

SCOP Novice 4 | Round 4

Brad Fischer • Jonah Greenthal • Rebecca Kobernat • Sabrina Lato • Greg Peterson • Jay Shirodkar
Kristin A. Strey • Mark Taylor • Brittany Trang • Tristan Willey • Michael H. Wong

Tossups

1. Pele [pay-lay] is one of these objects on Jupiter's moon Io and is named for the Hawaiian goddess of these. Other examples of these in the solar system include Venus' Maat Mons and Mars' (*) Olympus Mons, which formed from low-viscosity flows of basalt, creating a shield shape. Mauna Loa is, for 10 points, what type of geologic feature that includes a vent or rupture through which gas, ash, and lava can erupt?

Answer: volcano

2. This country was led by Akbar Hashemi Rafsanjani during the 1990's. Rafsanjani was rejected to run in this country's 2013 Presidential election by this nation's Guardian Council, which cut the hundreds of registered candidates down to eight official candidates, after which (*) Hassan Rouhani was elected president of this country. For 10 points, name this country previously led by Mahmoud Ahmadinejad, the former mayor of its capital, Tehran.

Answer: Islamic Republic of Iran

3. This work's fourth section includes a calculation of the cost of the British Navy, arguing that America should build a navy herself. Royalties from this work were donated to the Continental Army by its author, who published it anonymously. This work notes the (*) absurdity of an island ruling a continent, and argues that the colonies should declare independence from Britain. For 10 points, name this 1776 pamphlet written by Thomas Paine.

Answer: Common Sense

4. An early novel from this nation sees three men become sworn brothers in a peach garden, and another of this nation's novels concerns a monk whose disciples are Pig and Monkey. Those works are two of the Four Great Classics of this country, and are named (*) *Romance of the Three Kingdoms* and *Journey to the West*. For 10 points, name this country, the home of recent Nobel laureate Mo Yan and the author of *The Art of War*, Sun Tsu

Answer: People's Republic of China (accept Zhōnghuá Rénmín Gònghéguó)

5. There are approximately n over $\log n$ numbers of this type that are less than n . Euclid proved that there are infinitely many of these numbers. Goldbach's conjecture states that every even integer larger than 2 is the sum of (*) two of these numbers. The fundamental theorem of arithmetic states that all positive integers larger than 1 can be expressed as a product of this type of factor. 2 is the only even example of, for 10 points, what numbers contrasted with composites?

Answer: prime numbers or primes

6. This instrument introduces the main theme of *Prelude to the Afternoon of a Faun*, and this instrument is the first to play the melody in *Boléro*. Theobald Boehm developed its open keys and its (*) cylindrical bore, allowing it to be made out of metal instead of wood. Pitched in C Major, it has head, body, and foot joints, in contrast to the two joints of its smaller, higher-pitched cousin. For 10 points, name this woodwind, a cousin of the piccolo.

Answer: flute

7. The Supreme Court case *Leser v. Garnett* upheld the ratification of this Constitutional amendment. It was the subject of a 1913 parade on Pennsylvania Avenue in Washington, held the day before Woodrow Wilson's first inauguration; that march was led by Alice Paul. This amendment wasn't ratified until (*) 1920, though it was written in the 1870's by Susan B. Anthony. Suffragettes supported, for 10 points, what amendment that guaranteed women the right to vote?

Answer: Nineteenth Amendment to the U.S. Constitution (or Amendment 19)

8. For an isobaric process, this quantity equals the product of pressure and the volume change. For a constant torque, this quantity is the product of torque and angular displacement. Power is this quantity's rate of change. The dot product of (*) force and displacement equals this quantity. For 10 points, name this physical quantity that equals the energy transferred by a force applied over a distance, measured in joules.

Answer: work done

9. In one of this man's poems, the speaker strangles the title character with "one long yellow string" of her hair. He also wrote a poem about a woman who was not impressed with the speaker's gift of a "nine-hundred-years-old name." This poet of (*) "Pipa Passes" and "Porphyria's Lover" wrote about Frà Pandolf's painting of a woman who was "too easily impressed." For 10 points, name this British poet of "My Last Duchess."

Answer: Robert Browning

10. On "New Girl", Nick dances to this song to cheer Jess up after a breakup. Capital letters in this song's liner notes spell out "Ashley Dianna Claire Selena." In its music video, the singer wears a t-shirt reading "Not a lot going on at the moment," while singing "we're (*) happy, free, confused, and lonely at the same time." For 10 points, name this single from *Red* in which Taylor Swift declares, "I don't know about you, but I'm feeling" the title age.

Answer: "22"

11. Depictions of this battle show the leader of the losing side being killed by an arrow to the eye. Three weeks before this battle, Harald Hardrada's Norwegian army was defeated at Stamford Bridge by the chosen heir of Edward the (*) Confessor; that man, Harold Godwinson, was killed at this battle, ending Anglo-Saxon rule of England. For 10 points, name this battle, won by Norman invaders under William the Conqueror in 1066.

Answer: Battle of Hastings

12. This man wore a veil when his face was shining with God's glory after he descended from a mountain, and was the brother of a prophetess who sang "horse and rider, [God] has thrown them into the sea." He fled to Midian after killing an (*) Egyptian; when he returned, his brother, Aaron, helped him ask Pharaoh for the Israelites' freedom. For 10 points, name this man, who parted the Red Sea.

Answer: Moses (accept Moshe; accept Musa)

13. One of this author's protagonists used to work at a Dead Letter office, but starves to death in prison because he "would prefer not to" eat. This author wrote a novel in which Captain Vere is forced to execute the killer of John Claggart and a short story about (*) "Bartleby the Scrivener." Queequeg is among the crew of the *Pequod* lost in Captain Ahab's hunt for a white whale in a work by, for 10 points, what author of *Billy Budd* and *Moby Dick*?

Answer: Herman Melville

14. This man created a political cartoon of a snake cut into 8 pieces named "Join, or Die," and also wrote humorous letters as the widowed Mrs. Silence Dogood. He was the first U.S. Ambassador to both Sweden and France as well as the first (*) Postmaster General. This author of *Poor Richard's Almanac* invented the lightning rod after experimenting with a kite in a storm. For 10 points, name this inventor and founding father who appears on the \$100 bill.

Answer: Benjamin Franklin

15. In one of this man's works, a woman in a white hat fills four peasants' coffee cups below a lamp with a single candle. In another work, this man painted a bed with a yellow footboard and red blanket. In addition to *The* (*) *Potato Eaters* and *Bedroom in Arles* [AHRL], he painted swirling clouds and lights above the village of Saint-Remy [sahn reh-MEE] and two series of sunflower paintings. For 10 points, identify this Dutch artist who painted *Starry Night*.

Answer: Vincent van Gogh

16. In an effect named for this man, increasing oxygen levels lead to decreasing fermentation activity. He showed that microbes were the cause of two silkworm parasites. In his “soup of life” experiment, this microbiologist disproved (*) spontaneous generation in favor of biogenesis, and he separately developed vaccines for rabies and anthrax. For 10 points, name this French scientist who developed a method of heat-treating perishable products, like milk, to give them a longer shelf life.

Answer: Louis Pasteur

17. In Norse mythology, this phenomenon is controlled by an eagle-shaped giant named Hraesvelg [hRAYS-velg]. A Greek god of this phenomenon abducted the nymph Chloris. Hoping to find treasure, Odysseus's crew (*) opened a bag containing this phenomenon. It is governed by Aeolus [ay-oh-luhs] in Greek mythology, who presides over Boreas [boh-ree-as] and Zephyrus [zeh-fee-ruhs], the Northern and Western type of this. For 10 points, name this weather phenomenon that propels ships with sails.

ANSWER: winds

18. In 1961, this group's leader was flying to negotiate peace talks with the State of Katanga when his plane crashed in Rhodesia. This organization has been led by Kurt Waldheim, the aforementioned Dag Hammarskjold [“hammer”-skee-old], and a man who tried to resolve the (*) Syrian Civil War, Kofi Annan. Ban Ki-moon is the current Secretary General of, for 10 points, what international diplomacy organization, headquartered in New York City, that replaced the League of Nations?

Answer: United Nations (accept UN)

19. This element is bound to a halogen to form substances that convert carbonyl groups to alcohols, called Grignard [GRIN-yard] reagents [ree-“agents”]. Its sulfate is used as bath salts, and it is also found in many (*) laxatives. An atom of this element is found at the center of chlorophyll's ring. In a common lab demonstration, a “ribbon” of this metal is ignited, producing an extremely intense white flame. For 10 points, name this silvery metal whose symbol is Mg.

Answer: magnesium (prompt on Mg)

20. This author wrote about a soldier who could summon three monstrous dogs by striking the title “Tinderbox.” Gerda travels to remove a splinter of a troll's mirror from Kai in this author's “The (*) Snow Queen.” In another story, a title princess drinks a Sea Witch's potion to become a human, but dies when she cannot win the love of her prince. For 10 points, identify this Danish author of children's fairy tales like “The Little Mermaid.”

Answer: Hans Christian Andersen

Bonuses

1. This architect created the Experience Music Project Museum in Seattle, which features stainless steel and aluminum panels on its exterior. For 10 points each,
[10] Name this architect, who designed the Guggenheim Bilbao and the Walt Disney Concert Hall, as well as the “Dancing House” in Prague.

Answer: Frank Owen **Gehry** (accept Frank Owen **Goldberg**)

[10] Gehry designed the Jay Pritzker Pavilion, which is located in this city. The Willis Tower and John Hancock Building are also located here.

Answer: **Chicago**, Illinois

[10] The Jay Pritzker Pavilion is located in this Chicago park. Other structures located here include the Crown Fountain, which shows faces of Chicagoans, and *Cloud Gate*, also known as “The Bean.”

Answer: **Millennium** Park

2. The gold foil experiment demonstrated the existence of this region. For 10 points each,
[10] Name this central part of the atom that contains protons and neutrons.

Answer: atomic **nucleus**

[10] Both protons and neutrons are composed of three of these elementary particles that come in six flavors.

Answer: **quarks**

[10] This fundamental force holds quarks together to form composite particles. This force is mediated by particles called gluons.

Answer: **strong** nuclear force (or **color** force or **color** interaction; prompt on “nuclear force”)

3. This leader may have had her husband, Peter III, killed, so that she could take the throne. For 10 points each,

[10] Name this 18th century Empress of Russia, an “enlightened despot” who supported the works of Voltaire and Diderot while brutally crushing uprisings like Pugachev's Rebellion.

Answer: **Catherine the Great** (or **Catherine II**; prompt on “Catherine”)

[10] Catherine fought two successful wars against this empire in modern-day Turkey. This “sick man of Europe” dissolved after World War I.

Answer: **Ottoman** Empire

[10] Catherine also attempted to open trade with Edo-era Japan. At the time, Japan was ruled by this government, which lasted until the Meiji Restoration in 1868.

Answer: **Tokugawa** shogunate (prompt on “shogun” or “shogunate”)

4. This poem's speaker doubts he shall ever come back, "knowing how way leads on to way."
For 10 points each,

[10] Name this poem, which concludes "Two paths diverged in a wood, and I-- / I took the one less travelled by, / And that has made all the difference."

Answer: The Road Not Taken (do not accept any variations)

[10] "The Road Not Taken" is a poem by this American poet of "Stopping By Woods on a Snowy Evening," who described two ways the world could end in "Fire and Ice."

Answer: Robert Lee Frost

[10] In this Robert Frost poem, the title structure separates the "apple orchard" narrator from someone who is "all pine," and believes "Good fences make good neighbors."

Answer: Mending Wall

5. This location lies on the south edge of the Groom Lake salt flat, where runways provide landing space for aircraft flying in from Edwards Air Force Base. For 10 points each,

[10] Name this U.S. Air Force installation. It is probably the site of weapons testing, and it is legendarily the home of evidence recovered from a UFO crash in Roswell, New Mexico.

Answer: Area 51

[10] Area 51 is a three hour drive from Las Vegas in the southern region of this state.

Answer: Nevada

[10] Farther north, near Carson City along the Nevada/California border, is this large lake. It is the second deepest in the United States, after Oregon's Crater Lake.

Answer: Lake Tahoe

6. There have been only twenty-three perfect games in Major League Baseball history; for 10 points each, give the following about nearly perfect games.

[10] In 1917, this Red Sox pitcher walked the first batter and was ejected for arguing with the umpire; Ernie Shore relieved this man, caught the runner stealing, and finished the game perfectly. This man hit 714 home runs, mostly as an outfielder with the Yankees.

Answer: George Herman "Babe" Ruth

[10] In 1995, this Montreal Expo pitched 9 perfect innings, but the Expos couldn't score until the top of the 10th inning; he gave up a leadoff double in the bottom of the 10th. He later won two Cy Youngs and the 2004 World Series with the Boston Red Sox.

Answer: Pedro Martinez

[10] In game 2 of the 2013 season, this team's starter, Yu Darvish, retired the first 26 batters before giving up a single through his legs. This team lost the 2010 and 2011 World Series.

Answer: Texas Rangers (accept either)

7. Some writers are imprisoned for their writings. Others write from their imprisonments. Some do both. For 10 points each,

[10] Inspired by the night he spent in jail for refusing to pay a poll tax, this writer accepted “That government is best which governs least” in his essay *Civil Disobedience*.

Answer: Henry David Thoreau

[10] While imprisoned, this man wrote *De Profundis*, but was better known for comedies like *The Importance of Being Earnest* and his novel *The Picture of Dorian Gray*.

Answer: Oscar (Fingal O’Flahertie Wills) Wilde

[10] Without any way to write it down in prison, this writer had to remember his 7,000 line poem *The Trail*. He did have pens when he wrote *One Day in the Life of Ivan Denisovich* and his examination of Soviet labour camps, *The Gulag Archipelago*.

Answer: Aleksandr Solzhenitsyn

8. For 10 points each, give the following about uses of the Greek letter sigma in mathematics:

[10] An uppercase sigma is used to denote repeating this operation, whose inverse is subtraction.

Answer: addition (accept summation; accept word forms)

[10] Lowercase sigma is used to symbolize this statistical measure of the spread of a data set. It is equal to the square root of variance.

Answer: (population) standard deviation (do not accept “sample standard deviation”)

[10] Sigma also symbolizes a function that gives the sum of these values for its input. Sigma of 6 returns 6, because 6 is a perfect number.

Answer: (proper positive) divisors (accept (proper positive) factors)

9. This figure’s father was told his son would either become a great ruler or a great teacher. For 10 points each,

[10] Name this Indian prince, who left his family behind to become “the enlightened one” and the namesake of a major world religion.

Answer: Gautama Buddha (accept Siddhartha Gautama; accept Shakyamuni)

[10] In order to achieve enlightenment, Buddha spent 49 days under this sacred fig tree, where he practiced constant meditation.

Answer: Bodhi tree (accept Bo tree; prompt on “peepal” tree)

[10] This complement of moksha is the ultimate goal of Buddhism. This state of enlightenment allows a being to break free of the cycle of death and rebirth.

Answer: nirvana

10. The Battle of Jumonville Glen began this war, after which British colonial forces retreated to Fort Necessity. For 10 points each,

[10] Identify this war, named for the two forces allied against British and colonial troops. This conflict was part of the larger Seven Years' War.

Answer: **French and Indian** War

[10] The French marched to Fort Necessity, where they defeated this British colonial leader and established Fort Duquesne [doo-KAYN]. This man later served as Commander in Chief of the Continental Army and as first President of the United States.

Answer: George **Washington**

[10] British General Edward Braddock led an expedition to re-take Fort Duquesne; the expedition failed at this 1755 battle in Pennsylvania. A Civil War battle of the same name began Grant's Overland Campaign against Robert E. Lee.

Answer: Battle of the **Wilderness** (accept Battle of the **Monongahela**)

11. The author of this work assigned the van Pels family the pseudonym “van Daan,” but her father kept his family’s names the same when he published this book in 1947. For 10 points each,

[10] Name this journal, called “Kitty” by its author, which detailed the life of the title teenager hiding in an upper-floor annex of an office building in Amsterdam.

Answer: The **Diary of a Young Girl** (accept The **Diary of Anne Frank**)

[10] *The Diary of a Young Girl* relates Anne Frank’s experiences during this event, in which the Nazis killed over six million Jews.

Answer: The **Holocaust** (prompt on "World War II")

[10] This Elie Wiesel book described his time in the Auschwitz and Buchenwald concentration camps and his declining faith in God during the Holocaust.

Answer: **Night**

12. The solid-liquid equilibrium line on this graph for water is unusual in that it has a negative slope. For 10 points each,

[10] Name these plots of pressure versus temperature, which show the conditions at which a substance will be a solid, liquid, or gas.

Answer: **phase diagrams**

[10] That line’s negative slope reflects the fact that water expands during this phase transition from liquid to solid.

Answer: **freezing** (accept word forms)

[10] At temperatures and pressures above this point on a phase diagram, the liquid and gas phases of a substance are no longer distinct.

Answer: **critical** point

13. This composer is believed to have written four poems to accompany his most famous compositions, which are part of a larger collection called *The Contest Between Harmony and Invention*. For 10 points each,

[10] Name this Italian composer, nicknamed "the Red Priest," who wrote *The Four Seasons*.

Answer: Antonio Vivaldi

[10] *The Four Seasons* are this type of musical composition, in which the featured violin soloist is accompanied by an orchestra or other instrumental ensemble.

Answer: violin concerto

[10] "La primavera," the first of *The Four Seasons*, is set in this four-sharp key.

Answer: E major (prompt on E)

14. A 1781 philosophical work distinguishes between this type of statement, which does not require personal experience to judge, and *a posteriori* [a pah-stee-ree-oh-ree] statements, which do. For 10 points each,

[10] Give this Latin term, which translates to "from the former."

Answer: a priori (accept any additional information, such as "a priori argument")

[10] This is the aforementioned philosophical work; this work by Immanuel Kant was followed by similar works on *Practical Reason* and *Judgment*.

Answer: Critique of Pure Reason (or Kritik der reinen Vernunft)

[10] Kant noted that experience is not necessary to judge the arguments " $7+5=12$ " or "the shortest distance between two points is a straight line" in an *a priori* study of this field.

Answer: mathematics

15. These stars maintain their structure via electron degeneracy pressure; the Chandrasekhar limit is the maximum mass of such a star. For 10 points each,

[10] Name this type of remnant star. These faint, small stars, such as Sirius B, do not undergo fusion.

Answer: white dwarf (prompt on dwarf)

[10] Stars more massive than the Chandrasekhar limit won't collapse into white dwarves, but rather into these deformities of space-time that absorb all light that crosses their event horizons.

Answer: black holes

[10] Electron degeneracy pressure is a result of this concept, which states that two fermions cannot occupy the same quantum state at the same time. One application of this principle is that two electrons in an atom cannot have the same four quantum numbers.

Answer: Pauli exclusion principle (accept either underlined portion)

16. This man's father threw himself off a cliff because his son forgot to change the color of his ship's sails. For 10 points each,

[10] Name this hero who was sent to Crete to be sacrificed with thirteen other young people.

Answer: Theseus

[10] Theseus was imprisoned in the Labyrinth with this creature. It had the head of a bull and body of a man.

Answer: Minotaur

[10] This daughter of Minos and eventual wife of Dionysus helped Theseus escape from the Labyrinth with her magical ball of string.

Answer: Ariadne

17. The first of these documents to be discovered were found by Bedouins in a cave at Qumran in 1946. For 10 points each,

[10] Name this collection of texts, including a number of texts from the Hebrew Bible. Their name comes from the body of water near their discovery site.

Answer: Dead Sea scrolls

[10] Many of the Dead Sea scrolls were written on this paper-like material made from reeds of a swamp plant native to Egypt.

Answer: papyrus

[10] Some of the Dead Sea scrolls were not written on paper, but on ostraca, which are fragments of this type of archaeological find. The Greek practice of ostracism -- vote-based exile -- used fragments of these objects as the ballots.

Answer: pots or pottery (accept logical equivalents, including (but not limited to) ceramics, vases, urns, and other such man-made objects; prompt on "clay" or "stone")

18. Assembled proteins move from this organelle to the Golgi complex. For 10 points each,

[10] Name this organelle that has rough and smooth varieties.

Answer: endoplasmic reticulum (or ER)

[10] The rough endoplasmic reticulum is studded with these other organelles, whose large subunit is the site of amino acids joining to form polypeptides.

Answer: ribosomes

[10] Proteins are moved from the endoplasmic reticulum to the Golgi complex by these bubble-like organelles, specific types of which include vacuoles and lysosomes.

Answer: transport vesicles

19. This character is described as “a worthy man” who loves “truth, honor, freedom, and all courtesy” and bears himself “as meekly as a maid” in a Middle English poem. For ten points each,

[10] Identify this character who, while on his way to an English shrine, entertains fellow travelers by telling of Arcite and Palamon fighting for Emily’s love.

Answer: **Knight** (accept **Knight’s Tale**)

[10] The Knight is a pilgrim stopping at the Tabard Inn in this poetic collection. Another character in this work, the Wife of Bath, tells fellow pilgrims about a search for what women most desire.

Answer: The **Canterbury Tales**

[10] *The Canterbury Tales* was written by this author, who also wrote about Scipio Africanus guiding the narrator through Venus’s temple in his *Parliament of Fowles*.

Answer: Geoffrey **Chaucer**

20. A third party in this state seeks its independence from the United States; if it did become an independent country, it would be the 7th largest country in the world. For 10 points each,

[10] Name this U.S. state. In 2008, it was revealed that Todd Palin, husband of this state's Governor, Sarah Palin, was once a member of the aforementioned Independence Party.

Answer: **Alaska** (accept **Alaskan** Independence Party; prompt on AIP)

[10] Roughly half of Alaskans live in or around this city, west of the Chugach Mountains, which was heavily damaged by the 1964 Good Friday Earthquake.

Answer: **Anchorage**

[10] Anchorage's airport is named for Ted Stevens, who died in a plane crash in 2010. Stevens served in this position for 31 years, from 1968 until he was defeated by Mark Begich in 2009 amid a corruption trial.

Answer: U.S. **Senator**