**GSAC XXIII**Head Edited by Will Overman, written by members of Maggie Walker Quizbowl

**Packet 14 - Finals 2**

1. **The oscillating behavior of the isotherm formed by this equation caused it be unable to describe real substances along its increasing portion. This flaw was accounted for by Maxwell’s equal area rule. One term in this equation accounts for (\*)** attraction between particles while another accounts for the size of a mole of particles. This equation includes modification parameters symbolized a and b. For 10 points, name this equation that modifies the Ideal Gas law and is named for its Dutch developer.

ANSWER: **van der Waals** equation

2. **In the Grimnismal, this object is called the noblest of its kind and described as suffering “agony more than men know”. The well Hvergelmir, where over 20 rivers flow from the antlers of a stag, is located under this entity. During Ragnarok, Lif and Lifthrasir will survive Fimbulvetr by hiding in (\*)** Hoddmimis holt, referring to this giant object. The four stags Dainn, Dvalinn, Duneyrr and Durathror live at this structure, and the dragon Nidhogg gnaws at the roots of this plant. For 10 points, name this “world tree” of Norse myth, located at the center of the nine realms.

ANSWER: **Yggdrasil** [accept **Mimameidr**, and prompt on Hoddmimis holt and world tree before mentioned]

3. **Despite defeating this nation at the Battle of Metaxas Line, Adolf Hitler commended troops from this country for their bravery. A referendum in this country in 1975 elected not to restore its monarchy. This country was forced to pay reparations to Italy by the League of Nations, despite the fact it was Italy who had invaded this nation’s island of (\*)** Corfu. In 1949, a civil war in this country ended with the DSE Army surrendering to the US-backed Hellenic Army. For 10 points, name this Balkan nation that lifted its veto against its neighbor Turkey in its bid for EU membership in 1999 after both were hit by an earthquake.

ANSWER: **Greece** [accept “**Hellenic Republic**” until “Hellenic Army” is read]

4. **Mr. Garrison begins a relationship with this man in a South Park episode featuring intelligent sea otters. He starred alongside Lawrence Krauss in the 2013 documentary *The Unbelievers*. This scientist tweeted that Ahmed Mohammed didn’t actually “make” a clock and should be called “hoax boy” instead. This (\*)** Brit delivered the 1991 Christmas lectures at the Royal Institue on the evolution of live in the Universe. He argued against the watchmaker analogy in his work *The Blind Watchmaker*. Other books by him include *The Selfish Gene* and *The God Delusion*. For 10 points, name this British evolutionary biologist and strong advocate of atheism.

ANSWER: Richard **Dawkins**

5. **Elizabeth Hardwick dissed this city in an article titled for its “Lost Ideal.” One poet from this city wrote “The art of losing isn’t hard to master” in her poem “One Art.” She was also the dedicatee of a poem by another poet from this city that claims “I myself am hell; nobody’s here.” A monument here (\*)** “sticks like a fishbone in the city’s throat” according to the poem “For the Union Dead” by Robert Lowell. For 10 points, name this city that serves as the setting for Longfellow’s poem “Paul Revere’s Ride.”

ANSWER: **Boston**, Massachusetts

6. **One work by this artist depicts four figures restraining a wild horse, pulling on its mane and tail. This artist depicted four horses with their hooves off the ground in a painting of an 1821 Derby. A collection of ten paintings on psychiatric patients by this artist includes a (\*)** kleptomaniac and a gambling addict. He painted a Napoleonic soldier carrying a sword on a bucking white horse in *The Charging Chasseur*, and another of his works includes a survivor of a shipwreck waving a red cloth off the coast of Mauritania. For 10 points, name this pioneer of the Romantic Movement, known for *The* *Raft of the Medusa*.

ANSWER: Jean-Louis André Théodore **Géricault**

7. **The deceleration parameter is equal to one plus the time derivative of a value named for this scientist divided by that same value squared. That value named for him is equal to the time derivative of the cosmic scale factor divided by the scale factor. The age of the universe can be approximated as the inverse of his namesake (\*)** constant. His namesake law states that the recessional velocity of a galaxy is equal to its distance from us multiplied by his namesake constant. For 10 points, name this American astronomer who is the namesake of an optical space telescope launched by NASA in 1990.

ANSWER: Edwin **Hubble**

8. **One composer from this country wrote a 20 minute solo piano portrait of Arthur Rubinstein titled the *Rudepoêma.* “It Tears Your Heart” is the subtitle of the tenth piece in that composer from this country’s *Chôros* series. That same composer wrote a series of nine suites that combine the folk music of this nation with the (\*)** baroque style of J.S. Bach. A Latin-jazz musician from this country composed the song “The Girl from Ipanema.” For 10 points, name this South American country home to Heitor Villa-Lobos and Antonio Carlos Jobim, the creator of bossa nova.

ANSWER: **Brazil**

9. **This action befell Dismas the Good Thief in the Gospel of Nicodemus. In the Qur’an, Prophet Yusuf proclaims to the king that this action will befall one of his prisoners in Surah 12:41, while in Surah 7:124, Fir’awn says this action will be done to his chief wizards. This action preceded the (\*)** Seven Stations of the Cross. Surah 5:33 allows for this action to be done to any criminal who kills his victim after robbing them. For 10 points, name this slow and painful method of execution that was carried out by the Romans on Jesus Christ, only for him to resurrect three days later.

ANSWER: **crucifixion**

10. **A character in this play, who is introduced as always wearing black, marries a school teacher after giving up on her true love. An author in this play has an estate manager do some taxidermy work for him, but doesn’t remember it when he comes to visit Sorin’s estate two years later.** (\*) Dr. Dorn tells Trigorin to take the actress Arkadina away at the end of this play after he realizes that her son has shot himself. He shot himself due to getting rejected by his ex, Nina. For 10 points, name this Chekhov play in which Treplev shoots the title bird.

ANSWER: *The* ***Seagull***

11. **This range possesses the mountain farthest from the Earth’s center due to the equatorial bulge beneath it.  This mountain range is home to the, “tin belt,” including the now depleted (\*) Cerro Rico de Potosí. This range was formed from the subduction of the (\*)** Nazca and Antarctic plate beneath another tectonic plate. The world’s highest active volcano can be found in this range; that volcano is Ojos del Salado. Tierra del Fuego can be found at the southern tip of this mountain range. For 10 points, name the longest continental mountain range in the world, which runs through countries such as Peru, Chile, Argentina, and Bolivia.

ANSWER: **Andes**

12. **Karl Lorenz formulated an attachment theory based around the kewpie form of these objects. An experiment concerning these objects was used as evidence in *Briggs v. Elliot*. That test, performed by Kenneth and Mamie Clark, found that (\*)** black children preferred a certain type of these objects as opposed to the opposite. In another experiment, adults were filmed shouting phrases such as “sockeroo!” and “pow, right in the nose!” while hitting these objects with small hammers. For 10 points, name these toys, the “bobo” form of which was used in a Stanford psychological experiment by Albert Bandura.

ANSWER: **dolls** [accept **bobo dolls** before it is read]

13. **When this quantity is equal to *z*, Price’s equation reduces to Fisher’s fundamental theorem, which states that that rate of increase in this quantity is proportional to population variance. Populations evolve as to find a local maximum on the namesake “landscape” of this quantity according to Wright’s model. The (\*)** inclusive type of this quantity accounts for dependence upon others, and is thus used in the study of kin selection. Inbreeding causes a decrease in this quantity, for which mules have a value of zero. For 10 points, name this quantity that characterizes an organism’s ability to reproduce and pass on its genes.

ANSWER: **fitness**

14. **At the end of a novel by this author, the protagonist feels “the milky way flow down inside him with a roar.” That occurs after he watches a woman he had earlier seen on a train get saved from a burning warehouse. Images of a 19 by 19 board are interspersed throughout a novel by him about a match between (\*)** old and young players of a certain game. In another novel by this author, a mistress of Kikuji’s father tries to get him to marry Yukiko. In another of his novels, Shimamura travels to the title location to visit Komako at the hot springs. For 10 points, name this author of *Thousand Cranes*, *The Master of Go*, and *Snow Country*.

ANSWER: Yasunari **Kawabata**

15. **During this battle, a barrage by gunboats near Pittsburg Landing prevented one side’s forces from being overwhelmed by a Confederate assault. The Union defense near a sunken road during this battle was so fierce that it became known as the (\*)** “Hornet’s Nest”. General Albert Sidney Johnston was killed during this battle, becoming the highest ranking Civil War officer to die on the field.The loser of this battle was forced to evacuate the city of Corinth, leading to the fall of Vicksburg the next year. For 10 points, name this bloody 1862 battle that took place near the Tennessee River.

ANSWER: Battle of **Shiloh**

16. **The losing side of this battle lost nearly a third of its men after its commander, Datis, ordered a retreat. Hippias commanded one side’s forces during this battle after being expelled from Athens by Cleomenes I. Callimachus was killed during this battle, but his men saved (\*)** Miltiades’ Athenian forces after their center line buckled. The marshlands around the site of this battle prevented one side from fielding its cavalry, but they still utilized their 10,000 Immortals. Legend has it that Pheidippides ran 26.2 miles from the site of this battle back to Athens. For 10 points, name this 490 BCE battle of the Greco-Persian Wars.

ANSWER: Battle of **Marathon**

17. **The Dirac equation can be solved in 1+1 dimensions using this physicist’s namesake “checkerboard,” and can be simply expressed using his namesake slash notation. Green’s functions give the propagator of a particle on constructs named for this physicist, who introduced a theory where the exponential of the action is proportional to path contribution. He shared a nobel prize with (\*)** Schwinger and Tomonaga for his work on quantum electrodynamics. Antiparticles are depicted travelling backwards in time on his namesake diagrams. For 10 points, name this physicist whose class at Caltech was converted into his *Lectures on Physics*.

ANSWER: Richard P. **Feynman**

18. **In one of this director’s films, the protagonist fantasizes about having a harem in his childhood home with all the women he’s lusted for in life. That same film opens with the protagonist stuck in his car before floating in the sky over a beach. One of his films opens with a shot of a helicopter carrying a statue of (\*)** Jesus. Another of his films follows the director, Guido Anselmi, attempt to make a movie based on his life. Marcello Rubini dances with the actress Sylvia in the Trevi Fountain while trying to discover the “sweet life” of Rome in his most famous film. For 10 points, name this Italian director of *8 1/2* and *La Dolce Vita*.

ANSWER: Federico **Fellini**

19. **Kublai Khan sent an expeditionary force to conquer a kingdom in this modern-day country  after its ruler, Kertanegara, refused to pay tribute. In 1512, Portuguese explorer Francisco Serrão led the first of several trading expeditions to this modern-day country’s island of Maluku. Led by (\*)** Gajah Mada, the Majapahit Empire reached its greatest extent in this modern-day country, but was superseded by the Sultanate of Malacca. For 10 points, name the largest archipelago nation in the Pacific, home to the world’s largest population of Muslims.

ANSWER: Republic of **Indonesia**

20. **He concluded one poem with the lines “And I am dumb to tell the lover’s tomb / How at my sheet goes the same crooked worm.” This poet of “The force that through the green fuse drives the flower” opened one poem describing how in his youth he was as “happy as the grass was green.” The lines “Time held me green and dying / Though I sang in my chains like the sea” conclude his poem (\*)** “Fern Hill.” He wrote a poem declaring that “Old age should burn and rave at close of day” and told his father to “Rage, rage against the dying of the light.”  For 10 points, name this Welsh poet of “Do not go gentle into that good night.”

ANSWER: Dylan **Thomas**

TB. **This adjective partially names a protein that is formed through cyclization reactions of serine-65, glycine-67, and tyrosine-66. That protein described by *this* adjective is used in the brainbow technique and was discovered in *Aequorea victoria*. A hypothesis partially named for this adjective describes why (\*)** herbivores eat a small fraction of plants available. Chlorophytes are members of a type of algae described by this color. Molecules found in thylakoid membranes reflect this color of light. For 10 points, name this color of chloroplasts, which gives it to leaves.  
ANSWER: **green** [accept “**fluorescent**” until “herbivores” is read]

1. In one work by this author, the main character gets shipwrecked on an island of tiny people called Lilliputians. For 10 points each:

[10] Name this Irish satirical writer who wrote about the title character’s adventures to places like Brobdingnag in *Gulliver’s Travels*.

ANSWER: Jonathan **Swift**

[10] In his satirical essay, *A Modest Proposal*, Swift suggests that to ease their economic troubles, the poor Irish people should sell their children to the wealthy so the children can serve this purpose.

ANSWER: **food** for the wealthy [accept obvious equivalents about the children **being eaten**]

[10] Swift also authored this satirical work about a father who leaves clothing that is not allowed to be altered to his three sons, who each represent a branch of Christianity.

ANSWER: *A* ***Tale of a Tub***

2. Information provided by Ras Arufa prevented the premature withdrawal of the winning force in this battle. For 10 each:

[10] Name this 1896 battle in which the men of Emperor Menelik II decisively defeated an Italian Army under Orestes Baratieri.

ANSWER: Battle of **Adowa** [accept Battle of **Adwa** or **Adua**]

[10] Menelik’s victory at Adowa ensure the independence of this African nation, the only besides Liberia to remain uncolonized. Its current capital is Addis Ababa.

ANSWER: **Ethiopia**

[10] This most prominent Ethiopian Emperor protested the use of chemical weapons when the Italians invaded Ethiopia again in 1935.

ANSWER: Haile **Selassie I**

3. Einstein introduced this theory in 1915, ten years after his special theory of relativity. For 10 points each:

[10] Name this theory of gravitation that describes the deformation of spacetime by massive bodies as outlined by the Einstein field equations.

ANSWER: **General** theory of relativity [accept “**GR**”]

[10] The first test confirming predictions of General relativity was the observation of the perihelion precession of this planet.

ANSWER: **Mercury**

[10] The Einstein field equations state that eight pi G times the stress-energy tensor equals this tensor minus one-half R times the metric tensor. This tensor results from contraction of the Riemann tensor.

ANSWER: **Ricci** curvature tensor

4. At the Battle of Bower Hill during this uprising, Major James McFarlane called for a ceasefire, but was shot and killed, for 10 points each:

[10] Name this revolt, which Alexander Hamilton wrote against under the name of “Tully.”  It occurred after the tax on the title substance was levied.

ANSWER: **Whiskey Rebellion** [or **Whiskey Insurrection**]

[10] The Whiskey Rebellion occurred for the most part in this state. Secessionist flags of the revolt depicted six stripes, five of which represented counties of this state.

ANSWER: **Pennsylvania**

[10] The sitting president during the Whiskey Rebellion was this man, the Commander-in-Chief of the Continental Army and first President of the United States of America.

ANSWER: George **Washington**

5. Antisthenes is widely regarded as the founder of this school of thought through his advocacy of an austere life, for 10 points each:

[10] Name this ancient philosophy, which held that people gained happiness by rejecting desires such as fame, money, and power. Today, it refers to people who hold a negative view of humans.

ANSWER: **cynic**ism

[10] This philosopher propounded cynicism by living inside a ceramic jar on the streets of the marketplace in Athens. He famously carried around a lantern while asking for an honest man.

ANSWER: **Diogenes** of Sinope

[10] This other philosopher contrasted pleasure with suffering, and argued that the highest ethical behavior was to maximize pleasure and tranquility, *ataraxia*, and minimize bodily pain, *aponia*.

ANSWER: **Epicurus**

6. One character in this webcomic suggests that a super soaker is the cure to another character’s “getting existential again,” and another uses a blowtorch to cut a poorly-parked car in half, for 10 points each:

[10] Name this webcomic, founded by Randall Monroe. Its name is designed to be an unpronounceable word.

ANSWER: **xkcd**.com

[10] xkcd calls itself a webcomic of romance, [this word], math, and language. This word is defined as the use of irony to mock or contempt another person.

ANSWER: **sarcasm**

[10] One recurring series of comics on xkcd is this two-word phrase. Examples of this include appending “That’s what she said!” to grammatically complex sentences, or saying “No pun intended” after sentences with no pun present.

ANSWER: “**My Hobby**”

7. This G minor piece quotes the Latin hymn “Dies Irae” in a major key and features a violin solo in which the violin’s E string is tuned to E-flat. For 10 points each:

[10] Name this spooky piece by Camille Saint-Saëns which opens with a harp playing a D note 12 times to signal midnight and the rise of skeletons from their graves.

ANSWER: ***Danse Macabre***

[10] Saint-Saëns also composed this musical suite featuring movements such as “Tortoises” and “The Elephant”. Two pianos and a solo cello in its 13th movement depict a swan gliding over water.

ANSWER: ***Carnival of the Animals*** [or ***Les carnaval des animaux***]

[10] This instrument is used to depict the rattling of bones in Danse Macabre and in the “Fossils” movement of *Carnival of the Animals*. It consists of wooden or metallic bars that are struck by a mallet.

ANSWER: **xylophone**

8. Lake Elsinore and the Salton Sea are two rift lakes in this state, for 10 points each:

[10] Name this American state, the location of Death Valley National Park. Its largest cities are Los Angeles, San Diego, and San Jose.

ANSWER: **California**

[10] This national park in California is located in the Sierra Nevada Mountains. Attractions within this park include El Capitan and the Half Dome.

ANSWER: **Yosemite** National Park

[10] El Capitan and Half Dome are both features of this type of rock, which makes up the majority of the rock formations in Yosemite.

ANSWER: **granite**

9. Name some things about the *Tetrahymena* genus of model organisms. For 10 points each:

[10] These molecules, discovered in *Tetrahymena*, come in “hairpin” and “Hammerhead” varieties and are central to the RNA World hypothesis.

ANSWER: **ribozyme**s

[10] This enzyme, also discovered in *Tetrahymena*, adds repeats of the sequence TTAGGG to the end of chromosomes in order to elongate its namesake structures.

ANSWER: **telomerase**

[10] *Tetrahymena* is in a group of protozoa named for the fact they posses these microtubule structures used for locomotion, and which aren’t flagella.

ANSWER: **cilia**

10. Charles marries the title character of this novel after his wife Heloise dies, for 10 points each:

[10] Name this debut novel of Gustave Flaubert, which focuses on a doctor’s wife who yearns for luxury and romance, culminating in numerous affairs.

ANSWER: ***Madame Bovary***

[10] This is the first name of Madame Bovary, whose last name was Rouault before marrying Charles Bovary.

ANSWER: **Emma**

[10] Another Flaubert novel, *Salammbo*, focuses on the title priestess and daughter of this Carthaginian general, after the First Punic War.

ANSWER: **Hamilcar** Barca

11. Thomas Jefferson’s *The Life and Morals of Jesus of Nazareth*, which removed Christian dogma from the Bible, demonstrates tendencies towards this belief system, for 10 points each:

[10] Name this theological position which maintains the existence of an uninvolved deity who created the world and gave humans the gift of reason, but stepped back afterward.

ANSWER: **Deism**

[10] The Deist deity is often described as one of a member of this profession, to convey the idea of intelligent design.

ANSWER: **watchmaker**

[10] This man first employed the watchmaker analogy in his work *Natural Theology*, during his articulation of the teleological argument for God.

ANSWER: William **Paley**

12. This artist’s *Starry Night* from his “Year of Peril” series puts a twist on Van Gogh’s work. For 10 points each:

[10] Name this American muralist who was the grandson of a Missouri senator.

ANSWER: Thomas Hart **Benton**

[10] Thomas Hart Benton was part of this movement which depicted rural life from the 1920s through the 1950s.

ANSWER: American **Regionalism**

[10] This painting by Thomas Hart Benton shows several men with axes performing the titular action in order to launch a U.S. Navy ship.

ANSWER: ***Cut the Line***

13. This entity waged war against Valdemar IV’s Denmark in order to secure profits from Danish trade, accomplished in the Treaty of Stralsund, for 10 points each:

[10] Name this league of northern German states, a commercial confederation which dominated northern European sea trade.

ANSWER: **Hanse**atic League

[10] The kontor, or trading post, of the Hanseatic League in this city was located in the Steelyard, on the north bank of the Thames.

ANSWER: **London**

[10] This monarch kicked the Hanseatic League out of their kontor in Novgorod in 1494 and seized all of the kontor’s goods.

ANSWER: **Ivan III** [accept **Ivan the Great**]

14. Examples of this type of scale include Locrian and Phrygian.  For 10 points each:

[10] Name this type of scale, dictated by the intervals between its notes instead of the first note of the scale.

ANSWER: **mode** [accept **modal** scale]

[10] This mode, commonly used in blues and funk, has half steps between the second and third scale degrees and between the sixth and seventh scale degrees.

ANSWER: **Dorian** mode [accept **Doric** mode]

[10] The Dorian mode can be played using only the white keys of the piano if the scale begins on this note.  This note’s Ionian mode contains two sharps.

ANSWER: Key of **D**

15. Name some things about separation axioms of topological spaces. For 10 points each:

[10] Every two disjoint closed sets in spaces described by this adjective have disjoint open neighborhoods. This adjective also named a vector perpendicular to a plane and is another name for the Gaussian distribution.

ANSWER: **normal**

[10] This mathematician names T2 spaces, in which distinct points have disjoint neighborhoods. He also names a type of dimension that can take on a non-integer value for fractals.

ANSWER: Felix **Hausdorff**

[10] This Russian mathematician names T0 spaces, in which for any two given points, at least one of them has an open neighborhood not containing the other. He names a theorem about quasi-periodic motion with Arnold and Moser.

ANSWER: Andrey **Kolmogorov**

16. This collection of poems caused its author to be known as the “Father of Latin American Modernism.” For 10 points each:

[10] Name this collection of poems which contains "Primaveral" in its section, El año lírico.

ANSWER: ***Azul***

[10] This poet wrote the poem “Amo, amas” and created the collection *Azul*.

ANSWER: Rubén **Darío**

[10] Ruben Dario hails from this central american country with a capital at Managua.

ANSWER: **Nicaragua**

17. The blood of one of these creatures killed Heracles, for 10 points each:

[10] Name these half-men, half-horses, exemplified by the aforementioned Nessus.

ANSWER: **centaurs**

[10] At this man’s wedding, the centaurs attempted to carry away his bride, Hippodamia. That action resulted in the centaurs’ fight with this man’s subjects, the Lapiths, in the Centauromachy.

ANSWER: **Pirithous**

[10] Pirithous was one of the many heroes that participated in the hunt of this beast. Atalanta ultimately dealt the first wound to this massive boar, sent by Artemis to punish a certain king.

ANSWER: **Calydonian** Boar [or **Aetolian** Boar]

18. The phonetic variety of these serve as an alphabet, and the logographic variety represent morphemes. For 10 points each:

[10] Name this ancient writing system, the earliest of which have been dated to the 33rd century BCE. The hieratic and demotic varieties developed for use on papyrus.

ANSWER: **hieroglyph**s [or **hieroglyphic** script]

[10] People of this region were, for the most part, the users of hieroglyphs as a written language.

ANSWER: **Egypt**

[10] Using the Rosetta Stone, this man deciphered hieroglyphs. When Napoleon returned in the Hundred Days, he urged this man to publish his manuscripts on Coptic language.

ANSWER: Jean-Francois **Champollion**

19. An increase in fluid velocity leads to a decrease in this quantity according to Bernoulli’s principle. For 10 points each:

[10] Name this quantity that, according to Boyle’s law, is inversely related to volume. In general it equals force divided by area and can be measured in pascals.

ANSWER: **pressure**

[10] This quantity is defined as the pressure an ideal gas would have if it had the same chemical potential as a real gas. This quantity measures a gas’s tendency to escape and is equal to one for ideal gases.

ANSWER: **fugacity**

[10] When determining the fugacity of liquid-vapor equilibria with high pressures, a correction factor named for this scientist must be used. He names a vector equal to the cross product of the electric and magnetic field vectors.

ANSWER: John Henry **Poynting**

20. This character narrates a story about a black washerwoman who fears she will be killed by her husband in “That Evening Sun.” For 10 points each:

[10] Name this character who tells his Harvard roommate about Thomas Sutpen and commits suicide by drowning himself in the Charles River.

ANSWER: **Quentin** Compson [prompt on “Compson”]

[10] Quentin Compson appears in both *Absalom, Absalom!* and this other stream of consciousness novel, in which Benjy claims that Caddy smells like trees.

ANSWER: *The* ***Sound and the Fury***

[10] *Absalom, Absalom!* and *The Sound and the Fury* were both written by this Southern Gothic author.

ANSWER: William **Faulkner**

Extra. The Gross-Pitaevskii equations describes these substances that contain atoms at their lowest quantum energy levels. For 10 points each:

[10] Name these substance that comprise the “fifth state of matter” and are named for an Indian and a German physicist.

ANSWER: **Bose-Einstein** condensates [accept “**BEC**”]

[10] Bose-Einstein condensates can only exist very close to this temperature. This point is equivalent to zero Kelvin.

ANSWER: **absolute zero**

[10] Cornell and Wieman created the first Bose-Einstein condensate by laser cooling atoms of this element.

ANSWER: **rubidium**-87