



SHSAT ELA Exam 2 (full-length)

ENGLISH LANGUAGE ARTS

Suggested Time - 90 Minutes

57 Questions

IMPORTANT NOTE

The Revising/Editing section (Questions 1-20) is in two parts: Part A and Part B.

REVISING/EDITING Part A

DIRECTIONS: Read and answer each of the following questions. You will be asked to recognize and correct errors in sentences or short paragraphs. Mark the best answer for each question.

1. Read this sentence.

Not surprisingly, Carl Lewis became the first 100-meter sprinter to break ten seconds at low altitude under electronic timing, with 9.97 seconds in May, 1983 at the Modesto Relays.

Which edit should be made to correct this sentence?

- A. Remove the hyphen in *100-meter*.
- B. Remove the comma after *May*.
- C. Insert a comma before *altitude*.
- D. Remove the comma before *with*.

2. Read this paragraph.

(1) Jane collected all the waitresses' tips throughout the year. (2) Part of the money was used to buy John and Alice's new wedding gift. (3) Some of the proceeds were used to pay for Mrs. Jones' retirement party and to help the Sanchezes. (4) The rest was used for gal's night out.

Which sentence should be revised to correct incorrect apostrophes?

- A. sentence 1
 - B. sentence 2
 - C. sentence 3
 - D. sentence 4
3. Which of the following sentences does **not** contain a misplaced or squinting modifier?
- A. Mom served peanut butter and jelly sandwiches to the children on paper plates.
 - B. John nearly walked 2 hours per day every day to get to school.
 - C. People who cry rarely are happy according to my mother.
 - D. On the way home, Jenny saw a man wearing a winter coat and a boy wearing shorts and a t-shirt.

4. Read these sentences.

- (1) If I take the SHSAT, I hope to get into Stuyvesant.
 (2) I will also be excited to gain admission to any specialized high school.

What is the best way to combine these sentences to clarify the relationship between the ideas?

- A. If I take the SHSAT I hope to get into Stuyvesant, so I will also be excited to gain admission to any specialized high school.
 B. If I take the SHSAT, I hope to get into Stuyvesant, however I will also be excited to gain admission to any specialized high school.
 C. If I take the SHSAT, I hope to get into Stuyvesant, but I will also be excited to gain admission to any specialized high school.
 D. If I take the SHSAT I hope to get into Stuyvesant; moreover, I will also be excited to gain admission to any specialized high school.

5. Read this sentence.

Rachael or Dana enjoy getting the early wake-up call, rising to study hard for final exams, and eating a healthy breakfast to feel all right.

Which edit must be made in this sentence?

- A. Change the verb *enjoy* to *enjoys*
 B. Change *all right* to *alright*.
 C. Change *wake-up* to *wake up*.
 D. Remove the comma before *and*.

6. Read the following paragraph.

(1) In 2018, the World Cup begins at twelve venues in Russia and with the finals in Moscow, more than one billion people will be watching. (2) Nearly half the global population is expected to tune in for the popular soccer competition; however, outside the United States, the sport is known as football, not to be confused with American football. (3) The tournament has been played every four years since the inaugural championship in 1930, except in 1942 and 1946 when it was not played due to the Second World War. (4) Thirty-two teams, including the automatically qualifying host nation, compete in the tournament phase for the title over a period of about one month.

Which sentence should be revised to correct a run-on?

- A. sentence 1
 B. sentence 2
 C. sentence 3
 D. sentence 4

REVISING/EDITING Part B

DIRECTIONS: Read the passage below and answer the questions following it. You will be asked to improve the writing quality of the passage and to correct errors so that the passage follows the conventions of standard written English. You may reread the passage if you need to. Mark the best answer for each question.

THE NAPKIN RING PROBLEM

(1) Are you ready for your brain to hurt a little bit? (2) If you take a sphere and remove the core from it, you're left with a shape called a napkin ring – because it looks like a napkin ring. (3) Suppose you first remove the core from a sphere the size of a basketball. (4) Next, suppose you core the Earth itself (assuming it is a perfect sphere) to get a napkin ring of the same height. (5) Which napkin ring would have the higher volume? (6) Most students would immediately reply, “The napkin ring from the Earth of course!” (7) The diameter of the Earth is 12,472 km. (8) Surprisingly, they would not be correct. (9) The two napkins rings of vastly different diameters will have equal volumes.

(10) The mathematics behind the napkin ring problem depends on the Pythagorean Theorem and Cavalieri's Principle – and a little bit of calculus. (11) To better understand Cavalieri's Principle, imagine a vertical stack of five quarters and shift the stack to the right until the shape looks slanted. (12) Despite the skew, the stack still has the same height, and every cross section is the same circular quarter. (13) Most importantly, the new shape with the same height and the same area for any cross-section has the same volume – there are still exactly five quarters in the shape. (14) When computing the cross-sectional area of any napkin ring, subtract the outer and inner circle areas, and the radius term drops out in the process. (15) With the aid of calculus, integrate the cross-sectional area over the height, and the resulting volume still contains no radius term. (16) The napkin ring with height $2h$ has a volume equal to $\frac{4}{3}\pi h^3$. (17) The result seems counterintuitive; the volume of the napkin ring does not increase when the radius grows larger. (18) Whether carved from the entire Earth or merely a basketball size sphere, any napkin ring of equal height contains precisely the same amount of stuff.

7. Which sentence best precedes sentence 2 to help introduce the topic of this passage?
- A. Science passages are often technical and detailed; however, the napkin ring problem is different.
 - B. The napkin ring problem in geometry provides a seemingly paradoxical result.
 - C. Geometry indicates that the volume of a napkin ring only depends on the height and not the radius of the sphere cored out to form the ring.
 - D. Most people suppose a larger radius will lead to a larger volume for most shapes.

8. Read this sentence.

Removing the core entails removing both caps of the sphere and carving a right cylinder out of the center with denoted height, $2h$.

Where should the above sentence be added to clarify details in the first paragraph?

- A. After sentence 1
- B. After sentence 2
- C. After sentence 3
- D. After sentence 4

9. Which of the following sentences is irrelevant to the passage?
- sentence 1
 - sentence 2
 - sentence 5
 - sentence 7
10. What is the best way to combine sentences 8 and 9 to clarify the relationship between the ideas?
- Surprisingly, they would not be correct although the two napkins rings of vastly different diameters will have identical volumes.
 - Surprisingly, they would not be correct, and the two napkins rings of vastly different diameters will have identical volumes.
 - Surprisingly, they would not be correct, yet the two napkins rings of vastly different diameters will have identical volumes.
 - Surprisingly, they would not be correct because the two napkins rings of vastly different diameters will have identical volumes.
11. Which sentence best follows sentence 10 to develop the main ideas presented in the second paragraph?
- Cavalieri's Principle states that three-dimensional objects of the same height and same area at any cross section must have the same volume.
 - The Pythagorean Theorem indicates the square of the hypotenuse in a right triangle equals the sum of the squares of the legs.
 - Additionally, proof of Cavalieri's Principle typically incorporates knowledge of calculus and integrals.
 - Both principles of geometry are relatively simple and covered in most high school geometry courses.
12. What is the purpose of sentences 12 and 13 in the passage?
- To prove a mathematical theory.
 - To explain a complex problem.
 - To demonstrate a principle of geometry.
 - To transition from one idea to the results of another idea.
13. Which combination of sentence 15 and sentence 16 best preserves the relationship between ideas developed in the passage?
- With the aid of calculus, integrate the cross-sectional area over the height of the napkin ring; however, the napkin ring volume is equal to $\frac{4}{3}\pi h^3$ – no sign of any variable representing the radius.
 - With the aid of calculus, integrate the cross-sectional area over the height of the napkin ring to get a volume equal to $\frac{4}{3}\pi h^3$ – the same as a sphere of radius h.
 - With the aid of calculus, integrate the cross-sectional area over the height of the napkin ring; similarly, the napkin ring volume is equal to $\frac{4}{3}\pi h^3$ – no sign of any variable representing the radius.
 - With the aid of calculus, integrate the cross-sectional area over the height of the napkin ring; indeed the volume equals $\frac{4}{3}\pi h^3$ – no sign of any variable representing the radius.
14. Which of the following sentences inserted prior to sentence 18 best helps to develop the ideas presented in the final paragraph?
- Likewise, a smaller radius does not result in a lesser volume.
 - As the radius of the napkin ring expands, its thickness is reduced to exactly offset the larger size.
 - The conclusion is not as straightforward as the underlying mathematics.
 - The napkin ring result does indeed strain the brain.

DEMOCRACY

(1) One agency recently demoted America from a full democracy to a flawed democracy. (2) Politifact confirms that the approval rating of Congress stands at a miserable 14% average, yet members of Congress continue to get re-elected at a rate of 95% or higher. (3) How is that possible? (4) European monarchies, according to the Economist, have a higher percentage of turnover than the royals of Capitol Hill.

(5) A 2014 study by Princeton professors of the influence various actors have on public policy found that average citizens have little to no independent influence, whereas economic elites and business interest groups have a substantial impact on the policymaking in American politics. (6) While numerous studies have been performed to assess one group or one political theory versus another, the Princeton study was the first to use multivariate analysis to test the different actors together and evaluate the independent impact of each. (7) This approach was made possible by a unique data set gathered over many years of 1,779 national surveys about proposed policy changes between 1981 and 2002. (8) As a result, the questions were deemed important enough to poll, but the universe was broad and not restricted to any narrow Washington policy agenda. (9) The Princeton study does corroborate findings of studies in support of Majoritarian Electoral Democracy which suggest citizens significantly influence policymaking, but it also offers explanatory evidence that undermines the theory. (10) According to the study, when one holds constant net interest-group alignments and the preferences of affluent Americans, it makes very little difference what the general public thinks. (11) Not only do regular citizens lack substantial power over policy decisions; they have little or no independent influence on policy at all.

15. Which of the following is the most precise version of sentence 1?

- A. One agency demoted America from a full democracy to a flawed democracy for the first time in 2017.
- B. The Economic Intelligence Unit demoted America from a full democracy to a flawed democracy for the first time in 2017.
- C. The Economic Intelligence Unit demoted America from a full democracy to a flawed democracy in 2017.
- D. The Economic Intelligence Unit demoted America from a full democracy to a flawed democracy in 2017.

16. Which sentence is irrelevant to the argument presented in the passage and should be deleted?

- A. sentence 3
- B. sentence 6
- C. sentence 8
- D. sentence 10

17. Which of the following would be an acceptable transition to begin sentence 5?

- A. By comparison,
- B. Nevertheless,
- C. Moreover,
- D. In conclusion,

18. Read this sentence.

A bivariate correlation effect reveals that average citizens, who sometimes appear to influence policy, often want the same thing from the government as elites, and when elites win, so do the citizens but not the other way around.

Where should this sentence be added to best support the ideas presented in the passage?

- A. immediately after sentence 5
- B. immediately after sentence 6
- C. immediately after sentence 9
- D. immediately after sentence 10

19. Sentence 10 supports which of the following arguments presented in the passage?
- A. The unique analytical approach of the Princeton Study undermines previous theories about politics and proves democracy is dead.
 - B. Affluent Americans determine policymaking which undermines democracy.
 - C. Democracy is a system of government of and by the people, yet public opinions appear not to matter in policymaking.
 - D. Democracy is a system of government where the people influence decisions directly or indirectly, yet the inability to remove congressional representatives means public opinion does not matter.
20. Which of the following would be the best concluding sentence after sentence 11?
- A. The absence of term limits to political office threatens a functioning democracy.
 - B. The inability of average Americans to replace unfavorable political representatives or influence policymaking undermines our democracy.
 - C. The Princeton study clearly demonstrates why America has become a flawed democracy in 2017.
 - D. America is increasingly ruled by business interests and the affluent while our politicians assume the role of royalty.

READING COMPREHENSION

Questions 21-57

DIRECTIONS: Read the passage below and answer the questions following it. Base your answers on information contained only in the passage. You may reread a passage if you need to. Mark the best answer for each question.

Passage 1:

After radical politics drove David Alfaro Siqueiros from his native country in 1932, the famous Mexican muralist was commissioned to paint an 80-foot broad fresco on the newly

5. formed Olvera Street in the idyllic Old Mexico neighborhood of downtown Los Angeles. Promoters envisioned colorful birds and lush rainforests in the new painting, "América Tropical," to celebrate Tropical
10. American culture. Siqueiros painted the mural's first two sections, depicting a tropical rainforest and a Maya pyramid, in the daylight. However, to avoid scrutiny, Siqueiros painted the final section of the mural, the centerpiece,
15. at night.

When Siqueiros unveiled the mural, the reason for his secrecy became clear. The central image of the work was a horrific figure of a Mexican native crucified on a double

20. cross as an American eagle perched above him. Siqueiros' symbolic indictment of imperialism clashed with the idyllic Old Mexico portrayed on the street below.

- Displeased, the people who commissioned the
25. painting painted over a part of the mural almost immediately, and the entire fresco was whitewashed by 1938.

Exposure to decades of sun and rain caused the white paint covering the outdoor mural to

30. fade by 1971 revealing the bright colors underneath. At the same time, artists raising awareness of Mexican American cultural

identity began to rediscover various works of the Mexican muralists like Diego Rivera, José

35. Clemente Orozco, and David Siqueiros. "América Tropical" celebrated Mexican American heritage while at the same time making a political statement. Inspired by Siqueiros' whitewashed emblem of social
40. justice, a new generation of artists embraced "Mexican Muralism."

The resulting Chicano mural movement gained steam throughout California and the Southwest United States in the 1970s.

45. Hundreds of huge, brilliant new murals depicting Mexican American culture and history appeared during this period, some commissioned in cultural locations but most painted in abandoned lots, on empty
50. buildings, or on highways. Several of these murals remain, although poorly maintained.

Fortunately, a new group of artists has worked assiduously to resurrect and restore many of these murals. Leading the way, eighty

55. years to the day after its original unveiling, Siqueiros' "América Tropical" was restored and once again revealed to the public.

- Advocates anticipate that Siqueiros' mural will serve both as an inspiration and a lesson. In
60. the words of the master who created this important cultural and artistic legacy, "We could not lie by painting a false Tropical America; we had to paint the true, authentic Tropical America."

21. Which of the following is the best title for this passage?
- A. David Alfaro Siqueiros: Mexican Muralist
 - B. Mexican American Art and Culture in the 20th Century
 - C. A Critique of “America Tropical”
 - D. “America Tropical”: A Cultural Legacy Restored
22. According to the passage, why did Siqueiros paint part of “America Tropical” at night?
- A. The central image depicted a politically controversial scene.
 - B. The other parts of the mural were painted during daytime hours.
 - C. Siqueiros sought to avoid closer inquiry into his work of art.
 - D. The outdoor mural was not yet complete.
23. Which of the following was the most likely response of promoters at the unveiling of Siqueiros’ “America Tropical”?
- A. Skepticism about the political message symbolized by the fresco
 - B. Surprise that the result did not match their expectations
 - C. Discontent about particular aspects of the painting
 - D. Curiosity about Siqueiros’ underlying message
24. According to the passage, the period from the 1930s to the 1970s had what impact on the painting “America Tropical”?
- A. The bright colors faded due to weather and pollution.
 - B. The work of art was largely forgotten.
 - C. Certain colors became more brilliant and visible.
 - D. Nature once again unveiled the hidden mural.
25. According to the author, why did Siqueiros’ mural inspire Chicano muralists of the 1970s?
- A. “America Tropical” revealed hidden truths about Mexican American inequality.
 - B. “America Tropical” was a symbol of Mexican American cultural identity.
 - C. The mural was one of the only remaining works in America by a Mexican master.
 - D. “America Tropical” rivaled the works of great muralist Diego Rivera in New York.
26. The author includes the quote by Siqueiros on lines 55-58 in order to
- A. provide a lesson to be learned
 - B. summarize the storyline of the passage
 - C. offer greater insight into the mind of artist David Alfaro Siqueiros
 - D. motivate a new generation of Mexican American muralists

Passage 2:

Anglo Americans and Hispanic Texan leaders like José Antonio Navarro were drawing up a new constitution of Texas on March 2, 1836, just days before the fall of the Alamo. Americans and Tejanos alike declared their independence from Mexico and established the new Republic of Texas. In many ways, the Texas Declaration of Independence was similar to the United States Declaration of Independence, written over 50 years earlier. Like the original grievances against Great Britain, The Texas Declaration claimed that the government of Santa Anna had breached the liberties guaranteed by the Mexican Constitution. Citizens quickly elected Sam Houston the first president in September 1836, and Mirabeau Lamar, who had built a fort at Velasco and had fought valiantly at the Battle of San Jacinto, served as vice president. Houston sent a delegation to Washington, D.C., asking the United States to annex Texas.

U.S. President Andrew Jackson, refused, however, because the inclusion of a new slave state would unsettle the balance of free and slave states in Congress. For the time being, Texas would remain an independent nation. Despite fast population growth, the new republic faced political and financial difficulties. The Mexican government refused to honor Santa Anna's recognition of independence, and fighting continued between Texas and Mexico. Also, Texas had substantial debts and little money to repay them. Nevertheless, many Texans hoped to join the United States.

27. Which of the following is the best title for this passage?

- A. Texas: The Path to Statehood
- B. Texas: An Independent Nation
- C. Remember the Alamo!
- D. Texas Politics and Sam Houston

Southerners favored the annexation of Texas, but Northerners objected that Texas would add another slave state to the Union. President Martin Van Buren, like Jackson, did not want to intensify the slavery issue or risk war with Mexico. Instead, he put the question of annexing Texas on the back burner. John Tyler, who became the nation's president in 1841, was the first vice president to become president as a result of the demise of a chief executive. He succeeded William Henry Harrison, who died in April, just one month after taking office. Tyler supported adding Texas to the Union and persuaded Texas to reapply for annexation. However, the Senate was divided over slavery and failed to ratify the annexation treaty.

Circumstances changed in 1844 with the onset of the presidential campaign. A sense of Manifest Destiny was emerging throughout the country. The North wanted the United States gain control of the Oregon country from Britain, and the South favored annexation of Texas. The Democratic candidate, James K. Polk, campaigned for both actions. However, Whig candidate, Henry Clay, initially rejected the idea of adding Texas to the Union. When Clay eventually adopted annexation, he lost votes in the North and possibly the election as well. The momentum gained in Congress in favor of annexation after Polk's election. A resolution to annex Texas soon came to a vote and passed. On December 29, 1845, Texas officially became a state of the United States.

28. What is the most likely reason Andrew Jackson did not want Texas admitted as a state after declaring independence?

- A. The Texas constitution legalized slavery.
- B. The United States did not want to risk war with Santa Anna's government.
- C. The U.S. government did not want to bail Texas out of its financial problems.
- D. The U.S. did not wish to push slavery to the forefront of political debate.

29. Tejanos in line 3 most likely refers to which of the following?

- A. American citizens
- B. Lifelong Mexican citizens
- C. Mexican Settlers in Texas
- D. The framers of the Texas Declaration of Independence

30. According to the passage, John Tyler was the first president:

- A. of an independent Texas.
- B. to reject Texas statehood.
- C. to succeed Andrew Jackson in office.
- D. to assume office because the previous president died.

31. Who among the following opposed adding Texas to the Union?

- A. James Polk
- B. Henry Clay
- C. John Tyler
- D. Sam Houston

32. What does the passage suggest about Santa Anna?

- A. Santa Anna represented Mexico against Texas but later differed with the government over Texan Independence.
- B. Santa Anna was responsible for the siege of the Alamo.
- C. Santa Anna was an independent country between Mexico and America.
- D. Santa Anna battled against Texas until his death.

Passage 3:

Despite the fact that spoked wheels and pneumatic tires were invented before the 20th century, bicycle design hasn't visibly changed a great deal. However, look closer, and you may see a hundred years of development has taken the humble bicycle from boneshaker to a speed machine. A modern bicycle is still constructed of a double diamond shaped frame, two wheels with air-inflated tires, and a chain-based drivetrain; the mechanism through which the whole system runs. Though we've stuck to the basics, man and his machine have increased in speed from the 14.5 km per hour reportedly achieved by Karl von Drais in 1817 to a mind-blowing 55 km per hour in a Tour de France time trial nearly two centuries later.

Speed improvements on a bicycle boil down to two fundamental factors: you either increase the power that propels the rider forward or you decrease the resistive forces that hold the rider back. Physiology and biomechanics typically determine the rider's ability to generate power. The resistive forces that slow a cyclist are mainly air resistance, total mass and any frictional losses, such as the drive train or the friction of the wheels rolling against the ground. If each athlete has an equal likelihood of winning, then the challenge for engineers and scientists is to develop technology the cyclist can use to obtain a competitive advantage.

Tests demonstrate that once a cyclist traveling outdoors accelerates beyond speeds of 25 miles per hour, approximately 90% of the force pushing against them is air resistance. Moreover, the relationship between speed and air resistance is not linear. For example, a 50% increase in speed from 20 miles per

hour to 30 miles per hour will require twice the power out from the cyclist. Consequently, reducing air resistance has become the leading priority in professional cycling technology in recent times. To better understand air resistance, wind tunnels are now used by both professional and amateur athletes to

analyze the aerodynamic drag, but wind tunnels are neither cheap nor readily available. Thankfully, alternatives for those without an Olympic-sized budget are emerging. It is now possible to use computational fluid dynamic software which can be, in essence, a virtual wind tunnel.

Racing bicycles, in particular, have been subject to an enormous amount of aerodynamic refinement over the previous decade. Braking systems have been positioned to be protected from the main airflow, and gear cables snake inside of the frame. Wheel designs have not only reduced aerodynamic drag, but they are now being optimized to provide benefits such as increased rider stability from crosswinds. Even the mechanical properties of the racing bicycle have evolved. Like computational fluid dynamic software, finite element analysis has fundamentally changed the process of bike design by simulating the stresses and strains that bike components will face when in use. These developments have resulted in performance optimization and development of composite frames with a mass as little as 800 grams but still stiff enough to sprint to a stage victory and comfortable enough to ride for five hours or more, day after day. All these changes raise the question, "What is next?"

33. Which of the following is the best title for this passage?

- A. The History of Bicycles from 1817 to Today
- B. Aerodynamics and Bicycle Racing
- C. The Impact of a Century of Change on Bicycle Design
- D. Technology and Bicycles

34. According to the passage, which of the following is the most significant obstacle for bicycle racers?

- A. Improving body mechanics and physiology
- B. Linear increase in air resistance above 25 mph
- C. Obtaining funds to access wind tunnels
- D. Exponential increases in resistive forces above 20mph

35. The passage suggests which of the following is true?

- A. Finite element analysis is the same as computational fluid dynamics.
- B. No composite frames are used for sprinting weigh below 800 grams.
- A. Every endurance athlete has an equal chance of winning a bicycle race.
- D. Bicycles cannot get any faster in the future without mechanical power propulsion.

36. Which of the following is **not** the same on both modern bicycles and those of the late 19th century according to the passage?

- A. Double diamond frame
- B. Gear cables
- C. Pneumatic tires
- D. Drivetrain

37. Why has the aerodynamic refinement of bicycles improved significantly in the last decade?

- A. Finite analysis permits the optimum design of bicycle components.
- B. Wind tunnels have become more affordable.
- C. Changes in braking systems have revolutionized the sport of racing.
- D. Computer analysis has revolutionized bicycle design.

38. According to the passage, “computational fluid dynamic” most nearly means:

- A. A cost-effective technology to simulate a wind tunnel
- B. An investigation of the resistive forces of liquids
- C. The study of biomechanics and racing bicycles
- D. A software program to optimize the mechanical properties of bicycles

Passage 4:

The reason why Alzheimer's disease develops in some patients, while others have healthy brains throughout their lifetime, has remained a mystery until now. New research has identified a molecule that protects brain cells from the stress of aging, which may stave off neurodegenerative diseases. People who experience early cognitive deterioration appear to have reduced levels of a stress-protecting protein in their brains compared with healthy, mentally alert people. This result indicates the new potential for diagnosis and prevention of Alzheimer's disease and various forms of dementia.

Neuroscientists desperately need to learn more about the impact of stress on the human brain. Stress and toxins impact cells in every brain over time, but some brains appear to be more resistant to the effects. Alzheimer's disease, the leading cause of dementia, develops alongside characteristic sticky clumps of a substance called amyloid-beta. These plaques are notable in the brain during an autopsy, yet, puzzlingly, research reveals that nearly one-half of people who demonstrate the brain pathology of Alzheimer's, never experienced symptoms of cognitive decline during their lifetime. As a result, researchers say, there must be another factor at play to protect people's brains from succumbing to the toxins.

The protein repressor element 1-silencing transcription factor (REST) inhibits genes involved in cellular demise and is resistant to cellular stresses. REST, customarily produced during brain development, remains active in aging brains. However,

people with cognitive impairment or Alzheimer's disease lack adequate amounts of the protein.

Scientists measured the postmortem amount of REST protein in the brains of individuals who had previously taken tests of cognitive ability and found that people with higher cognitive function had significantly higher levels of the protein in their prefrontal cortex, the outer frontal part of the brain involved in planning, personality, and other cognition. This result suggests that plaques and other clinical signs of Alzheimer's may not be sufficient to cause dementia.

The REST proteins are like the police officers of the brain, protecting it from aging stresses by turning specific genes on or off. "There exists a lot of crime in the brain, but society doesn't fall apart until the police station is blown up," one researcher explained. To explore the role of REST in living animals, scientists studied mice that lacked the REST gene and found that these mice were at higher risk of aging stress. The mice lost a significant number of neurons in the forebrain cortex, one of the primary brain areas affected by dementia. When the scientists restored the REST gene to the mice, it protected the animals from developing cognitive decline. Researchers also discovered that the protein isn't in short supply for Alzheimer's patients. The brain produces REST proteins, but cellular machinery called autophagosomes overwhelm the REST proteins and diminish their role. Therefore, it may be possible to prevent the degradation of these proteins, bringing scientists closer to preventing Alzheimer's disease and dementia.

39. Which of the following best tells what the passage is about?

- A. A protein that may cure neurodegenerative diseases.
- B. Proteins that will lead to a cure for Alzheimer's Disease.
- C. New methods to control proteins critical for stopping Alzheimer's Disease.
- D. An alternative theory about Alzheimer's Disease.

40. Which of the following, according to the passage, is true about neuroscience?

- A. It is the study of neurodegenerative diseases like Alzheimer's.
- B. Not nearly enough is known about how stress produces changes in the brain.
- C. Alzheimer's is a puzzle that will soon be solved by neuroscience.
- D. Neuroscience is the study of the nervous system.

41. What is the most likely reason some people are better able to avoid the impact of age-related stress on the brain?

- A. They develop a substance called amyloid-beta in the brain.
- B. They have high amounts of active proteins in the brain that fight off toxins.
- C. Healthy people exercise the brain more frequently through puzzles, games, and increased cognitive activity.
- D. The REST protein is absent in the brain.

42. Which of the following is not indicative of a brain associated with a patient suffering from Alzheimer's Disease?

- A. Sticky Clumps
- B. Autophagosomes that engulf REST proteins
- C. Amyloid-beta
- D. Excess active Repressor Element 1

43. What is suggested by the fact that nearly one in two people with Alzheimer's brain pathology never experience Alzheimer's Disease?

- A. There is hope for people whose family members have had Alzheimer's disease.
- B. The REST protein is the best bet for a cure.
- C. Another factor beyond the presence of toxins contributes to the onset of Alzheimer's.
- D. There is a random element determining who succumbs to Alzheimer's Disease or not.

44. How does the second paragraph (lines 13-26) contribute to the passage?

- A. It introduces a promising protein that might lead to future prevention of cognitive diseases.
- B. It highlights a bewildering result related to the identification of Alzheimer's disease.
- C. It explains why Alzheimer's disease remains without a cure.
- D. It concludes scientists know very little about Alzheimer's disease.

45. As used in line 43, "police officers" most nearly means

- A. proteins that guard against cellular degradation in the brain
- B. genes that turn on and off to direct traffic in the brain
- C. autophagosomes, which overwhelm the REST proteins
- D. critical sections of the brain whose purpose is to maintain cognitive order

Passage 5:

Neutral-colored, well-camouflaged fish don't often attract the naked eye, but many live secret lives cloaked in flamboyantly bright colors visible only to other fish, new research

5. suggests. Lots of marine animals including certain fish, jellies, and plankton emit colors through a chemical process called bioluminescence that can be seen by the human eye. Some marine animals also
10. produce vivid colors that are not detected by the human eye, through a mechanism called biofluorescence, in which proteins absorb light at one particular wavelength and then re-emit it at a lower-energy frequency. With
15. special filters, humans can see this fluorescence appear as bright red, green or orange light. Biofluorescence commonly appears among many jellies, corals, and other marine organisms, but fish display the trait
20. less frequently.

Scientists at the American Museum of Natural History in New York City endeavored to determine the extent of biofluorescence in the fish world by studying hundreds of species in

25. the Bahamas, the Solomon Islands and in U.S. aquarium collections. Surprisingly, the researchers learned that more than 180 species, nearly 20 percent of the study group, displayed the phenomenon. To study the fish,
30. the scientists traveled to their experiment locations at night to avoid surrounding light and triggered biofluorescence using high-energy blue light. With the aid of special filters and specially retrofitted cameras, researchers
35. recorded the glow. The research team

encountered a wide variety of colors, patterns, and intensity of phenomena among closely related fish that are indiscernible from one another in the regular white light. The

40. scientists also found the most efficiently camouflaged fish (those with the dullest coloration in white light) radiated the brightest, most colorful glow.

The researchers discovered that many, though

45. not all of the groups of fish analyzed, incorporate filters in their eyes that theoretically should permit them to see the bright colors invisible to the human eye. This finding suggests the fish utilize the coloration

50. as a means to communicate or possibly camouflage themselves from predators: Scorpionfish, for instance, fluoresce a vivid orange color similar to the fluorescence emanating from the corals on which it resides.
55. Coincidentally, many predators, such as shark species, do not have the equivalent ability in their eyes to filter the wavelengths and detect the glow of potential prey. Consequently, the scientists believe the phenomena of
60. biofluorescence might provide glowing marine life with a private wavelength on which they can communicate with other marine animals of the same species. Certain fluorescent cephalopods (a group of marine
65. animals that includes squid, cuttlefish, and octopus) exhibit evidence for this hypothesis. More study is required to determine the function of the colors and the extent to which fish can see them.

46. Which statement best reflects the central idea of this passage?
- A. Biofluorescence is an exciting recent discovery in marine animals.
 - B. Fish are more colorful for more reasons than most people see.
 - C. Biofluorescence among fish is relatively rare and should be studied further.
 - D. Biofluorescence helps explain the behavior of many marine animals.
47. According to the passage, what is the difference between biofluorescent and bioluminescent phenomena?
- A. Biofluorescence is an electronic process, and bioluminescence is a chemical reaction.
 - B. Biofluorescence is visible to the naked eye while bioluminescence is not.
 - C. Biofluorescence is common among jellyfish; bioluminescence is not.
 - D. Biofluorescence is limited to red, green, and blue colors.
48. According to the passage, the visibly colorful fish are more likely to demonstrate which of the following traits?
- A. Best camouflaged
 - B. Widest variety of patterns and color intensity
 - C. Weakest biofluorescence
 - D. Bright orange fluorescence to match surrounding coral
49. According to the passage, which of the following is not an example of a fish that may communicate through biofluorescence?
- A. Squid
 - B. Cuttlefish
 - C. Plankton
 - D. Scorpionfish
50. What does the passage suggest is a reason the researchers used blue light to stimulate biofluorescence on line 28?
- A. In order to capture the high energy blue light on retrofitted cameras.
 - B. Blue is in the visible spectrum, so it could be seen.
 - C. Their special filters could not detect the higher energy color.
 - D. Red, green and orange are lower-energy frequencies.
51. Which of the following marine life use biofluorescence as camouflage?
- A. Scorpionfish
 - B. Cuttlefish
 - C. Plankton
 - D. Jellies

Passage 6:

At the Seneca Falls Convention in 1848, women had called for the right to vote. After the Civil War, Congress passed the Fifteenth Amendment, giving voting rights to

5. freedmen, but not to women. Some leading abolitionists became suffragists, men and women who fought for woman suffrage or women's right to vote. Like other reformers, the suffragists formed organizations to
10. promote their cause. Elizabeth Cady Stanton and Susan B. Anthony founded the National Woman Suffrage Association, which called for a constitutional amendment allowing women to vote in national elections. A second
15. organization, the American Woman Suffrage Association, focused on winning woman suffrage in state elections. In 1890 the two groups merged to form the National American Woman Suffrage Association. Led
20. by Anna Howard Shaw, a minister and doctor, and Carrie Chapman Catt, a newspaper editor and educator, this organization grew to more than two million members by 1917. Groups formed to protest the idea of giving women
25. the vote. Both men and women supported these groups on the belief that woman suffrage would disturb society's "natural" balance and result in divorce and neglected children.
30. The suffragists won their early victories in the West. Wyoming led the nation in giving women the right to vote in 1890. Between 1910 and 1913, five other states adopted woman suffrage. By 1919 women could vote
35. in at least some elections in most of the 48 states. In the meantime, suffragists continued

their struggle to win the vote everywhere.

Alice Paul, a Quaker who founded the National Woman's Party in 1916, was a

40. forceful leader of the suffragist movement. She sought greater economic and legal equality as well as suffrage for women. During a visit to Great Britain, Paul saw suffragists use protest marches and hunger strikes to call
45. attention to their cause. When she returned to the United States, she too used these methods in the fight for suffrage. In 1917, Alice Paul met with President Woodrow Wilson but failed to win his support for woman suffrage.
50. Paul responded by leading women protesters in front of the White House. Day after day they marched carrying banners demanding votes for women. When Paul and other demonstrators were arrested for blocking the
55. sidewalk, they started a much-publicized hunger strike. Alva Belmont, one of the protestors, proudly declared that all the women had done was to stand there "quietly, peacefully, lawfully, and gloriously."
60. By 1917 the national tide was turning in favor of woman suffrage. New York and, a year later, South Dakota and Oklahoma granted equal suffrage. Meanwhile, Congress began debating the issue, and President Wilson
65. agreed to support an amendment to the Constitution. Finally, in 1919 the Senate voted in favor of the Nineteenth Amendment, which allowed for women's suffrage. The amendment was ratified in 1920, in time for
70. women to vote in that year's presidential election. For the first time, American women were able to participate in the election of their national leaders.

52. Which of the following best tells what this passage is about?
- A. The need for woman suffrage prior to 1920
 - B. The story of the National Woman's Party
 - C. The history of the woman suffrage movement
 - D. The biography of Alice Paul, a famous suffragist
53. President Woodrow Wilson changed his position toward woman suffrage after 1917 for all of the following reasons except
- A. The national tide was turning in favor of the cause of woman suffrage.
 - B. New York and several states granted women the right to vote.
 - C. The National Woman's Suffrage Association grew to over 2 million members.
 - D. Alice Paul began much-publicized protests and hunger strikes.
54. What is the most likely reason some women opposed women's suffrage?
- A. Some believed that only men should make decisions as head of the household.
 - B. Certain women believed it would result in more children becoming orphans.
 - C. Some believed it would change the status quo of family life.
 - D. Societal norms taught women they were inferior to their male counterparts.
55. According to the passage, the phrase "woman suffrage" refers to which of the following?
- A. The right to vote
 - B. The 15th Amendment to the U.S. Constitution
 - C. Undue hardship and suffering endured by women
 - D. Women's right to vote
56. Alice Paul did all of the following according to the passage except:
- A. Organize protests in front of the White House
 - B. Met President Woodrow Wilson to discuss woman suffrage
 - C. Traveled overseas to meet woman suffrage leaders in Great Britain
 - D. Staged a hunger strike for the cause of woman suffrage
57. Why did the author include the reference to the Fifteenth Amendment to the U.S. Constitution at the beginning of the passage?
- A. To highlight the similarities between the 15th and the 19th Amendments to the Constitution
 - B. To illustrate another example of the disenfranchised gaining the freedom to vote in federal elections
 - C. To distinguish the suffrage granted to former slaves from the same rights denied to women
 - D. To warn the struggle for woman suffrage would require a 'social' civil war