Eleanor Hawkins writes "Virginia Outback," a weekly column for her high school newspaper. One of her columns is about a cave located on a farm in Virginia.

1. **Eleanor wants to find information about laws protecting caves and the water supply. Which question is directly related to the topic?**

   - **A** How many communities access their water supply from underground caves?
   - **B** What penalties are charged to landowners who fail to protect water in caves?
   - **C** What are the primary dangers posed to the water supply by the presence of caves?
   - **D** How long have people recognized the connection between caves and water supplies?
In past months reporters from this newspaper have trekked through several of Virginia's state parks, including the Breaks Interstate Park. This week three of us report from a different part of Virginia—the part under the ground. Not knowing what to expect, Sarah Schwartz, Hayden Collins, and I traveled to a cave on a farm in nearby Highland County. There we met with people who study and explore caves.

The owner of the farm restricts access to keep it as undisturbed and as pure as possible, so I cannot name the cave, but I can say that it appears to be no more than a large hole in the ground. In fact, that is essentially what our Virginia caves are. Above ground, they first appear as sinkholes. The underground cave is exposed when water in the sinkholes erodes the underlying limestone.

Our guide, Dr. Maurice Newman from the state college, made us very aware, though, that a cave is more than just a hole in the ground. As I entered the cave, I felt as if I was walking into a place totally disconnected from the land above, but Dr. Newman explained that an important relationship exists between the world above and the ground below. He told us the water that created the cave runs into an underground reservoir that serves as the source of our drinking water, so the cave must be protected. As our tour continued, Dr. Newman reminded us not to disturb or be damaging to the cave environment.

We learned that the farmer who owns the land takes special care to leave the ground around the cave undisturbed,
even putting a gate across its entrance. (14) Without this protection, trash or other pollutants could enter the local water supply. (15) Scientists have used nontoxic dye to trace how pollution travels through caves and into our water.

(16) In truth, caves are vital components of the ecosystem of the surrounding area. (17) For example, we saw thousands of bats, including some endangered Virginia big-eared bats. (18) They spend their days hanging upside down from the roof of the cave, but at dusk they fly out to eat insects. (19) Most of the cave creatures, from the bats to the albino fish in the streams and the insects living under the rocks, obtain their food from the world above. (20) These cave dwellers need this food as much as we need the water underground.

(21) Emerging from the cave just an hour or so before the bats, we were uniformly covered with dust. (22) As we brushed off the dust and looked around, we all realized we had experienced something extraordinary. (23) The world we came back to, Virginia above the ground, did not look the same to us. (24) It now looked like just half the picture, with part of the scene still concealed below. (25) To be at the cave site was a rare privilege, but the invitation to visit came with clear responsibilities. (26) In Dr. Newman's words, "Respect and care for the world wherever you are."
Which of these best states the thesis for this article?

A Because water that forms caves runs through them into an underground reservoir, pollution in caves can endanger Virginia's water supply.

B Caves are home to many unique creatures, among them the Virginia big-eared bats that hang upside down from the roof of the cave during the day and the albino fish that live in the underground streams.

C Cave formation in Virginia and elsewhere, which involves the slow process of water eroding limestone, takes many years to accomplish.

D Although life above ground seems to take place in a different world, it affects Virginia's caves, and in turn, caves affect the land above.

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Read sentence 5.

The owner of the farm restricts access to keep it as undisturbed and as pure as possible, so I cannot name the cave, but I can say that it appears to be no more than a large hole in the ground.

How is this sentence best revised for conciseness?

A Although I cannot name the cave because the owner of the farm restricts access to keep it pure, it appears to be no more than a large hole in the ground.

B To keep the cave undisturbed, the owner of the farm restricts access and I cannot name the cave, but I can say that it appears to be no more than a large hole in the ground.

C Although I cannot name the cave because the owner of the farm restricts access to keep it as undisturbed as possible, it appears no larger than a hole in the ground is what I can say.

D I can say that the cave, although I cannot name the cave because the owner of the farm restricts access to keep it pure, appears to be no more than a large hole in the ground.
Read sentence 12.

As our tour continued, Dr. Newman reminded us not to disturb or be damaging to the cave environment.

How is to disturb or be damaging to correctly written?
A to be disturbing or to damage
B to disturb or damaging
C to disturb or damage
D As it is

(14) Without this protection trash or other pollutants could enter the local water supply.

Which letter represents the correct location of the comma in the sentence?

Without this protection, trash, or other pollutants, could enter the local water supply.

Which quotation from an expert provides the best support for the article?
A "Everything in the environment is connected, so harming one part of it harms all who call it home."
B "Caves on private property should be capped so that no one is hurt while trying to explore them."
C "Because they are insulated from the effects of the sun, caves have a year-round temperature in the 50s."
D "While caves are interesting places to explore, the most important scientific research focuses on land or sea."
7 Which sentence is the best conclusion for the article?

A Dr. Newman has devoted his career to saving Virginia's caves.
B Virginia has many natural resources above ground and underground.
C It is no wonder that Dr. Newman enjoys exploring Virginia's caves.
D That protection extends to Virginia above ground and underground.

Read the following passage and answer questions 8 through 10.

Sarsaparilla Soda

(1) Although soda is enormously popular today, it is still difficult to imagine American colonists drinking it hundreds of years ago, yet they did. (2) The soda they drank was made from the sassafras tree. (3) They made this beverage from the sassafras's trees roots, which have a strong, sweet smell. (4) The colonists boiled the roots with molasses and herbs to make root beer, which is also known as sarsaparilla. (5) Of course, this drink, which lacked processed sugar tasted far less sweet than the root beer people drink today. (6) The recipe for sarsaparilla varied widely depending on who was making it; still, the drink remained a favorite for many years. (7) It was especially popular in the Old West. (8) However, with the development of other carbonated soft drinks in the late 1800's, sarsaparilla soda became less common.
8 Read sentence 3.

They made this beverage from the sassafras's trees roots, which have a strong, sweet smell.

How is sassafras's trees roots correctly written?
A sassafras tree's roots
B sassafras's tree's roots
C sassafras trees roots
D As it is

9 Read sentence 5.

Of course, this drink, which lacked processed sugar tasted far less sweet than the root beer people drink today.

Which correction should be made to this sentence?
A Delete the comma after drink.
B Change lacked to lacking.
C Insert a comma after sugar.
D Change than to then.

10 Which of these would best be added after sentence 8?
A Even though sarsaparilla soda can be hard to find today, it is often available in specialty markets.
B Many younger people have never heard of sarsaparilla soda.
C Molasses is no longer needed to make sarsaparilla soda.
D American Indians taught the colonists how to make sarsaparilla soda.

11 Directions: You do not need to read a passage to answer the question. Read and answer the question.

Read this sentence.

The brochure recommends bringing the following items on every hike; a jacket, water, extra socks, a map, and a signaling device.

In this sentence, how is every hike; a jacket correctly written?
A every hike. A jacket
B every hike, a jacket
C every hike: a jacket
D As it is
Which sentence is complete?

- Wondered about those massive statues surrounding the mountain.
- With several hours to spare before dinner time.
- Today's topic of discussion deserves further attention.
- Still waiting on the others to return from their adventures.
- Sheltering tourists from the sun, which seemed to grow larger.

Retirement Letter

Tricia is writing a letter to graduates of her high school asking them to recognize the service of Mrs. Galsworthy, a longtime teacher who is retiring at the end of the year.
13 Which note is in the wrong place in Tricia's outline?

I. **Who and What**
   A. Mrs. Galsworthy's retirement reception
   B. Gift Presentation

II. **Mrs. Galsworthy's History**
   A. Came to Sarabande High in 1965
   B. Has taught more than 5,000 students

III. **Mrs. Galsworthy's Influence**
    A. Challenges her students in class
    B. Supports students during extracurricular activities

IV. **Mrs. Galsworthy's Accomplishments**
    A. Sponsored Mathematics Team for ten years
    B. Started and participated in tutoring program
    C. Led the fundraiser to expand the library

V. **What Students Can Do**
   A. Send in personal letters about Mrs. Galsworthy
   B. Remembers all her students' names
   C. Attend the ceremony

<table>
<thead>
<tr>
<th>Gift presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Came to Sarabande High in 1965</td>
</tr>
<tr>
<td>Supports students during extracurricular activities</td>
</tr>
<tr>
<td>Sponsored Mathematics Team for ten years</td>
</tr>
<tr>
<td>Send in personal letters about Mrs. Galsworthy</td>
</tr>
<tr>
<td>Remembers all her students' names</td>
</tr>
</tbody>
</table>
December 1, 2014

Dear Sarabande High School Graduates:

(1) The graduating class of Sarabande High School has the opportunity to recognize a true legend, Mrs. Mary Galsworthy.

(2) Most graduates, when they pause to considering Mrs. Galsworthy's contributions, will remember her as a phenomenal teacher and a superb sponsor. (3) Now, we have a chance to honor her. (4) After 47 years of teaching at Sarabande High School, Mrs. Galsworthy will retire at the end of this school year. (5) The senior class invites Mrs. Galsworthy's former students to write letters sharing memories in recognition of the impact this caring teacher made on their lives. (6) These letters will be bound and presented to Mrs. Galsworthy at her retirement reception.

(7) Mrs. Galsworthy came to Sarabande High School in 1965, only a few years after the present school building was constructed. (8) Almost immediately, her students proclaimed her "wonderful," and in the subsequent years, students vied to have her as their instructor. (9) This year she taught some of the grandchildren of those first students. (10) By her own estimate, Mrs. Galsworthy taught more than 5,000 students during her career.

(11) More important than the number of students Mrs. Galsworthy taught, however, are the lessons she has taught. (12) No one ever doubted Mrs. Galsworthy's commitment to students. (13) This high level of commitment and desire for
excellence made life seem difficult at times. (14) Students will never forget Mrs. Galsworthy's motto, which she regularly emblazoned on papers: "Strive for Excellence."

(15) She helped students do just that, encouraging all to excel in what we do, inside and outside the classroom. (16) Scores of Sarabande students have felt her totally awesome school spirit and personal support as she cheered us on to do our best at all the sporting events and stuff.

(17) Despite having taught numerous students, Mrs. Galsworthy always remembers the names of past students. (18) Imagine remembering so many names! (19) This talent demonstrates her most important trait, caring about each student.

(20) Mrs. Galsworthy's career at Sarabande High School included some incredible accomplishments such as sponsoring the Mathematics Team for ten years and helping them win four state competitions. (21) In 1985 she successfully led a fundraiser to expand the school library, giving us this amazing facility we still enjoy today. (22) She also initiated an afterschool tutoring program, which continues to this day.

(23) The Sarabande High School senior class wants to obtain as many letters as possible by the March 1, 2015, deadline. (24) We hope to have a surprising response. (25) If each of Mrs. Galsworthy's former students respond to this request, the volume of letters presented to her will be large, but she
deserves nothing less. (26) Please accept another assignment on behalf of Mrs. Mary Galsworthy. (27) Write a letter that shares stories, memories, and appreciation.

Sincerely,
Tricia Lehman
Senior Class President
Sarabande High School

14 Read sentence 2.

**Most graduates, when they pause to considering Mrs. Galsworthy's contributions, will remember her as a phenomenal teacher and a superb sponsor.**

Which correction should be made to this sentence?

A Remove the comma after graduates.
B Change considering to consider.
C Change Galsworthy's to Galsworthy.
D Remove the comma after contributions.

15 Read sentence 16.

**Scores of Sarabande students have felt her totally awesome school spirit and personal support as she cheered us on to do our best at all the sporting events and stuff.**

How can Tricia best revise this sentence for appropriate tone?

A Lots of Sarabande students have felt her super school spirit and personal support when she would check out sporting events to cheer us on.
   Each year more and more students have felt her fabulous school spirit and support as they sweated it out at sporting events or games.
B Tons of Sarabande students from past years have felt her school spirit and personal support as she heaped on the encouragement during a sporting competition or game.
C Generations of Sarabande students have felt her school spirit and personal support as she inspired us to do our best during a sporting event or game.
Read sentence 25.

If each of Mrs. Galsworthy’s former students respond to this request, the volume of letters presented to her will be large, but she deserves nothing less.

In sentence 25, how is respond correctly written?
A  do respond
B  responds
C  have responded
D  As it is

Read sentence 27.

Write a letter that shares stories memories, and appreciation.

How is Write a letter that shares stories memories, and appreciation correctly written?
A  Write a letter that shares, stories memories, and appreciation
B  Write a letter that shares stories, memories, and appreciation
C  Write a letter, that shares stories, memories, and appreciation
D  As it is

Tricia wants to add these statements to her draft. Which statement does NOT persuade the reader to help recognize Mrs. Galsworthy’s service?
A  It is likely that many graduates from Sarabande High School will attend the reception to honor Mrs. Galsworthy.
B  Mrs. Galsworthy gained both respect and affection during her long career at Sarabande High School.
C  Mrs. Galsworthy’s sponsorship of many extracurricular activities demonstrates her spirit and generosity.
D  A letter is a tangible symbol of gratitude for Mrs. Galsworthy’s dedication to her students over the years.
Which sentence would provide the best conclusion for Tricia’s letter?

A. For this special occasion Mrs. Galsworthy will not give grades for the assignment.
B. Mrs. Galsworthy may receive so many letters that she will not know where to store all of them.
C. Seize this unique opportunity to tell a beloved teacher about the significant role she has played in her students’ lives.
D. Make sure to include the date and your signature on your letter so she knows who wrote the message and when it was written.
During World War I and World War II, many military commanders used wireless radio to communicate with their troops. However, the enemy could easily intercept messages transmitted in this way. To prevent the opposition from learning military secrets, encryption was used by three of the primary countries involved: the United States, Japan, and Germany. In other words, they put their messages into secret codes.

When the United States entered World War I in 1917, the army could not capably decode enemy correspondence. Consequently, the United States military utilized the services of a private laboratory with experience in ciphers, or secret writing, to create and interpret coded messages. This research facility had a talented scientist and mathematician, William Friedman, who would become the father of American cryptology, the study of making and deciphering codes.

The codes in use during World War I, when cryptography, the skill of using secret writing, was in its infancy, was not challenging for Friedman. Later, inventors produced complex ciphering machines that scrambled the letters of a message so thoroughly that a person had no hope of decoding them, but Friedman solved the
"unbeatable" ciphers. (10) Knowing about the variety of codes available, Friedman helped the United States emerge as a leader in ciphers and decoding throughout both World Wars.

(11) In 1929 the military created the Signal Intelligence Service (SIS), which placed the responsibilities of cryptology training, coding, deciphering, and intercepting within one organization. (12) As head of the SIS, Friedman became interested in incorporating technology as a way to compile and produce codes. (13) He eventually developed other machines that produced coded messages that enemies were never able to unscramble.

(14) In 1935 Friedman's team focused its energies on breaking a Japanese code known as "Red," and they did so over a two-year period. (15) When the Japanese realized their radio communications were no longer secret they constructed a more complicated code, which the Americans nicknamed "Purple." (16) To figure out the code, Friedman needed to build a ciphering machine exactly like the Japanese model.

(17) The project took 18 months, but Friedman and his coworkers succeeded. (18) With access to Japanese communications, the United States secured top-secret information that contributed to Allied victories in both the Pacific and in Europe.

(19) Two United States presidents, Dwight Eisenhower and Harry Truman, honored Friedman with awards for his service.

(20) To assist countries choosing to work together on communications intelligence, Friedman continued to work with
government agencies to establish clear guidelines and procedures. (21) Even after his retirement in 1956, the gifted cryptologist continued to research favorite personal topics in the field of codes and cryptography.

(22) During his illustrious career, Friedman published a number of articles and books about the history and analysis of codes. (23) For modern students of cryptology, his writings provide a valuable resource. (24) Friedman was truly instrumental in developing the science of cryptology. (25) No doubt his accomplishments will influence the future of communications intelligence as well.

20 Which of these best states a thesis for the report?
A Mathematician William Friedman deciphered secret codes that no one else had been able to decode.
B Mathematician William Friedman founded cryptology, the study of creating and deciphering codes.
C A talented mathematician, William Friedman, contributed to victories in two world wars.
D One mathematician, William Friedman, helped his country while founding modern cryptology.

21 In sentence 4, which word best replaces put to make the meaning precise?

In other words, they translated their messages into secret codes.

22 In sentence 8, how is was correctly written?
A being
B were
C is
D As it is
As head of the SIS, Friedman became interested in incorporating technology as a way to compile and produce codes.

How is as a way to compile and produce codes correctly written?
A  as a way to be compiling and producing codes  
B  as a way of compiling and to produce codes  
C  as a way to compile and producing codes  
D  As it is

When the Japanese realized their radio communications were no longer secret, they constructed a more complicated code, which the Americans nicknamed "Purple."

How is were no longer secret they constructed a more complicated code, which the Americans correctly written?
A  were no longer secret, they constructed a more complicated code which the Americans  
B  were no longer secret they constructed a more complicated code which the Americans  
C  were no longer secret, they constructed a more complicated code, which the Americans  
D  As it is

After completing his first draft, Carson decided to do additional research. The best resource for more information about how ciphering machines worked would be —
A  a book titled The Role of Science During the World Wars  
B  an article titled "Mathematicians' Contributions to Their Field"  
C  a public lecture titled "Little-Known Facts About American History"  
D  a documentary titled How Technology Cracked the Codes in WWII
Off the coast of Africa, in Madagascar, lives the pygmy mouse lemur. Although the animal is related to apes, it weighs only about an ounce. The creature's small size often impedes scientists from observing it. However, scientists believe the animal has much in common with its larger lemur cousins. The pygmy mouse lemur, along with others in its extended family, has huge eyes, a bushy tail, and grasping paws. Another shared characteristic, a pointy nose, provides a keen sense of smell, allows the lemur to locate its tiny kin in the island forest.

Which search result would provide the most reliable information about how the pygmy mouse lemur is affected by its environment?
Which is the best sentence to add after sentence 4?

A. The body length of the pygmy mouse lemur is about five inches.
B. The ring-tailed lemur is one of the better-known large lemurs.
C. Lemur sounds include barks, howls, screeches, and purrs.
D. Like some of them, it lives in trees and eats fruits and flowers.

Read sentence 6.

Another shared characteristic, a pointy nose, provides a keen sense of smell, allows the lemur to locate its tiny kin in the island forest.

How is smell, allows the lemur correctly written?

A. smell, allowed the lemur
B. smell, allowing the lemur
C. smell, to have allowed the lemur
D. As it is

Read the following passage and answer questions 29 through 30.

The Baobab

(1) In the arid grasslands of Africa and western Australia grows the unusual baobab tree. (2) The tree's broad, spherical trunk inspires some people to call it the "bottle tree," which is an appropriate name. (3) Indeed, a baobab had stored up to 30,000 gallons of water. (4) The tree's thick bark insulates it against the sun, and a deep root system enables it to tap moisture far below the ground. (5) The massive circumference of the trunk however is the distinctive feature of the baobab. (6) A baobab in Africa has a trunk about 150 feet in circumference. (7) Whether it's called the bottle tree or the baobab, it is one of the most unique trees in the world.
29 Read sentence 3.

Indeed, a baobab had stored up to 30,000 gallons of water.

How is had stored correctly written?
A stored
B can store
C is storing
D As it is

30 (5)The massive circumference of the trunk however is the distinctive feature of the baobab.

Which letters represent the correct location of the commas in the sentence?

The massive, circumference, of the trunk, however, is the distinctive, feature, of the baobab.