

1. The so-called "Great" one in London in 1952 darkened the city for four days and is thought to have killed about four thousand people. It is especially prevalent in cities circled by mountains, such as Mexico City and Los Angeles. Caused by industrial and vehicular emissions and activated by sunlight, what is this kind of air pollution, a combination of smoke and fog?

Answer: Smog (Prompt on early "air pollution")

2. **Math Calculation** Isaac wants to know how much it will cost to seed a triangular garden with height 9 meters and base of 6 meters. If seed costs seven dollars per square meter, and Isaac knows that the area of the triangular garden can be calculated by multiplying the base times the height times one half. How much will Isaac pay for seed?

Answer: \$189

3. A tablet at a monument there read "Four times a thousand men from Pelops' land / Three thousand times a thousand did withstand." The 300,000 referred to the Persian forces, and the 4,000 referred to the army of Spartans, Thespians, and Thebians who fought valiantly at this 480 BC battle. Name this battle where Spartan general Leonidas led the heroic, but losing Greek forces.

Answer: Battle of Thermopylae

4. This term derives from the Latin meaning "red ochre" or "red chalk" and was used to describe medieval illuminated manuscripts in which red letters were used to denote capitals. In the 19th century it was applied to Bibles to set aside the words of Jesus in red. Today it is used to set aside any category or classification system and has been adopted by teachers. What is this word used to summarize the criteria for assessing a particular piece of student work?

Answer: Rubrics

5. His first novel centers on a team of scientists who investigate a deadly extraterrestrial microorganism. His most recent novel centers on the legal issues surrounding genetic research. Name the author of those books, *The Andromeda Strain* and *Next*, who died in November 2008 and also wrote *Congo* and *Jurassic Park*.

Answer: Michael Crichton

6. This rock may be further classified by using the Folk or Dunham classifications. Travertine, a compact form of this rock, can be found around geysers and waterfalls. Erosion of it causes Karst topography and creates a landscape full of sinkholes and caves. Composed largely of calcite, what is this sedimentary rock often teeming with shells and fossils that metamorphoses into marble and is used in building and concrete?

Answer: Limestone (Accept Dolomite)

7. His first musical comedy contained the song "Fascinating Rhythm" and was titled *Lady Be Good*. His 1930 *Girl Crazy* featured the standard "Of Thee I Sing," and his 1931 "I've Got Rhythm" won the Pulitzer Prize. Known for his classical work *Rhapsody in Blue* and the folk opera *Porgy and Bess*, who is this American composer and pianist?

Answer: George Gershwin

8. She has a key tattooed on her right wrist and her husband Shelden Williams has a lock tattooed on his. Marion Jones and LeBron James were the only people to win consecutive Gatorade Player of the Year Awards before she did it while playing for Naperville Central High. The first woman to dunk in an NCAA tournament game, name this former Tennessee Volunteer the reigning WNBA Rookie of the Year and Most Valuable Player.

Answer: Candace Parker

9. Although her formal education was meager, this future First Lady was an avid reader of history. Several enforced separations from her husband, including a 10-year period when he was at the Continental Congress, prompted streams of letters, and the development of her genius as a correspondent. Name this woman who asked her husband, who later became the second President, to "remember the ladies."

Answer: Abigail Adams

10. Scientists at this location recently discovered a new species of pink iguanas around Wolf Volcano. This place is home to two other species of iguanas including the only marine iguanas in the world. Also featuring a namesake species of hawk, penguin, flamingo, and many species of finches, what is this archipelago located off the coast of Ecuador, famously studied by Charles Darwin and named for the giant tortoises found on the islands?

Answer: Galapagos Islands _____ HALFTIME (2 minutes)

11. In one episode from this novel, the title character befriends a man named Pumpkin who wants to abandon his duties in the British army and buy a farm in America. The title character begins the book as an apprentice to Ephraim Lapham before Dove causes his hand to become deformed. What is this Newberry Award winning novel about a boy growing up in Revolutionary Boston, written by Esther Forbes?

Answer: Johnny Tremain

12. Stock in this man's company fell recently after he pulled out of a keynote speech citing a hormonal imbalance and took a leave of absence. He has been credited for rescuing Pixar animation studios as its CEO, but he is best known for founding a company with Steve Wosniak which manufactures macbooks, iphones, and ipods. Who is this co-founder and CEO of Apple?

Answer: Steve Jobs

13. John Burns called this river "liquid history" for its long role in shaping human events. Julius Caesar wrote some of the earliest accounts of this river, and many of the towns along it were founded by the Saxons. It begins about a mile north of the village of Kemble, flows through the Cotswolds, and runs through Reading, Oxford, and Windsor. What is this English river that also flows through London?

Answer: Thames

14. He rode in Theodore Roosevelt's inaugural parade in 1905 about twenty years after surrendering to General Nelson Miles. Leader of one of the last major groups of Native Americans to refuse to acknowledge the US Government, he fought against both Mexico and the US from his Apache homeland in Arizona. Who is this Indian leader whose name refers to St. Jerome and who probably never yelled his name while jumping out of a plane?

Answer: Geronimo or Goyathlay

15. This series of four paintings depicts parents tucking children into bed, a Thanksgiving dinner, people praying in church, and a man speaking up in a town meeting. Painted by Norman Rockwell in 1943, they were based on a speech of the same name by Franklin Roosevelt to Congress in 1941. What were these enduring objectives guaranteeing speech and religion and freedom from want and fear?

Answer: Four Freedoms or Four Essential Human Freedoms

16. They are typically globular proteins that bind to chemicals known as substrates via a small portion of their length known as the active site. Although pepsin was among the first to be discovered, they typically end with the suffix "ase." What are these biomolecules which act as biological catalysts in speeding up chemical reactions?

Answer: Enzymes

17. Math Calculation Ernie recently joined a bowling league where players average 200 pins a game, but Ernie only averages 125 pins per game. Fortunately for Ernie, below average players are given a handicap equal to 80 percent of the difference between the league average and the player's average, which is then added to the player's score to make the games more competitive. To determine his handicap, how many pins should Ernie add to his average score?

Answer: 60 pins or a 185 handicap

18. In the 1690s Scotland failed to create a colony called Darien in this present day country to capitalize on its unique geography. The French failed here in the 1880s and lost over 20,000 workers in the process. Ultimately the United States was successful in completing the long desired project here in 1914 and also helped separate this Central American country from Colombia. What is this narrow country the site of an important canal?

Answer: Panama (Accept "Panama Canal")

19. One myth holds that this figure created man by kicking around a ball of mud. In other stories, he is responsible for naming other animals and for giving rabbits long ears. He is often compared to Loki and Prometheus because like them he stole fire and gave it to man. A trickster, he often played tricks on Raven and his brother Wolf. Who is this Native American mythical figure named for the North American canine that may or may not chase roadrunners?

Answer: Coyote

20. His so-called "lost" novel was written in 1863 but was first published in 1994. He arguably predicted the existence of automobiles, high-speed trains, and the internet in that work entitled *Paris in the 20th Century*. His novel *From the Earth to the Moon* contains some striking similarities to the eventual Apollo mission, but his *Journey to the Center of the Earth* did not age quite as well. Who is this French author of *Around the World in Eighty Days*?

Answer: Jules Verne

1. Answer the following about the history of Africa in the Middle Ages.
 - A. This fabled city in Mali was built from the proceeds of the gold trade and became a center of Islamic learning in the fourteenth century.
Answer: Timbuktu
 - B. The forest kingdoms along this large gulf off the coast of Western Africa featured several large urban areas including Benin which compared favorably with European trading centers.
Answer: Gulf of Guinea
 - C. Europeans saw this now landlocked eastern African country as a potential ally against Islam since it was predominately Christian. Its current capital of Addis Ababa is still home to several large cathedrals.
Answer: Ethiopia
2. Answer the following about our favorite infomercials for 10 points each.
 - A. 4 million of these "blankets with sleeves" have been sold since they began being advertised on TV in October.
Answer: Snuggles
 - B. This product is sold by some guy named Vince who wears an unnecessary headset in the infomercial. It is apparently made in Germany and works better than standard towels.
Answer: Sham-Wow
 - C. Somewhat surprisingly, neither the Snuggie nor the Sham-Wow is sold by this king of the infomercial, who is known for shouting about Oxiclean and Orange Glo and for having a well-kept beard.
Answer: Billy Mays
3. Answer the following about a famous Renaissance painting.
 - A. Painted between 1510 and 1511 it depicts over twenty Greek philosophers teaching and learning beneath a series of impressive archways.
Answer: The School of Athens
 - B. *The School of Athens* is the most famous painting by this artist also known for his many madonnas.
Answer: Raphael
 - C. *The School of Athens* contains a fine example of this term which describes representing three dimensional space on a flat surface. For example, in this painting Plato and Aristotle appear smaller than philosophers in the foreground.
Answer: Perspective
4. Identify the following about the Greek hero Jason.
 - A. Jason assembled this famed group of men to go on a quest capture a certain object guarded by a dragon.
Answer: Argonauts
 - B. Jason and the Argonauts were after this wooly prize, which possibly symbolizes how the Greeks learned about shepherding from the East.
Answer: Golden Fleece
 - C. Jason obtained the fleece thanks in large part to this woman, a sorceress, whom Jason married and later scorned.
Answer: Medea
5. Fun with friction...
 - A. Friction is an example of this kind of force, because it is caused by chemical bonding between charged particles belonging to two surfaces.
Answer: Electromagnetic force
 - B. This value is calculated to find the ratio of the force of friction acting between two bodies.
Answer: Coefficient of Friction (or frictional coefficient)
 - C. An object moving through a fluid, like a plane in the air or a submarine in water, is subject to this resistive force which unlike friction depends upon the speed of the object.
Answer: Drag

6. Write each of the following percentages as a fraction in simplest form. You have 15 seconds for each part.

A. 45%

Answer: 9/20 (9 over 20 or Nine Twentieths)

B. 214%

Answer: 2 7/50 (2 and 7 over 50 or Two and Seven Fiftieths)

C. 0.5%

Answer: 1/200 (One over Two-hundred or One Two-hundredth)

7. At her death in 1919 the journal *The Crisis* said she had "revolutionized the personal habits and appearance of millions of human beings."

A. Who is this African-American woman who developed a line of hair-care products, the first female, black or white, to become a millionaire by her own achievements?

Answer: Madame C. J. Walker or Sarah Breedlove

B. Even though this African-American leader and educator ignored Madame Walker at the 1912 Negro Business League Convention, she donated much of her profits to his Tuskegee Institute.

Answer: Booker T. Washington

C. Towards the end of her life, Walker lobbied this US President to support making lynching a federal crime. At the time, this president said he was "too busy" dealing with World War I.

Answer: Woodrow Wilson

8. Identify these terms associated with writing research papers.

A. The best research papers are written with these kinds of sources that are produced by people directly involved in the event, as opposed to sources like books or articles that merely interpret these sources.

Answer: Primary sources

B. Most research papers require this list of all the sources consulted in the paper to be arranged alphabetically and included after the last page of the paper.

Answer: Bibliography (Accept "Works Cited" Page)

C. If sources are not cited properly, an author may be accused of this crime which is the act of taking the words, ideas, or research of another person and passing them off as one's own.

Answer: Plagiarism or Plagiarizing

9. Answer the following regarding works by a well-known Russian author.

A. According to a recent poll of 125 current authors, this Russian novel concerning the title character and her love for Count Vronsky is the greatest novel ever written.

Answer: Anna Karenina (Accept "Anna Karenin")

B. Also considered among the greatest novels ever written is this book which has a vast scope but mainly chronicles five aristocratic families during Napoleon's invasion of Russia.

Answer: War and Peace

C. Finally what Russian author wrote both *Anna Karenina* and *War and Peace* as well as *The Death of Ivan Ilyich*.

Answer: Leo Tolstoy

10. Answer the following about North American mammals.

A. Weighing less than a penny, the pygmy type of this mammal is almost completely blind and, probably, quite difficult to tame.

Answer: American Pygmy Shrew

B. The star-nose variety of this mammal has a circle of twenty-two pink tentacles at the end of its snout that it uses to identify its prey by touch and smell as it tunnels underground.

Answer: Mole

C. Related to otters and weasels, this mammal's highly dense and glossy fur makes them highly prized, and they have become a source of much controversy between fur farmers and animal rights activists.

Answer: American Mink

11. Scientist Lewis Thomas suggested we should blast this composer's music into outer space to put the best possible face on any future extra-terrestrial meetings even if it means we would be bragging.

- A. Who is that German Baroque composer who wrote the *Brandenburg Concertos* and *The Well-Tempered Clavier*?

Answer: Johann Sebastian Bach

- B. Bach wrote a well-known "Little" one of this musical form that features a main theme followed by several "voices" in imitative counterpart. Bach also wrote works called "The Art of" this and "Toccata and" this.

Answer: Fugue

- C. Bach wrote over 200 of these vocal works with instrumental accompaniment that were often sung as part of church services. His "Peasant" and "Coffee" were among his few secular ones.

Answer: Cantata

12. Identify the following movies starring Shia LaBeouf for 10 points each.

- A. LaBeouf played Mutt Williams, the son of Marion Ravenwood and Dr. Henry Jones, Jr., in this 2008 movie directed by Steven Spielberg.

Answer: Indiana Jones and the Kingdom of the Crystal Skull

- B. LaBeouf played Sam Witwicky who unknowingly buys Bumblebee as his first car in this 2007 Michael Bay film.

Answer: Transformers

- C. LaBeouf got his start in films by playing Stanley Yelnats in this 2003 movie based on a book of the same name by Louis Sachar.

Answer: Holes

13. Identify these powerful city-states in medieval Italy for ten points each.

- A. To protect their fragile city from flooding, the people of this city created a republic that has been admired for its stability and ecological awareness.

Answer: Venice or Venezia

- B. Like Venice this other Italian city-state was a republic, but from 1434 to 1494 it was effectively ruled by the Medici family, and it became the first society to produce what we now call Renaissance culture.

Answer: Florence or Firenze

- C. This city situated on trade routes near the Po River and the Alps was an important duchy in the middle ages and is now the largest city in Italy by population.

Answer: Milan or Milano

14. Answer the following about the classic children's novel *The Wind in the Willows*.

- A. This British author wrote *The Wind and the Willows* as well as the short story "The Reluctant Dragon."

Answer: Kenneth Grahame

- B. This character in *The Wind in the Willows* is obsessed with driving motor cars and sees his ancestral home overrun with weasels before he and his friends drive them out.

Answer: Mr. Toad

- C. This other children's author rescued *The Wind and the Willows* from obscurity by adapting it for the stage as *Toad of Toad Hall* three years after writing another famous children's book for his son, Christopher Robin.

Answer: A. A. Milne

15. Answer the following about the works of two great physicists.

- A. This German physicist and astronomer likely stole his data from his deceased mentor Tycho Brahe, which he then used to create his three laws of planetary motion.

Answer: Johannes Kepler

- B. Kepler postulated that planetary orbits must be what shape that has two points called foci, and the sum of the distance to each foci remains constant?

Answer: Ellipse or Elliptical

- C. While Kepler's laws of planetary motion describe movement around the sun, this English physicist created three general laws of motion and the law of universal gravitation.

Answer: Isaac Newton

16. Nearly fifty percent of Americans live in suburbs. Identify the major city given clues about the suburbs that surround it.

- A. This city has been called "one hundred suburbs in search of a city," and some of suburbs surrounding this city include Bel-Air, Pasadena, and Santa Monica.

Answer: Los Angeles, California

- B. This 4th largest city in the US also has suburbs named Bellaire and Pasadena in addition to Katy and Sugarland.

Answer: Houston, Texas

- C. Although this Midwestern city is the US's 52nd largest city it has the 16th largest metropolitan area since so many people live in nearby suburbs such as Kirkwood, O'Fallon, and St. Charles.

Answer: St. Louis, Missouri

17. A circular spinner has 8 evenly divided spaces on its surface. Answer the following if the spinner has 4 blue spaces, 3 red spaces, and 1 yellow space. You have 15 seconds for each answer.

- A. What is the probability of landing on a red space on one spin?

Answer: 3/8 or three in eight

- B. If you spin the spinner 200 times, how many times should it land on a yellow space?

Answer: 25 times

- C. If you spin the spinner two times, what is the probability that you get either blue both times or yellow both times?

Answer: 17/64 (seventeen sixty-fourths)

18. Identify the following about the written works of important people in Chinese history.

- A. Although it was compiled many years after his death, the teachings of this ancient Chinese philosopher can be found in the *Analects*.

Answer: Confucius

- B. Sun-Tzu, who lived at about the same time as Confucius, wrote this book which has long been praised as the definitive work of military strategies and tactics.

Answer: The Art of War

- C. During the Chinese Revolution, Mao Zedong cast aside the *Analects* of Confucius and embraced Sun-Tzu's *The Art of War* in this book of his quotations known for its size and the color of its cover.

Answer: The Little Red Book

19. Answer the following about an epic heroic poem written in the eighth or ninth century CE.

- A. In this epic poem the hero of the Geats kills a monster, the monster's mother, and finally a dragon but gets fatally wounded in the final battle.

Answer: Beowulf

- B. What is the name of the first monster killed by Beowulf? He is killed after Beowulf rips off his arm during battle.

Answer: Grendel

- C. *Beowulf* was written in this dialect that flourished in parts of England and Scotland from the 5th through the 12th century.

Answer: Old English or Anglo-Saxon (do not accept or prompt on "English")

20. Identify these parts of the brain.

- A. The largest part of the brain, it contains four sections called "lobes."

Answer: Cerebrum

- B. Meaning "little brain" this area of the brain controls fine motor movement and balance.

Answer: Cerebellum

- C. The lower portion of the brainstem, it regulates autonomic functions such as breathing and blood pressure.

Answer: Medulla Oblongata