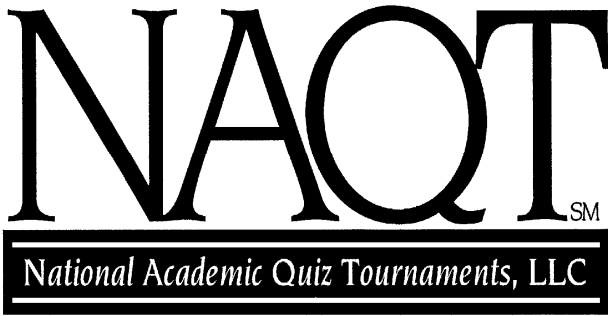
answer: four fundamental forces (or four fundamental interactions; accept fundamental after "forces")

&lt;387615&gt;

24. **This man is the subject of "The Silent Season of a Hero" by Gay Talese** [tuh-"LEASE"], **which discusses his restaurant at Fisherman's Wharf in San Francisco. This athlete is asked "where have you gone?" in the Simon and Garfunkel song "Mrs. Robinson." His recovery from a bone spur in his heel inspires (\*) Santiago in Ernest Hemingway's *The Old Man and the Sea*.** For 10 points—in 1941, what Yankee outfielder had a 56-game hitting streak?

answer: (Joltin') Joe DiMaggio [dih-MAZH-ee-oh] (or Joseph Paul DiMaggio or Giuseppi Paolo DiMaggio)

&lt;383292&gt;



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Bonuses

1. This novel ends as a widower holds hands with Liza-Lu, the title character's sister. For 10 points each—
- A. The title character of what novel is raped by her supposed cousin Alec, leading to the birth of a short-lived baby named Sorrow?

answer: Tess of the d'Urbervilles (A Pure Woman Faithfully Presented)

- B. This author wrote *Tess of the d'Urbervilles* [DUR-bur-vilz], as well as *Jude the Obscure* and *The Mayor of Casterbridge*.

answer: Thomas Hardy

- C. Tess is devastated when this man discovers that she is not a virgin on their wedding night. After deserting Tess, this man departs for Brazil.

answer: Angel Clare (accept either underlined portion)

<286507>

2. For 10 points each—name these Iraqi cities:

- A. In the 1950s Faisal [FYE-zul] II built the gigantic Republican Palace as a new royal residence in this capital city.

answer: Baghdad

- B. This main Iraqi port, the second most populous city in the nation, is along the Shatt al-Arab [ˈshot ˈel-uh-RAHB] river in southern Iraq.

answer: Basra [BAHZ-ruh] (or al-Basrah)

- C. This city in northern Iraq, the center of the country's oil industry, was seized in 2014 by Kurdish fighters.

answer: Kirkuk [keer-KOOK] (or Karkuk or Kerkük)

<382754>

3. The mean value theorem requires that a function have this property on an interval *including* its endpoints, and the function must also be differentiable inside the interval but not necessarily at the endpoints. For 10 points each—

- A. Name this property studied in calculus.

answer: continuity (accept continuous function)

- B. One reason the mean value theorem requires continuity is to exclude functions with this feature. It occurs at every integer input for the floor and ceiling functions.

answer: jump discontinuities or jumps (accept step discontinuity or steps; prompt on "discontinuity"; prompt on "(discontinuity of the) first kind" or "(discontinuity of the) second kind"; prompt on, but do not otherwise reveal, "non-removable discontinuity"; do not accept, prompt on, or otherwise reveal "hole(s)")

- C. This other type of discontinuity is named for the fact that the function can be made continuous by changing the definition of a single point.

answer: removable discontinuity or hole(s) (prompt on "(discontinuity of the) first kind" or "(discontinuity of the) second kind"; do not accept or prompt on "point (discontinuity)")

<405555>

4. Wolfgang Amadeus Mozart's 21st piece in this genre is notable for its second movement, an Andante [ahn-DAH-n-tay] in F major. For 10 points each—
- A. Name this type of piece for a keyboard soloist with orchestral accompaniment. Ludwig van Beethoven's fifth one is titled *Emperor* because it was dedicated to Archduke Rudolf.  
answer: piano concertos or piano concerti (prompt on “concerto(s)” or “concerti”)
- B. Nikolai Rubinstein [NIK-uh-lye ROO-bin-styne] criticized this Russian's composer's Piano Concerto No. 1 in B flat minor. He also wrote the fantasy-overture *Romeo and Juliet*.  
answer: Peter Ilich Tchaikovsky [chye-KAWF-skee] (or Pyotr Ilyich Tchaikovsky)
- C. Tchaikovsky's first piano concerto begins with four of these instruments playing in unison. A short solo for this instrument begins Johannes Brahms's second piano concerto.  
answer: French horns (or orchestral horns; do not accept or prompt on “natural horn(s)”) <371906>
5. The Asuka period occurred within this broader era, which takes its name from an archaic term for the province containing Nara. For 10 points each—
- A. What era of ancient Japanese history lasted from the 3rd through 8th centuries AD?  
answer: Yamato [yah-mah-toh] era
- B. The origins of this script—the Japanese usage of Chinese characters—can be traced to the Yamato period.  
answer: kanji [kahn-jee] (accept man'yogana or kanbun)
- C. Another sub-period of the Yamato era, the Kofun, is named for this type of construction. At the time, these structures were often keyhole-shaped.  
answer: tombs or burial mounds (or tumulus or tumuli; prompt on “grave(s)” or “burial(s)”) <404393>
6. For 10 points each—answer the following about clouds in Greek mythology:
- A. Some sources state that this god seduced Io [“EYE”-oh] in the form of a thundercloud, then turned Io into a cow to hide her from Hera.  
answer: Zeus (do not accept or prompt on “Jupiter” or “Jove”)
- B. These creatures resulted from Ixion's union with a cloud-woman shaped like Hera. Many of them got drunk and started fighting their hosts at the wedding feast of Hippodamia [“hippo”-DAY-mee-uh].  
answer: centaurs (or hippocentaurs)
- C. A golden cloud covers this mountain near Troy in Book XIV [“fourteen”] of the *Iliad* as Hera seduces Zeus. It shares its name with Amalthea's [am-al-THEE-ah'z] home on Crete.  
answer: Mount Ida <361364>
7. For 10 points each—answer the following about changes on the Supreme Court during Barack Obama's presidency:
- A. This associate justice appointed by Ronald Reagan unexpectedly died during a hunting trip in February 2016.  
answer: Antonin (Gregory) Scalia [skuh-LEE-uh]
- B. In 2009 Obama appointed Sonia Sotomayor [soh-toh-my-YOR] to the Court after this George Bush appointee retired.  
answer: David (Hackett) Souter [SOO-tur]
- C. Scalia had recommended this woman to replace Souter. Obama ended up appointing her to the Court in 2010 when John Paul Stevens retired.  
answer: Elena Kagan [KAY-gun] <400080>

8. Members of this movement were called "longhairs." For 10 points each—

A. Name the 19th-century rebellion led by Hong Xiuquan [hong shoo-chwahn], who claimed to be the younger brother of Jesus.

answer: Taiping ["tie-PING"] Rebellion (or Tai Ping Tien Kuo or Taiping Heavenly Kingdom; accept Taiping Uprising or similar answers that include "Taiping")

B. The Taiping Rebellion, which happened in southern China, opposed the rule of this last Chinese dynasty.

answer: (Great) Qing ["ching"] Dynasty (or Ch'ing Dynasty or Manchu Dynasty or Qing ch'ao)

C. The rebellion was suppressed with the aid of this western-trained army, whose leaders included the American soldier-of-fortune Frederick Townsend Ward, and the British officer Charles Gordon.

answer: Ever Victorious Army (or chang sheng jun)

&lt;382949&gt;

9. On this holiday, children play with a toy inscribed with initials representing the statement "a great miracle happened there." For 10 points each—

A. Name the wintertime Jewish holiday during which children spin dreidels [DRAY-dulz].

answer: Chanukah [HAHN-oo-kah] (or Hanukkah; accept Feast of Dedication; prompt on "(Festival of) Lights")

B. The story of Chanukah is told in the "First and Second Books" of these apocryphal texts, named for the heroes of the story.

answer: Maccabees [MAK-uh-beez] (or First and Second Books of Maccabees or Makabim)

C. This Chanukah song has a name meaning "strong rock." A popular singable translation contains the line "and Your word broke their sword / when our own strength failed us."

answer: Ma'oz Tsur [MAH-ohz TSOOR] (accept Rock of Ages)

&lt;362326&gt;

10. This poet is the subject of a study subtitled "The Traps of Faith." For 10 points each—

A. Name this 17th-century Mexican nun and poet. After being accused of "waywardness," she called herself "the worst of all women" and signed a confession with her own blood.

answer: (Sor) Juana Inés de la Cruz (accept either underlined portion; accept Juana Inés de Asbaje y Ramírez de Santillana)

B. This 20th-century Mexican author wrote *Sor Juana, or, the Traps of Faith*, though he is better known for the essay collection *The Labyrinth of Solitude*.

answer: Octavio Paz (Lozano)

C. Paz's magazine *Vuelta* [VWEL-tah] published an essay by Enrique Krauze calling this Mexican author, who wrote *The Death of Artemio Cruz*, a "guerilla dandy."

answer: Carlos Fuentes (Macías)

&lt;353675&gt;

11. For 10 points each—answer the following about gharials [GAIR-ee-ulz]:

A. They are animals in this order of reptiles that also contains alligators and caimans [KAY-munz].

answer: crocodiles or Crocodylia (accept crocodilians)

B. Gharials are currently given this two-word classification under the IUCN ["I-U-C-N"] Red List, the highest-risk classification given to animals that still exist in the wild.

answer: critically endangered (prompt on "CR"; do not accept or prompt on "endangered")

C. Adult male gharials have a hollow nasal bulb, making gharials the only crocodilians to possess this trait whereby males and females have visibly distinct appearances.

answer: sexual dimorphism ["die"-MOR-fism] (or sexually dimorphic)

&lt;396071&gt;

12. For 10 points each—name these European palaces:

A. Louis XIV [“the 14th”] commissioned this palace outside Paris. Its Hall of Mirrors was completed in 1682.

answer: Palace of Versailles [vair-“sigh”]

B. Versailles inspired this Hapsburg palace outside Vienna, which Emperor Leopold I ordered to be built.

answer: Schönbrunn [SHURN-broon] Palace (or Schloss Schönbrunn)

C. The Hall of the Singers is part of this castle built for Mad King Ludwig of Bavaria. It was later used as the model for the Disneyland castle.

answer: Neuschwanstein [noy-SHVAN-shtyne] Castle (or Schloss Neuschwanstein)

&lt;261207&gt;

13. John Paulding was one of three people awarded the Fidelity Medallion for capturing this man. For 10 points each—

A. Name the British major who was detained near Tarrytown, New York shortly after embarking from a ship named the *Vulture*.

answer: (Major) John André

B. André was a British spy in league with this Revolutionary War general and traitor.

answer: Benedict Arnold (V)

C. André's trial was overseen by this Rhode Island general, who later led the American army at the Battle of Guilford [“GILL-ford”] Courthouse.

answer: Nathanael Greene

&lt;384473&gt;

14. For 10 points each—answer the following about unusual cloud types:

A. Shelf clouds typically form along the leading edge of a squall line of these systems. They are usually accompanied by cumulonimbus [KYOO-myoo-loh-NIM-buss] clouds with anvil-shaped tops.

answer: thunderstorms (or lightning storms or electrical storms or thundershowers; prompt on “storm(s)”)

B. Rotating columns of wind generate these clouds that usually extend from cumulus [KYOO-myoo-luss] or storm clouds, and become tornadoes if they touch the ground.

answer: funnel cloud(s)

C. These wispy clouds, visible only at twilight when the Sun is below the horizon, form high in the mesosphere [MEH-zuh-“sphere”]; their name comes from the Latin for “night shining.”

answer: noctilucent [“knock”-tih-loo-sint] cloud(s) (prompt on “night cloud(s)”)

&lt;405748&gt;

15. One novel by this author focuses on Robert, who plays at the pool table of the Prince Heinrich Hotel at the same exact time every morning. For 10 points each—

A. Name the German author who documented many generations of the Faehmel [FEH-mull] family in *Billiards at Half-Past Nine*.

answer: Heinrich (Theodor) Böll [boh]l

B. Böll's *The Train Was On Time* follows a soldier on the eastern front of this war, whose effects on Germany inspired Böll and other authors of “rubble literature.”

answer: World War II (or Second World War)

C. In this Böll novel, tabloid journalists hound the title housemaid after she is accused of killing a journalist.

answer: The Lost Honor of Katharina Blum(, or: how violence develops and where it can lead) (or Die verlorene Ehre der Katharina Blum oder: Wie Gewalt entstehen und wohin sie führen kann)

&lt;405529&gt;



16. The “industrial-organizational” subfield of this social science applies it to optimizing workplaces. For 10 points each—

A. What social science is concerned with cognition and behavior?

answer: psychology (accept industrial-organizational psychology or psychologists; do not accept or prompt on “psychiatry”)

B. I-O psychologists often try to increase this trait, whose “intrinsic” form spurs people to act without any external rewards. A “theory of” the “human” form of this trait is presented in a paper by Abraham Maslow [MAZ-loh].

answer: motivation (accept A Theory of Human Motivation)

C. I-O psychologists also seek to reduce this feeling studied by Hans Selye [“SELL-yay”], which can result in elevated levels of cortisol circulation.

answer: (occupational) stress

&lt;404154&gt;

17. For 10 points each—name these islands off the coast of Britain:

A. This Crown Dependency in the Irish Sea is home to tailless cats. Its capital is Douglas.

answer: Isle of Man (or Mann or Mannin or Ellan Vannin)

B. This island, the largest in the English Channel, is separated from Portsmouth [PORTS-muth] by the Solent [SOH-lent]. It was the site of the first America’s Cup race.

answer: Isle of Wight

C. This is the most populous of the Channel Islands. Like nearby Guernsey [GURN-zee], it is a bailiwick that is a direct possession of the crown.

answer: Jersey

&lt;358967&gt;

18. For 10 points each—name these physical concepts related to the basic trigonometric functions:

A. This laboratory device can be used to create, measure, and visualize electrical signals. In addition to creating sine waves, it can also produce square and sawtooth patterns.

answer: oscilloscope [ah-SIH-luh-“scope”]

B. Applying this operation to a pair of vectors gives the product of the magnitudes of the vectors with the cosine of the angle between them.

answer: dot product (accept Euclidean inner product; do not accept or prompt on “cross product”)

C. This angle, defined as the angle at which a pile of granular material will come to rest, is roughly equal to the arctangent of the coefficient of static friction.

answer: angle of repose

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19. This woman described her family’s attempt to eat only locally produced foods in the 2007 non-fiction book *Animal, Vegetable, Miracle*. For 10 points each—

A. Name the American author whose first novel was 1988’s *The Bean Trees*.

answer: Barbara Kingsolver

B. In this Kingsolver novel, the Price sisters accompany their missionary father to the Congo.

answer: The Poisonwood Bible

C. Kingsolver wrote a 2000 novel set in Kentucky and named for a “prodigal” form of this season. Shakespeare’s Sonnet 18 asks whether the addressee should be compared to a day in this season.

answer: summer (accept Prodigal Summer or Shall I compare thee to a summer’s day?)

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20. The term "annus horribilis," [AH-noos hor-REH-bih-liss] or "horrible year," is sometimes used to describe a particularly trying period in a monarch's life. For 10 points each—
- A. This queen used the term to describe 1992, a year that included the divorce of the Duke and Duchess of York, and a fire at Windsor Castle.  
answer: Elizabeth II (Alexandra Mary Windsor) of the United Kingdom (prompt on "Elizabeth")
- B. Spain's newspapers used the term in 2007 to describe the tribulations of this Spanish king, who abdicated in 2014.  
answer: Juan Carlos I (or Juan Carlos Alfonso Victor María de Borbón y Borbón)
- C. The term is contrasted with this Latin phrase, which John Dryden used as the title of a poem about the events of 1665 and 1666.  
answer: annus mirabilis [AH-noos mih-RAH-bih-liss] <386416>
21. This painting is displayed in the Huntington Library near Los Angeles, opposite Thomas Lawrence's *Pinkie*. For 10 points each—
- A. Name this portrait, possibly of Jonathan Buttall, showing a youth in a satin suit with one hand on his hip and the other holding a feathered beaver hat.  
answer: The Blue Boy
- B. *The Blue Boy* was painted by this 18th-century portraitist.  
answer: Thomas Gainsborough [GAYNZ-boh-ruh]
- C. The Huntington Library also contains this painter's *Global Loft (Spread)*. He is also known for "combines" featuring found objects, and for the *Stoned Moon* lithographs.  
answer: Robert Rauschenberg (or Milton Ernest Rauschenberg) <357481>
22. For 10 points each—name these members of Abraham Lincoln's cabinet:
- A. This secretary of state served both Lincoln and Andrew Johnson; under the latter, he negotiated the purchase of Alaska.  
answer: William Seward (or William Henry Seward Sr.)
- B. This secretary of the treasury served as chief justice of the Supreme Court during Andrew Johnson's impeachment trial.  
answer: Salmon P(ortland)Chase
- C. This attorney general from 1861 to 1864 advised Lincoln on the suspension of habeas corpus [HAY-bee-us KOR-puss].  
answer: Edward Bates <236484>
23. Pencil and paper ready. A convex octagon has 8 vertices [VUR-tih-seez]. For 10 points each—
- A. How many diagonals originate at each vertex of an octagon?  
answer: 5 diagonals [Each vertex can be connected to the other  $8 - 1 = 7$  vertices, but, since 2 of those connections will be edges, only  $7 - 2 = 5$  will be diagonals.]
- B. How many total diagonals can be drawn inside a convex octagon? You have 10 seconds.  
answer: 20 diagonals [Per Part A, each of the 8 vertices has 5 diagonals, so  $8 \times 5 = 40$ , but this double-counts each diagonal, so the actual total is  $40/2 = 20$ .]
- C. Of the 20 total diagonals within a *regular* octagon, how many are tied for being the longest possible diagonal?  
answer: 4 diagonals [The longest diagonals connect diametrically-opposite pairs of vertices; there are  $8/2 = 4$  such pairs in a regular octagon.] <404946>

24. In this board game, Austria-Hungary can ally with Italy against Turkey in the Lepanto Opening. For 10 points each—

A. Name the strategy board game in which players forge alliances and maneuver armies in pre-World War I Europe.

answer: Diplomacy

B. Besides Austria-Hungary, Italy, and Turkey, name any *two* of the four remaining nations controlled by players in *Diplomacy*.

answer: France (or French Republic or République française)

Russia (or Russian Empire or Rossiya or Rossiyskaya Imperiya)

(Imperial) Germany (or Deutschland or German Empire or German Reich or Deutsches Kaiserreich)

England (accept any underlined portion of United Kingdom of Great Britain and Northern Ireland or U.K.)

C. *Diplomacy* is advertised as the favorite game of this U.S. president, who used his own diplomatic prowess during the Cuban Missile Crisis.

answer: John F(itzgerald) Kennedy (or JFK)

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