

2014-15 Middle School Championship
Packet 1

Tossups

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naqt@naqt.com
http://www.naqt.com

11521 W 69th Street
Shawnee, KS 66203
1.888.411.NAQT (1.888.411.6278)

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1. **This deity ate the shoulder of Pelops [PEE-lahps] and attempted to make Demophon [DEM-uh-fahn] immortal by putting him in a fireplace. The daughter of this deity was forced to (*) spend a third of each year with Hades [HAY-deez], which caused the seasons. For 10 points—name this mother of Persephone [pur-SEH-foh-nee] and goddess of the harvest.**

answer: Demeter [duh-MEE-tur] (accept Ceres [SEER-eez])

<38101>

2. **Ataturk made it compulsory for all Turks to possess one of these. Mononymous [mah-NAH-nih-muss] people like the Indonesian leader Sukarno [soo-"CAR"-noh] lack these identifiers. Examples of their "occupational" type include (*) "Carpenter" and "Miller." For 10 points—name these identifiers, the most common Western one being "Smith."**

answer: surname(s) or last name(s) or family name(s) (prompt on "name(s)")

<359786>

3. **On the number line, multiplying by -1 ["negative one"] can be thought of as rotating by this many degrees, which is equal to (*) pi radians [RAY-dee-unz]. The interior angles of a triangle add up to this many degrees, and so do a pair of supplementary angles. For 10 points—give this value equal to half of a complete turn.**

answer: 180 degrees (accept pi radians before "degrees")

<374938>

4. **In this TV show's pilot, a teenager played by Marcus Scribner asks to have a bar mitzvah. This show's protagonist is dismayed to be made head of his company's "Urban Division." (*) Anthony Anderson stars in—for 10 points—what ABC sitcom whose title refers to a complex type of racial identity?**

answer: Black-ish

<382253>

5. **In this state, the Attica [AT-uh-kuh] prison riot was put down by Governor Nelson Rockefeller ["ROCK"-uh-"feller"]. In 1954 this state opened the first road in its "Thruway." A city in this state was the site of the (*) Stonewall riots, and was led by Mayor Rudy Giuliani [joo-lee-AH-nee]. For 10 points—name this state governed from Albany.**

answer: New York (accept New York State Thruway)

<376870>

6. **Pencil and paper ready. Greg used 5 and two-fifths cups of sugar to bake 3 dozen cookies, and he needs to know how many cups are needed to make 12 dozen cookies. By converting 5 and two-fifths into an improper fraction and using a ratio, he computes (*)**—for 10 points—how many cups to use?

answer: $21\frac{3}{5}$ cups or $\frac{108}{5}$ cups or 21.60 cups $[(5\frac{2}{5})/3 = x/12, \text{ so } (27/5)/3 = x/12, \text{ so } (12 \times (27/5)) = 3x, \text{ and } x = 4 \times (27/5) = 108/5 = 21\frac{3}{5}]$

<360455>

7. **Around 5700 BC, the eruption of this state's Mount Mazama [muh-ZAH-muh] formed a caldera [kahl-DEH-ruh], in which Wizard Island now rises from Crater Lake. This state's (*) Willamette [wih-LAM-et] Valley was a destination for wagon trains traveling on its namesake "Trail." For 10 points—name this state that is south of Washington.**

answer: Oregon (accept Oregon Trail)

<372531>

8. **Dust emission misled scientists into saying in March 2014 that they found evidence this event was followed by inflation. The evidence came from the cosmic (*) microwave background radiation left over from this explosion. For 10 points—name this event that cosmologists say began the universe.**

answer: Big Bang

<357523>

9. **One of these objects, the Triangulum ["try"-AN-gyoo-lum], is in the Local Group. The Large Magellanic [maa-jel-AN-ik] Cloud is an irregular example of these objects that one can classify using Edwin (*) Hubble's tuning-fork diagram. For 10 points—name these collections of gas, dust, and stars that can exhibit a spiral shape.**

answer: galaxy (or galaxies; accept constellations before "Local Group")

<336776>

10. **These structural components are called caryatids ["care"-ee-AH-tidz] when they are in the shape of a woman. Their tops, called capitals, support entablatures [en-TAB-luh-churz]. "Orders" of these structural components include the (*) Ionic ["eye"-AH-nik] and Doric. For 10 points—name these vertical structural components that hold up buildings.**

answer: columns (or pillars; prompt on "sculpture(s)" before "capitals")

<381981>

11. **This character's niece tells him that an enchanter arrived on a cloud and destroyed a room full of books. Deeds performed by this man are dedicated to his idealized love (*) Dulcinea [dool-see-NAY-ah]. The squire Sancho Panza [SAHN-choh PAHN-zah] serves—for 10 points—what chivalrous protagonist of a novel by Miguel de Cervantes [sayr-VAHN-tayz]?**

answer: Don Quixote [dohn kee-HOH-tay] (de La Mancha) (or Alonso Quijano [kee-HAH-noh] or Alonso Quixada [kee-HAH-dah] or Alonso Quesada [kay-SAH-dah] or Alonso Quexana [kay-HAH-nah]; accept any underlined name; accept The Ingenious Gentleman Don Quixote de la Mancha or El ingenioso hidalgo don Quijote de la Mancha)

<358334>

12. **In a 1995 interview with the show *Panorama*, this woman controversially claimed that there were "three people" in her marriage. She and Dodi Fayed [DOH-dee fah-YED] were fleeing (*) paparazzi [PAH-pah-RAHT-see] when their car crashed in a Paris tunnel. For 10 points—what Princess of Wales was the mother of William and Harry?**

answer: Diana (Frances) Spencer (or Princess Diana; accept any underlined name)

<317773>

13. **This state's Congressman Elijah Cummings blamed "out of town" rioters for violent protests in this state. Larry Hogan governs this state, where charges were filed against six (*) police officers after the death of Freddie Gray. For 10 points—name this state that contains the city of Baltimore.**

answer: Maryland

<381695>

14. **Characters in this novel fear the sight of a blue Mustang, whose driver Randy asks why this novel's narrator saved children from a burning church. Dally dies soon after fighting in a (*) "rumble" that also includes this novel's narrator, Ponyboy. For 10 points—name this novel by S. E. Hinton.**

answer: The Outsiders

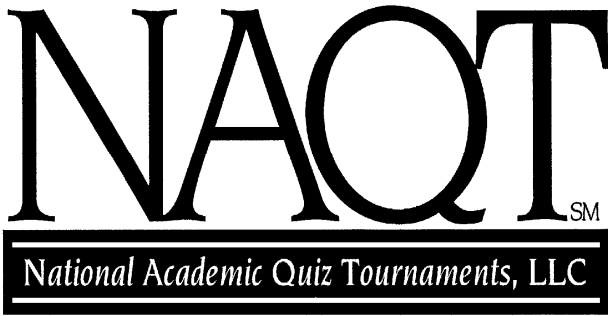
<336620>

15. **Compilers can perform unrolling or unwinding** [ˈun-WINE-ding] **of these structures. In graph theory this structure joins a vertex to itself. In the kidney, one named for Friedrich (*) Henle** [HEN-lee] **helps filter the blood. For 10 points—name these circle-like structures that can cause problems if they are infinite.**
 answer: loops (accept variants including words in the question such as loop unrolling or loop of Henle) <38222>
16. **“Madiba”** [muh-DEE-buh] **is a Xhosa** [HOH-suh] **term for this man, who was convicted at the Rivonia Trial. He co-founded the Spear of the Nation movement in 1961. This man was imprisoned on (*) Robben Island before being released by F. W. de Klerk. For 10 points—name this first black president of South Africa.**
 answer: Nelson (Rolihlahla) Mandela <314937>
17. **In one story by this author, Reverend Hooper changes himself “into something awful only by hiding his face.” This author of “The Minister's Black Veil” also wrote a novel in which Arthur (*) Dimmesdale** [ˈdɪms-dale] **conceals his affair with Hester Prynne** [prin]. **For 10 points—name this author of *The Scarlet Letter*.**
 answer: Nathaniel Hawthorne (or Nathaniel Hathorne) <336532>
18. **This is the color of an Assyrian** [uh-SEER-ee-un] **king's bedspread in Eugène Delacroix's** [oo-zhen deh-lah-kwah'z] **painting *The Death of Sardanapalus*** [sahr-duh-NAH-puh-luss]. **During Russia's civil war, this color represented the (*) Communists. The longest wavelengths of visible light correspond to—for 10 points—what color produced by hemoglobin** [HEE-muh-gloh-bin] **in blood?**
 answer: red (accept equivalents such as crimson, scarlet, or maroon before “Communists”; accept Red Army or Krasnaya Armiya) <336933>
19. **This woman sang “you tasted the blast and it shook your bones” in “Nuclear Seasons,” the first song on her 2013 album *True Romance*. The Swedish duo Icona Pop** [ˈeye“-KAH-nuh “pop”] **recorded (*) “I Love It” with this woman, who declared “The beat goes on and on” in a 2014 hit. For 10 points—name this singer of “Boom Clap.”**
 answer: Charli XCX (or Charlotte Emma Aitchison) <377331>
20. **This city is overlooked by a monument to St. Vladimir, who baptized its people in 988. The Babi Yar** [BAH-bee YAHHR] **ravine, where Jews were massacred by the Nazis during World War II, is in this city on the (*) Dnieper** [NEE-pur] **River. Boxer Vitali Klitschko** [vih-TAH-lee KLIT-shkow] **is the mayor of—for 10 points—what capital of Ukraine?**
 answer: Kiev (or Kyiv) <369690>
21. **The supercritical state of this gas is used to remove caffeine from coffee, and as an industrial solvent. Complete combustion of hydrocarbons produces water and this (*) triatomic** [ˈtry“-atomic] **gas, whose solid form is dry ice. For 10 points—name this greenhouse gas used to carbonate water.**
 answer: carbon dioxide or CO₂ [ˈC O two] <379563>
22. **Francisco de Ulloa** [oo-YOH-uh] **led a 1539 search for this route and its supposed Strait of Anián** [ah-nee-AHN]. **Sir John Franklin led a doomed 1845 expedition to find this pathway, which the ship *Gjøa*** [G'YOH-uh] **found during a 1906 voyage by (*) Roald Amundsen** [ROH-ahl AH-mun-sun]. **For 10 points—name this Arctic “passage” between Europe and Asia.**
 answer: Northwest Passage (accept Strait(s) of Anian before “Anián”; accept Northwest Passage before “passage”) <381645>
23. **The Khawr al Udayd** [CAR AHL ooh-DADE], **or “Inland Sea,” is south of this nation ruled by the House of Thani** [THAW-nee]. **It is second only to the UAE** [ˈU“-“A“-“E”] **with the world's most unbalanced sex ratio. (*) Al-Jazeera** [ahl-juh-ZEER-uh] **is based in—for 10 points—what Middle Eastern nation whose capital is Doha** [DOH-huh], **set to host the 2022 FIFA World Cup?**
 answer: (State of) Qatar [KAHT-tar] (or Dawlat Qatar) <379966>

24. **Tetracycline** [TEH-truh-SYE-kleen] binds to the “A” site of this structure, while other antibiotics cause it to misread codons [KOH-dahnz]. It is produced by the nucleolus [noo-klee-OH-luss]. It studs (*) rough ER [“E-R”], and serves as an interface for mRNA [“M-R-N-A”] and tRNA [“T-R-N-A”]. For 10 points—what organelle [“organ”-EL] is the site of RNA translation and protein synthesis?

answer: ribosomes [“RYE”-boh-sohmz]

<336583>



2014-15 Middle School Championship
Packet 1

Bonuses

-
1. After the World Health Organization declared its eradication in 1980, the CDC [ˈC D C] kept some of the last remaining reserves of its causative virus. For 10 points each—
- A. Name this disease caused by the virus *Variola* [VAR-ee-OH-luh], which makes numerous lesions appear on the skin.
answer: smallpox (prompt on “pox”)
- B. The first vaccine for smallpox was discovered by this English doctor, who is sometimes known as the “father of immunology.”
answer: Edward Jenner
- C. Jenner vaccinated his patients by injecting them with a similar virus that causes this disease, as Jenner noticed that milkmaids exposed to this disease showed resistance to smallpox.
answer: cowpox (prompt on “vaccinia”)
- <377817>
2. The Inter-Services Intelligence directorate is this country's spy agency. For 10 points each—
- A. Name this majority-Muslim state created by the 1947 partition of British India.
answer: (Islamic Republic of) Pakistan (or Jamhuryat Islami Pakistan)
- B. This country was once known as “East Pakistan.” It declared independence in 1971.
answer: (People's Republic of) Bangladesh (or Gana Prajatantri Bangladesh)
- C. Pakistan's first governor general was this man, who served for more than three decades as the head of the All-India Muslim League.
answer: Muhammad Ali Jinnah (or Mahomedali Jinnahbhai)
- <81727>
3. By executive order, Barack Obama raised this value to ten dollars, ten cents an hour for some federal workers in January 2014. For 10 points each—
- A. Name this lowest hourly remuneration employers may legally pay workers.
answer: minimum wage
- B. This Ohio representative, the Speaker of the House at the time, thought raising the minimum wage would not help people climb the “ladders of opportunity.”
answer: John (Andrew) Boehner [BAY-nur]
- C. Some opponents of a minimum wage increase instead favor increasing this tax credit, abbreviated EITC or just EIC, that is based on the amount of money some lower-wage working people make.
answer: earned income (tax) credit
- <358378>

4. This company was originally called Tamla Records when it was founded by Berry Gordy Jr. in 1959. For 10 points each—
- A. Name this Detroit record company that developed a distinctive soul music “Sound” while working with bands such as the Four Tops and the Temptations.

answer: Motown [MOH-“town”] (Record Corporation) (accept Motown Sound)

- B. This Motown group, which for a time consisted of Florence Ballard, Mary Wilson, and Diana Ross, recorded the hits “Baby Love” and “Stop! In the Name of Love.”

answer: the Supremes (accept Diana Ross & the Supremes or the Supremes with Diana Ross)

- C. Motown also released this band’s songs “I’ll Be There,” “I Want You Back,” and “ABC.” This quintet of brothers formed in Gary, Indiana.

answer: the Jackson 5 (accept the Jackson Five Singing Group; prompt on “the Jackson Brothers” or “the Jacksons”)

<38162>

5. The presidential election of 2000 wasn't decided until the Supreme Court ruled to stop a recount of votes in Florida. For 10 points each—

- A. The Democratic loser was this then-vice president, later known for filming *An Inconvenient Truth* to raise awareness of global warming.

answer: Al(bert Arnold) Gore (Jr.)

- B. This Green Party candidate in the election was widely criticized for being a “spoiler” who took votes from Gore.

answer: Ralph Nader [NAY-dur]

- C. In a March 1999 interview with CNN, Gore claimed to have taken “the initiative in creating” this communication infrastructure; the comment was widely reported as a claim to have “invented” it.

answer: Internet (prompt on “World Wide Web,” “Net,” or “Information Superhighway”)

<38208>

6. This state has only three counties, including Sussex and Kent, which is the smallest number of counties of any state. For 10 points each—

- A. Name this mid-Atlantic state whose most populous city, Wilmington, is in New Castle County.

answer: Delaware

- B. This capital city of Delaware is in Kent County.

answer: Dover

- C. This word for a type of getaway destination follows “Rehoboth” [ruh-HOH-buth] and “Bethany” in the names of Delaware communities. This word also appears after “Myrtle” in the name of a South Carolina tourist city.

answer: beaches (accept Rehoboth Beach or Bethany Beach or Myrtle Beach)

<38167>

7. According to the Bohr model, these particles orbit in shells around a positively-charged nucleus. For 10 points each—

- A. Name these subatomic particles with negative charge.

answer: electrons

- B. Covalent [koh-VAY-lint] bonds form between elements with similar values for this property, the strength of an atom's attraction of pairs of electrons within a bond.

answer: electronegativity [“electro-negativity”] (accept word forms such as electronegative)

- C. This lightest halogen [HAL-uh-jen] is the most electronegative element, with a score of 4.0 on the Pauling scale.

answer: fluorine

<38119>

8. Despite his very large fingers, Itzhak Perlman plays this instrument. For 10 points each—

A. Name this high-pitched string instrument played by an orchestra's concertmaster.

answer: violins

B. Perlman's large fingers make it difficult for him to play on this highest string of the violin. It is tuned a perfect fifth above the A string.

answer: E string

C. This part of the violin's bow [boh], found in all string instrument bows, houses the mechanism responsible for tightening the bow hair.

answer: frogs

<377099>

9. One character in this book is enticed by the promise of Turkish delight. For 10 points each—

A. Name this book in which the four Pevensie [PEH-ven-see] children meet the faun Mr. Tumnus, and fight against the White Witch.

answer: The Lion, the Witch and the Wardrobe

B. The White Witch is killed by this lion, who is resurrected after being sacrificed on the Stone Table.

answer: Aslan

C. The youngest Pevensie child shares this first name with Miss Honeychurch, the protagonist of E. M. Forster's novel *A Room with a View*.

answer: Lucy (accept Lucy Pevensie or Lucy Honeychurch)

<315234>

10. In 1986 an explosion and fire at this facility's Reactor No. ["number"] 4 caused one of the worst nuclear accidents in history. For 10 points each—

A. Name this former Soviet nuclear power plant located near the city of Pripyat [PREEP-yaht].

answer: Chernobyl [chur-NOH-bul] (Nuclear Power Plant) (or Chornobyl)

B. Today the decommissioned site of Chernobyl is located in this former Soviet republic.

answer: Ukraine (or Ukrayina)

C. The Chernobyl nuclear disaster remained the only level 7 event on the International Nuclear Event Scale until a 2011 accident in this country.

answer: Japan (or Nihon-koku or Nippon-koku) [The 2011 accident occurred at the Fukushima Daiichi Nuclear Power Plant.]

<381662>

11. Engrams are neural correlates of the data stored by this faculty, which is sometimes broken down into implicit and explicit components. For 10 points each—

A. Name this faculty that stores information permanently. Its temporary counterpart typically stores information for about 30 seconds.

answer: long-term memory (prompt on "memory")

B. Long-term memory formation and retrieval are respectively impaired in the "anterograde" [AN-tuh-roh-"grade"] and "retrograde" forms of this condition.

answer: (anterograde or retrograde) amnesia

C. Amnesia can result from damage to this structure in the limbic system that is named for its seahorse-like shape.

answer: hippocampus ["hippo-campus"] (or hippocampi)

<377474>

12. This poem's speaker chooses a pathway that is "just as fair" as another which "bent in the undergrowth." For 10 points each—

A. Name this poem that begins "Two roads diverged in a yellow wood."

answer: The Road Not Taken

B. "The Road Not Taken" was written by this American poet, who described "the darkest evening of the year" in "Stopping by Woods on a Snowy Evening."

answer: Robert (Lee) Frost

C. While working with his neighbor, the speaker of this Frost poem muses "My apple trees will never get across / And eat the cones under his pines."

answer: Mending Wall

13. This country's civil war began with the 2012 overthrow of president François Bozizé [frah-n-SWAH BOH-zee-zay]. For 10 points each—

A. Name this country, which was once ruled by "emperor" Jean-Bédél Bokassa [zhahn-BEH-del boh-KAH-sah] from Bangui [ban-GOO-ee].

answer: Central African Republic or CAR (or République Centrafricaine)

B. The chief factions in the civil war are the "anti-balaka" and "Séléka" [say-LAY-kah] movements, which roughly represent what two large religions, the most popular in Africa as well as the world?

answer: Christianity (accept word forms; do not accept or prompt on "(Roman) Catholicism" or "(Eastern) Orthodox")

Islam (accept Muslims or Sunni Islam)

C. Another civil war currently ongoing in Africa is taking place in this country, where rebels currently control several oil fields. This country's capital is Juba [JOO-bah].

answer: (Republic of) South Sudan (do not accept or prompt on "Sudan")

14. Pencil and paper ready. A circle has a radius of 10. For 10 points each—

A. What is the length of the longest chord [kord] of the circle?

answer: 20 [The longest chord of a circle is the diameter, which is twice the radius; $2 \times 10 = 20$.]

B. What is the length of an arc of the circle that subtends a central angle of 90 degrees?

answer: 5 pi (do not accept or prompt on "5") [The complete circumference of the circle is $C = 2 \times \pi \times r = 2 \times \pi \times 10 = 20 \pi$, so the length of the arc is $(20 \pi) \times (90/360) = (20 \pi) \times (1/4) = 5 \pi$.]

C. What is the length of the chord that, at its closest approach, is a distance of 6 away from the center of the circle? You have 10 seconds.

answer: 16 [The chord, a line segment connecting the chord to the center at its closest approach, and 2 radii will create two, congruent 6-8-10 right triangles; $8 + 8 = 16$.]

15. For 10 points each—name these Roman emperors:

A. This victor at the Battle of Actium [AK-tee-um] became the first Roman emperor. His forces lost the Battle of Teutoburg ["TOY"-toh-boorg] Forest.

answer: Augustus Caesar or Octavian (or Gaius Octavius or Gaius Julius Caesar Octavianus; do not accept or prompt on "(Julius) Caesar")

B. This man divided imperial rule into the Tetrarchy [TET-rah-kee], and led the last major persecution of Christians.

answer: Diocletian ["DIE"-uh-KLEE-shun] (or Diocles; or Gaius Aurelius Valerius Diocletianus Augustus)

C. This Christian convert won the Battle of the Milvian [MIL-vee-un] Bridge. He issued the Edict of Milan, and called the First Council of Nicaea [nye-SEE-uh].

answer: Constantine I or Constantine the Great (or Flavius Valerius Aurelius Constantinus Augustus)

16. This artist painted a waiter standing by a billiard table in *The Night Café*. For 10 points each—

A. Name this Dutch artist who created numerous paintings of wheat fields and sunflowers.

answer: Vincent (Willem) van Gogh [van goh]

B. This van Gogh painting shows a swirling sky above the town of Saint-Rémy [sahn-ray-mee]. The left side of this painting is dominated by a cypress tree.

answer: The Starry Night (or De Sterrennacht)

C. Van Gogh cut off part of his ear after a confrontation with this artist, who painted three women seated under a cross in *The Yellow Christ*.

answer: (Eugène Henri) Paul Gauguin [goh-gan]

<336653>

17. These sites drive seafloor spreading. For 10 points each—

A. Name these underwater mountain ranges. They release magma that cools to form new crust.

answer: mid-ocean ridges (or oceanic ridges)

B. Mid-ocean ridges have two plates moving away from each other, making them this type of tectonic boundary.

answer: divergent boundary (or constructive boundary)

C. Tectonic plates move due to currents in the asthenosphere [ess-THEEN-oh-"sphere"] caused by this type of heat transfer involving the bulk motion of fluids.

answer: convection (or convection currents)

<365251>

18. For 10 points each—answer the following about unrecognized regions:

A. This island nation, which was established in 1949, goes by the name "Chinese Taipei" [TYE-pay] when it competes in the Olympics.

answer: Taiwan (or Republic of China or Zhonghua Minguo; do not accept or prompt on "People's Republic of China")

B. Erbil [ehr-BEEL] is the capital and most populous city in an autonomous region in northern Iraq named for this ethnic group. These people are often considered the most numerous ethnicity without their own nation.

answer: Kurds or Kurdish people (accept Kurdistan)

C. This region in northern Somalia, whose capital is Hargeisa [hahr-GAY-suh], declared independence in 1991, but has not been internationally recognized.

answer: (Republic of) Somaliland [soh-MAH-lee-land] (accept Autonomous Region of Somaliland)

<362822>

19. For 10 points each—answer the following about the administration of James Madison:

A. This man served as Madison's second vice president; a practice in which political boundaries are drawn to favor a particular party is named after him.

answer: Elbridge (Thomas) Gerry ["jerry"] (accept gerrymandering)

B. This man, who succeeded Madison as president, served as secretary of state for most of Madison's two terms.

answer: James Monroe

C. Richard Rush, who later ran on a ticket with John Quincy Adams, followed William Pinkney in this position in Madison's cabinet. Edmund Randolph was the first man to hold this position.

answer: attorney general

<381996>

20. This quantity is the difference between the final position of an object and its initial position. For 10 points each—

A. Name this quantity which, for an object moving in one direction, is equal to the total distance traveled.

answer: (net) displacement

B. Displacement is this type of quantity that has both a magnitude and a direction.

answer: vector

C. James Clerk ["clark"] Maxwell introduced the displacement type of this quantity.

answer: electric current

<378046>

21. For 10 points each—answer the following about opera houses:

A. An opera house in Bayreuth [ˈBYˈ-roytʃ], Germany is dedicated to the works of this 19th-century composer, who is best known for his four-opera cycle *The Ring of the Nibelung* [NEE-beh-loong].

answer: (Wilhelm) Richard Wagner [REEK-ˈheartˈ VAHG-nur]

B. The title of a Gaston Leroux [gaa-stawn leh-roo] novel refers to this masked figure, who lives beneath the Paris opera house. Leroux's novel was later turned into an Andrew Lloyd Webber musical.

answer: The Phantom of the Opera (or Le Fantôme de l'Opéra or Erik; prompt on "(the Opera) Ghost" or "(the Angel of Music)")

C. Opera Australia is based in this city's opera house, which has a distinctive roof made up of interlocking "shells."

answer: Sydney (accept Sydney Opera House)

<377924>

22. This author wrote odes "to Indolence" and "to a Nightingale." For 10 points each—

A. Name this British poet who wrote "Beauty is truth, truth beauty" in "Ode on a Grecian Urn."

answer: John Keats

B. Keats said he "felt like some watcher of the skies" when he first read George Chapman's translation of this author. This ancient Greek poet is credited with writing the *Iliad* [IL-ee-ud] and the *Odyssey* [AH-dih-see].

answer: Homer (or Hómeros)

C. "On First Looking into Chapman's Homer" is an example of the Petrarchan [peh-TRAHR-kun] form of this type of poem, which is made up of 14 lines.

answer: sonnets (accept Petrarchan sonnets)

<315125>

23. His "rule of signs" gives an upper bound on the number of roots of one type of expression. For 10 points each—

A. Name this French mathematician and philosopher known for a namesake coordinate system.

answer: René Descartes [reh-nay day-ˈcart] (or Renatus Cartesius; prompt on "Cartesian (coordinate system)")

B. The rule of signs applies to this type of expression, a combination of variables and constants combined by addition, subtraction, and multiplication. Examples include $3x$ squared + $5xy - 2y$.

answer: polynomial(s) [pah-lih-NOH-mee-ul] (accept trinomial)

C. The coefficients of the polynomial expansion of $(x+1)^3$ [" x plus one, quantity cubed"] can be found on the third row of the triangle named after this other French mathematician.

answer: Blaise Pascal [pass-kal] (accept Pascal's triangle)

<336896>

24. For 10 points each—answer the following about people associated with bats:

A. This billionaire assumed the secret identity of Batman after the murder of his parents, Thomas and Martha.

answer: Bruce Wayne (accept either underlined name)

B. This Austrian composer, known as the "Waltz King," wrote music for the operetta *Die Fledermaus* [dee FLEE-dur-ˈmouseˈ], or *The Bat*.

answer: Johann Strauss [ˈshtrouseˈ] II (or Johann Strauss the Younger or Johann Strauss Jr.)

C. In the mythology of this Mesoamerican culture, the Hero Twins faced monstrous bats during their journey to the underworld of Xibalba [shee-BAHL-bah].

answer: Mayas (accept Mayan civilization; accept Quiché [kee-CHAY] Maya or Quichés)

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