1. Interdisciplinary
It is referred to in the first book of Kings, Chapter Seven, Verse Twenty-Three. It also is
the name of the title character who survives a shipwreck in a novel published in 2001 and
is used to represent the lightest true mesons. It is associated with Archimedes and with
double bonds. Give this number equal to the ratio of the circumference of a circle to its
diameter.

ANSWER: Pi

2. Pyramidal Math (30 Seconds)
If you flip this number of coins, the chance of getting exactly one head is thirty-seven
point five percent. This is the smallest number of points necessary to use Simpson’s Rule
or a quadratic regression. If you write the number one zero one in this base, it is equal to
the decimal number ten. It also is the slope of the tangent line at x=1 of the function y
equals x cubed, and it is the only prime factor of twenty-seven. Give this number equal to
the maximum number of possible solutions to a cubic equation.

ANSWER: 3

3. World Literature
His first story translated into English is about a man in England during World War One
trying to prove to the Germans that Asians are capable of being good spies. He also wrote
stories about two ladies who paint a lot until one of them dies, a man who is offered a
book that has no beginning or end, and a Frenchman who tries to recreate Don Quixote in
the original Spanish. He wrote poetry in addition to stories such as The Duel, The Book of
Sand, and The Garden of Forking Paths. Name this creator of The Book of Imaginary
Beings who was from Argentina.

ANSWER: (Jorge Luis) Borges (prompt Luis)

4. Current Events
Accused of defaming his opponent’s wife, this candidate claimed that the story was not
about him but instead about his opponent’s sugar daddy. In addition to running against a
Republican incumbent, his race also featured an Independent Party Candidate named
Dean Barkley. After initial vote counts showed a very narrow margin, he called for a
recount to determine whether he had defeated Norm Coleman. Name this former
Saturday Night Live comedian who ran for Senator in Minnesota.

ANSWER: (Alan ‘Al’) Franken
5. Biology
This autosomal recessive disease is caused by defective genes on Chromosome 7 and affects approximately thirty thousand Americans. It usually is diagnosed by finding high levels of chloride in a sweat test. Treatment often includes anti-inflammatories and antibiotics, which lessen the damage done by poor exocrine glands. Name this disease that damages many organs, including the lungs, due to thick mucus production.

ANSWER: Cystic Fibrosis (prompt CF, accept mucoviscoidosis or mucoviscidosis)

6. Music
He wrote a few pieces for the Spanish violinist Sarasate, including Introduction and Rondo Capriccioso. He was a close friend of Franz Liszt, to whom he dedicated his Third Symphony, nicknamed the Organ Symphony. He also composed thirteen operas, the best-known of which is Samson and Delilah, and in 1872 completed his Danse Macabre. He is perhaps best known for a suite of fourteen movements that includes Aquarium, Aviary, and Royal March of the Lion. Name this composer of The Carnival of the Animals.

ANSWER: (Charles Camille) Saint-Saens (prompt Saens)

7. United States History
From 1897 to 1904, she worked out of her home in Glen Echo, Maryland. Her other workplaces included the District of Columbia, Cuba, Galveston, Andersonville, and Bull Run. Though she worked for women’s suffrage, her fame arose out of her work during the Civil War, when she became known as the Angel of the Battlefield. Name this organizer of the American Red Cross.

ANSWER: (Clara) Barton

8. Physics (10 Seconds)
Do not give an answer beginning with the letter A. Medical technicians often use Fluorine Eighteen, which also gives off neutrinos and oxygen, to create these particles. First postulated by Paul Dirac in 1928, some scientists thought that credit for discovering them should have gone to Blackett and Occhialini for their development of cloud chambers and their careful measurements, but credit is usually given to Carl Anderson. These particles have the charge of a proton and the mass of an electron. Name these particles that are the antimatter analogue of electrons.

ANSWER: Positron(s)
9. Vocabulary
(Note to moderator: Weber is pronounced VE-be, with soft e’s.) Max Weber said that this type of organization was characterized by job training, consistent rules, written documents, unity of command, supervision, job specifications, and competency-based personnel decisions. He did not attach a negative connotation to it, but today it is associated with systems in which rigid rules impede action. Give this term beginning with the letter B often associated with government departments.

ANSWER: Bureaucracy (accept different word endings, do not accept Bureau)

10. Religion/Mythology
There are eighteen conditions that make it impossible to become one of these, including being born blind, deaf, or crippled. Some traditions have ten vows as part of the initiation, the last two of which involve saving other people. The definition of the term is different for Theravadas, who use it to describe somebody on the way to enlightenment. Name this term that in Mahayana Buddhism refers to people who have delayed entering Nirvana so that they may help others.

ANSWER: Bodhisattva (or Bodhisatta) (prompt Buddhist)

11. Pop Culture
Their songs included Traffic Lights, which is on their album Contractual Agreements, Finland Song, which is on The Final Rip Off, and Here Comes Another One, which is on The Hastily Cobbled Together for a Fast Buck Album. Other well-known songs include Every Sperm Is Sacred, Always Look on the Bright Side of Life, and The Tale of Sir Robin, which are in their movies. Name this group that included Terry Jones, Eric Idle, and John Cleese and made the movies The Meaning of Life, Life of Brian, and The Holy Grail.

ANSWER: Monty Python(‘s Flying Circus)

12. Geometry/Trigonometry (30 Seconds)
By what percentage does the area of a rectangle increase if you increase the lengths of all the sides by forty percent?

ANSWER: 96 (Percent)

13. Nonfiction
His primary works were The Science of Logic, Encyclopedia of the Philosophical Sciences, Elements of the Philosophy of Right, and Phenomenology of Spirit. He often described development in three stages: In itself, out of itself, and in and for itself. These stages are sometimes described as thesis, antithesis, and synthesis, and they are sometimes summarized using the term Dialectic. Name this German idealist thinker who influenced, but did not work with, Karl Marx.

ANSWER: (Georg Wilhelm Friedrich) Hegel
14. British Literature
One of his poems is dedicated to the happy memory of five Franciscan Nuns, exiles by the Falk Laws, drowned between midnight and morning of December 7th, 1875. That work was completed after he took several years off from writing to study to become a Jesuit priest. One of his poems begins, “Glory be to God for dappled things” and is titled Pied Beauty. Name this poet who used sprung rhythm and penned The Windhover, God’s Grandeur, and The Wreck of the Deutschland.

ANSWER: (Gerard Manley) Hopkins

15. Geography/Earth Science/Astronomy
It has heavily cratered dark sections and grooved light sections. It also is surrounded by a magnetic field and a small amount of ozone. Scientists speculate that, like Europa, it has a very thin oxygen atmosphere and that, like Callisto, it has a rocky core and a mantle containing water and ice. It is the largest moon in the solar system. Name this Galilean satellite discovered the day after Europa, Callisto, and Io.

ANSWER: Ganymede

16. Algebra (30 Seconds)
Find the value of t when the line given by parametric equations x=t+1, y=t-1, and z=t+3 intersects the plane with equation 2x+y-z=10.

ANSWER: 6

17. Art/Architecture
This is exemplified by The Tribute Money by Massacio and by Self-Portrait at Twenty-Two by Rembrandt. It is similar to, but simpler than, tenebroso. It often is used in woodcuts, and it is helpful in showing volume or creating dramatic effect in a painting. It is also used in sketches and monochromes. Give this term which combines the Italian words for light and dark.

ANSWER: Chiaroscuro

18. Chemistry
This hydrocarbon can be created using calcium carbide, which is why it is associated with carbide lamps. It also is used in welding. It is the simplest hydrocarbon containing a triple bond, which makes it the simplest alkyne. Name this compound with chemical formula C_2H_2.

ANSWER: Acetylene (accept Ethyne)
19. United States Literature
He was an expert on streptothricosis who could operate on obstreosis of the ductal tract, and he also was a hard-drinking bomber. His story ends with him facing a firing squad. In between those episodes, he gets a lot of driving advice from his wife. Name this character in a 1941 story by James Thurber whose great accomplishments take place in his daydreams.

ANSWER: Walter Mitty (prompt either half of answer)

20. World History
He was assassinated by his half-brothers and thrown into a pit which now cannot be located. Before that, this leader transformed warfare by adjusting the weapons and shields his troops used and by developing a formation in which the horns would surround enemy troops, but he rejected the use of gunpowder. By the time he died in 1828, he brutally ruled hundreds of thousands of people and had caused millions of deaths. Name this leader from Southern Africa.

ANSWER: Shaka (Zulu) (prompt Zulu)

Tiebreakers:
If you need to replace a question, take the corresponding question from the Replacement Packet rather than one of these questions. In case of a tie, use these questions in order until one is answered correctly.

This play, which premiered in Vienna in 1913, ends with one of the main characters marrying Freddy Eynsford-Hill. The other main character makes a bet with Colonel Pickering, an expert in Sanskrit who is interested in phonetics. These two main characters are Eliza Doolittle and Professor Henry Higgins. Name this George Bernard Shaw work that inspired the musical My Fair Lady.

ANSWER: Pygmalion

One of the military leaders in this war was Jacob Brown, who led forces at the Battles of Sackett’s Harbor and Lundy’s Lane. Some of the worst damage to our country was done by Robert Ross after he won the Battle of Bladensburg. Tecumseh was killed fighting against the United States, and some of our success was led by Oliver Hazard Peary on Lake Erie. It was ended by the Treaty of Ghent. Identify this war named after the year in which it began.

ANSWER: (War of) 1812

This country borders Afghanistan, Armenia, Azerbaijan, Iraq, Pakistan, Turkey, and Turkmenistan. Name this country whose capital is Tehran.

ANSWER: Iran