OLYMPIADS SCHOOL/ SSAT UPPER LEVEL/ CLASSS 10 / HANDOUTS/ SUMMER 2016

NAME:_____

SECTION I

As recently as the 1860s, most people believed that the earth, and humanity with it, was created a mere 6,000 to 7,000 years ago. For centuries, beautifully worked flints were regarded as the work of elves, a notion once far more plausible than the idea that humans roamed the world's wildernesses in small bands long before the days of the Greek and Roman Empires. Even when these stones were accepted as man-made tools, they were attributed to the Romans or Early Britons. Today, we think in wider terms, but the older ideas about humanity's beginnings faded slowly. During the late eighteenth and early nineteenth centuries, excavators, mainly enthusiastic amateurs, began to associate fossil remains of men and extinct animals with the stone tools. Still, most geologists continued to think in Biblical terms, maintaining that these associations were merely coincidental. They believed the Flood had mixed the bones of ancient animals with the tools and remains of recent humans. These theories finally crumbled as archaeologists began to find bones and tools together in unflooded, undisturbed deposits, including a number of important sites on the banks of the Sommes River. British investigators came to check the French deposits, were convinced that the bones and tools had not collected as a result of flooding, and announced their conclusions in 1859. This was the same year that Darwin published On the Origin of Species, the date that marks the beginning of modern research into human evolution.

1. All of the following types of archaeological evidence were mentioned EXCEPT
(A) carbon dating.
(B) fossils. (
C) extinct animal remains.
(D) man-made objects. (
E) flint.

2. The turning point in scientific theories about the age of humanity's existence on earth was
(A) the discovery in France of the remains of extinct animals and humans together in an unflooded area.
(B) the publication of Darwin's On the Origin of Species.
(C) new theological research of the Bible.
(D) new theories about the Flood and its effects on humanity.
(E) evidence left by the Greeks, Romans, and early Britons.

3. In the early nineteenth century
(A) elves made flints in caves.
(B) small bands of Romans roamed the earth.
(C) geologists dated humanity's early existence to 1859.

(D) stones were accepted as ancient tools and artifacts of 20,000- year-old man.
(E) most people believed that humanity's existence was 6,000 to 7,000 years old.

Next morning, I saw for the first time an animal that is rarely encountered face to face. It was a wolverine. Though relatively small, rarely weighing more than 40 pounds, he is, above all animals, the one most hated by the Indians and trappers. He is a fine tree climber and a relentless destroyer. Deer, reindeer, and even moose succumb to his attacks. We sat on a rock and watched him come, a bobbing rascal in blackish-brown. Because the male wolverine occupies a very large hunting area and fights to the death any male that intrudes on his domain, wolverines are always scarce, and in order to avoid extinction need all the protection that humans can give. As a trapper, Henry wanted me to shoot him, but I refused, for this is the most fascinating and little known of all our wonderful predators. His hunchback gait was awkward and ungainly, lopsided yet tireless. When Jason, the son of the dethroned king of Solcus, was a little boy, he was sent away from his parents and placed under the queerest schoolmaster that ever you heard of. This learned person was one of the people, or quadrupeds, called Centaurs. He lived in a cavern and had the body and legs of a white horse, with the head and shoulders of a man. His name was Chiron; and, in spite of his odd appearance, he was a very excellent teacher and had several scholars who afterward did him credit by making great figures in the world. The famous Hercules was one, and so was Achilles, and Philoctetes, likewise, and Aesculapius, who acquired immense repute as a doctor. The good Chiron taught his pupils how to play upon the harp and how to cure diseases and how to use the sword and shield, together with various other branches of education in which the lads of those days used to be instructed, instead of writing and arithmetic.
—from *The Golden Fleece by Nathaniel Hawthorne*

4. Wolverines are very scarce because
(A) they suffer in the survival of the fittest.
(B) they are afraid of all humankind.
(C) they are seldom protected by man.
(D) trappers take their toll of them.
(E) their food supply is limited.

5. The author of this selection is most probably a(n)
(A) conscious naturalist.
(B) experienced hunter.
(C) inexperienced trapper.
(D) young Indian.
(E) farmer.

7. The main purpose of this passage is to
(A) describe Jason.
(B) describe Chiron.
6. The word succumb as used in the fifth sentence means
(A) outmaneuver.
(B) surrender.
(C) overcome.
(D) invite.
(E) repel.
(C) describe Jason's education.
(D) explain Jason's family relationships.
(E) name the scholars taught by Chiron.

8. The word quadruped probably means a(n)
(A) creature with four feet.
(B) creature with two feet.
(C) strange schoolmaster.
(D) educated person.
(E) scholar.

9. Chiron
(A) taught writing and arithmetic to his pupils. (B) acquired a reputation as a doctor.
(C) instructed the Centaurs.
(D) was the son of Solcus.
(E) had the body and legs of a horse and the head and shoulders of a man.

The kangaroo is found nowhere in the world but in Australasia. Ages ago, when that part of our earth was cut off from the Asian mainland, this fantastic animal from nature's long-ago was also isolated. There are about two dozen species distributed through Australia, southward to Tasmania and northward to New Guinea and neighboring islands. Some are no bigger than rabbits; some can climb trees. They are known by a variety of picturesque names: wallabies, wallaroos, potoroos, boongaries, and paddymelons. But the kangaroo—the one that is Australia's national symbol—is the great gray kangaroo of the plains, admiringly known throughout the island continent as the Old Man, and also as Boomer, Forester, and Man of the Woods. His smaller mate, in Australian talk, is called a flyer. Their baby is known as Joey. A full-grown kangaroo stands taller than a man, and commonly weighs 200 pounds. Even when he sits in his favorite position, reposing on his haunches and tilting back on the propping support of his "third leg"—his tail—his head is five feet or more above the ground. His huge hind legs, with steel-spring power, can send him sailing over a ten-foot fence with ease, or in a fight can beat off a dozen dogs. A twitch of his tail can break someone's leg like a match stick. Kangaroos provide an endless supply of tall tales to which wide-eyed visitors are treated in the land Down Under. The beauty of the tall tales about the kangaroo is that they can be almost as tall as you please and still be close to fact.

10. Kangaroos are found only
(A) in Australia.
(B) in Australasia.
(C) on the Asian mainland.
(D) in Tasmania.
(E) on New Guinea.

11. A female kangaroo is called
(A) a wallaby.
(B) a potoroo.
(C) a Joey.
(D) a flyer.
(E) the Old Man

12. The amazing jumping power of the kangaroo is chiefly due to the
(A) power of the hind legs.
(B) support of the tail.
(C) kangaroo's size.
(D) kangaroo's weight.
(E) kangaroo's tilted sitting position.

13. Which statement is true according to the passage?
(A) The name "Old Man" shows the people's dislike of kangaroos.
(B) Visitors to Australia hear very little about kangaroos.
(C) A kangaroo's tail is a powerful weapon.

(D) The most widely known species of kangaroo is no larger than a rabbit.
(E) Kangaroos have three legs.

14. The author believes that the stories told about kangaroos are generally
(A) harmful.
(B) true.
(C) suspicious.
(D) beautiful.
(E) ancient.

What is a cord of wood? Some people say the cord is the most elastic unit of measure ever devised by the mind of humans. A "standard" cord is a pile of stacked wood 4 × 4 × 8 feet; that's 128 cubic feet. How much of this is wood? That depends on what kind of wood, the size and straightness of the sticks, and who does the piling. Small crooked sticks, cut from hardwood limbs and piled by one of those cordwood artists who know how to make air spaces, may contain less than 30 cubic feet of solid wood per cord. Smooth, round wood such as birch or spruce, in sizes eight inches and better, will average 100 cubic feet or more per cord. That's with the bark on. Peeled wood will make 10 to 12 percent more cubic volume in the same sized stack. The heating value of wood varies enormously with the kind of tree. Black locust, white oak, hickory, black birch, and ironwood are the best. A cord of any of these woods, when seasoned, is worth approximately a ton of coal. Beech, yellow birch, sugar maple, ash, and red oak are next. White birch, cherry, soft maple, sycamore, and elm are comparatively poor fuel woods, with basswood, butternut, poplar, and the softwoods at the bottom of the scale.

15. The title that best expresses the main idea of this selection is
(A) "Fuels."
(B) "The Value of a Cord of Wood."
(C) "Kinds of Trees."
(D) "Standard Measures."
(E) "Modern Heating."

16. A standard cord of wood
(A) always contains 128 cubic feet of wood.
(B) will average 100 cubic feet of wood.
(C) contains less than 30 cubic feet of solid wood.
(D) is stacked wood in a pile 4 × 4 × 8 feet.
(E) is measured by weight of the wood per foot.

17. Removal of the bark before stacking
(A) increases the cubic volume of wood in a cord.
(B) makes the stacking easier.
(C) allows more air spaces in a cord of wood.
(D) prevents seasoning of wood.

18. The amount of heat supplied by wood depends upon the
(A) person who has piled the wood.
(B) type of tree from which the wood came.
(C) way the wood was cut.
(D) straightness of the sticks.
(E) amount of bark left on the wood.

19. The most valuable fuel woods come from
(A) all kinds of birches and oaks.
(B) any kind of wood that is well-seasoned.
(C) home-grown beech, maple, cherry, and elm trees.
(D) hickory, ironwood, black birch, black locust, and white oak. (E)

sycamore, ash, butternut, and poplar that
have been sprayed.
(E) decreases the measurements of the wood.

Eight of the city's twelve workers in Venetian glass recently finished one of the most unusual murals ever made for a New York skyscraper. It is an abstract, the creation of Hans Hofmann, a 77- year-old German-born painter. The mural covers 1,200 square feet of the outer wall of the elevator shaft in the William Kaufman Building at 711 Third Avenue. More than a half-million tiles in close to 500 shades of color have gone into it. Blue, red, and yellow are the chief colors. Each tile was made in Venice and is somewhat less than postage stamp size. Each is beaten into a special everlasting concrete with a kind of flat wooden hand tool used for nothing else. Mr. Hofmann did the original color sketch about one-sixth of the final size. This was photographed, and from the negative an enlargement was hand-colored by the artist, cut into sections, and sent in that form to the Vincent Foscato plant in Long Island City, which specializes in Venetian glass tile, or mosaic. There the Venetian specialists, whose trade has been handed down through families through the centuries, set each mosaic into place on the cartoon section, with painstaking fidelity to Mr. Hofmann's color rendering. Although Mr. Foscato's plant keeps 1,400 shades of the glass mosaic, it had to have twelve additional shades specially made in Venice to match the sketch coloring for perfect blending. When all the sections had been filled and approved, they were carried by truck to the building lobby, the walls were covered with a special cement, and the workers carefully beat each bit into place.

20. The best title for this selection would be
(A) "Picture by German Artist to Hang in New York."
(B) "New Mosaic Designed by Vincent Foscato."
(C) "Unusual Photograph Decorates New York Building."
(D) "Venetian-Glass Mural Installed in Skyscraper."
(E) "The William Kaufman Building."

21. The original design was
(A) painted on the wall of the Kaufman building.
(B) a fraction of the size of the finished mural.
(C) imported from Venice.
(D) larger than the finished mural.
(E) projected on a large sheet of paper.

22. Mr. Hofmann (A) learned from his father how to do mosaic work.
(B) is a native of New York.
(C) is a painter.
(D) lives in Long Island City.
(E) is a Venetian-glass specialist.

23. In making the mural
(A) the shades of tile that the Foscato plant had in stock were not adequate.
(B) 1,412 shades were needed.
(C) half a million colors were used.
(D) over 500 shades of color were used.
(E) 1,400 specialists were consul

24. Mr. Hofmann
(A) took a color photograph of his painting.
(B) used only the most unusual shades of red, blue, and green.
(C) had no further connection with the work after making the original sketch.

(D) died shortly before the mural was completed.
(E) colored the enlarged reproduction of the original.

25. Of the tiles used
(A) some were made of special colors by Mr. Foscato.
(B) all were made by the workers who put the mural in place.
(C) all were made in Italy.
(D) all were made in New York.
(E) many were made by a wooden hand tool.

26. The mosaic was assembled by
(A) Hans Hofmann.
(B) an artist specializing in Venetian glass.
(C) Vincent Foscato of Long Island.
(D) workers in the Foscato plant.
(E) Venetian workers.

The history of modern pollution problems shows that most have resulted from negligence and ignorance. We have an appalling tendency to interfere with nature before all of the possible consequences of our actions have been studied in-depth. We produce and distribute radioactive substances, synthetic chemicals, and many other potent compounds before fully comprehending their effects on living organisms. Our education is dangerously incomplete. It is often argued that the purpose of science is to move into unknown territory, to explore, and to discover. It can be said that similar risks have been taken before, and that these risks are necessary to technological progress. These arguments overlook an important element. In the past, risks taken in the name of scientific progress were restricted to a small place and a brief period of time. The effects of the processes we now strive to master are neither localized nor brief. Air pollution covers vast urban areas. Ocean pollutants have been discovered in nearly every part of the world. Synthetic chemicals spread over huge stretches of forest and farmland may remain in the soil for decades. Radioactive pollutants will be found in the biosphere for generations. The size and persistence of these problems have grown with the expanding power of modern science. One might also argue that the hazards of modern pollutants are small compared to the dangers associated with other human activity. No estimate of the actual harm done by smog, fallout, or chemical residues can obscure the reality that the risks are being taken before being fully understood. The importance of these issues lies in the failure of science to predict and control human intervention into natural processes. The true measure of the danger is represented by the hazards we will encounter if we enter the new age of technology without first evaluating our responsibility to the environment.

27. According to the author, the major cause of pollution is the result of
(A) designing synthetic chemicals to kill living organisms.
(B) a lack of understanding of the history of technology.
(C) scientists who are too willing to move into unknown territory.
(D) changing our environment before understanding the effects of these changes. (E) not passing enough laws.

28. The author believes that the risks taken by modern science are greater than those taken by earlier scientific efforts because

(A) the effects may be felt by more people for a longer period of time.
(B) science is progressing faster than ever before.
(C) technology has produced more dangerous chemicals.
(D) the materials used are more dangerous to scientists.
(E) the problems are greater.

29. The author apparently believes that the problem of finding solutions to pollution depends on
(A) the removal of present hazards to the environment.
(B) the removal of all potential pollutants from their present uses.
(C) overcoming technical difficulties.
(D) the willingness of scientists to understand possible dangers before using new products in the environment.
(E) a new age of science that will repair the faults of our present technology.

30. The author seems to feel that the attitude of scientists toward pollution has been
(A) naïve.
(B) concerned.
(C) confused.
(D) ignorant.
(E) nonchalant.

31. The word synthetic means
(A) new.
(B) unsafe.
(C) polluting.
(D) man-made.
(E) progressive.

A third of our lives is spent in the mysterious state of sleep. Throughout our history, we have attempted to understand this remarkable experience. Many centuries ago, for example, sleep was regarded as a type of anemia of the brain. Alemaeon, a Greek scientist, believed that blood retreated into the veins, and the partially starved brain went to sleep. Plato supported the idea that the soul left the body during sleep, wandered the world, and woke up the body when it returned. Recently, more scientific explanations of sleep have been proposed. According to one theory, the brain is put to sleep by a chemical agent that accumulates in the body when it is awake. Another theory is that weary branches of certain nerve cells break connections with neighboring cells. The flow of impulses required for staying awake is then disrupted. These more recent theories have had to be subjected to laboratory research. Why do we sleep? Why do we dream? Modern sleep research is said to have begun in the 1950s, when Eugene Aserinsky, a graduate student at the University of Chicago, and Nathaniel Kleitman, his professor, observed periods of rapid eye movements (REMs) in sleeping subjects. When awakened during these REM periods, subjects almost always remembered dreaming. On the other hand, when awakened during non-REM phases of sleep, the subjects rarely could recall their dreams. Guided by REMs, it became possible for investigators to "spot" dreaming from outside and then awaken the sleepers to collect dream stories. They could also alter the dreamers' experiences with noises, drugs, or other stimuli before or during sleep. Since the mid-1950s, researchers have been drawn into sleep laboratories. There, bedrooms adjoin other rooms that contain recorders known as electroencephalograph (EEG) machines.

32. The main purpose of this passage is to
(A) describe early beliefs about sleep.
(B) compare modern scientific theories to early ideas about sleep.
(C) point out the importance of REMs in human sleep.
(D) describe modern research techniques.
(E) give a short history of human's interest in sleep.

33. This passage implies that the importance of the research of Aserinsky and Kleitman was mainly in the (A) reports they published.
(B) problems they attacked.
(C) information they observed and recorded.
(D) understandings they uncovered.
(E) conclusions they drew for treatment of sleep disorders.

34. All of the following were mentioned as possible causes of sleep EXCEPT
(A) exhausted nerve endings.
(B) a build-up of certain body chemicals.
(C) recurrent periods of rapid eye movement.
(D) the absence of the conscious spirit.
(E) the departure of the soul from the body.

35. The word ***stimuli*** means
(A) substances that make a person more alert.
(B) drugs.
(C) sleep inducing.
(D) comatose.
(E) things that cause the body to react in a certain way.

As he threw his head back in the chair, his glance happened to rest upon a bell, a disused bell, that hung in the room and communicated, for some purpose now forgotten, with a chamber in the highest story of the building. It was with great astonishment, and with a strange inexplicable dread, that, as he looked, he saw this bell begin to swing. Soon it rang out loudly, and so did every bell in the house. This was succeeded by a clanking noise, deep down below as if some person were dragging a heavy chain over the casks in the wine merchant's cellar. Then he heard the noise much louder on the floors below; then coming up the stairs; then coming straight toward his door. It came in through the heavy door, and a specter passed into the room before his eyes. And upon its coming in, the dying flame leaped up, as though it cried, "I know him! Marley's ghost!"
—from *A Christmas Carol by Charles Dickens*

36. The word inexplicable means
(A) explaining in simple terms.
(B) not able to be taken out of.
(C) without an expressed reason.
(D) eerie.
(E) incapable.

37. The bell that began ringing
(A) was large and heavy.
(B) did so by itself.
(C) could be rung from another room.
(D) was attached to every bell in the house.
(E) rested first on his glance.

38. The man who was listening to the bell
(A) dragged a chain across the wine casks.
(B) sat perfectly still.

(C) was apparently very frightened.
(D) was Marley's ghost.
(E) was quite curious.

39. The word specter probably means
(A) a long-handled sword.
(B) a bright light.
(C) a hazy, recognizable vision.
(D) strange noises.
(E) clanking chains.

40. The man in the story
(A) first heard noises in his room.
(B) is probably a wine merchant.
(C) had been asleep.
(D) recognized Marley's ghost.
(E) set the room on

SECTION II

Directions: Read the following topic sentence and respond in an organized essay. Write legibly and stay within the margins.

Topic: What book has had the greatest impact on you? And why ?