WRITING
Danny read about a friendship that inspired him. He wrote the following paper to tell about the two friends. Read Danny’s paper and look for any revisions he should make. When you finish reading, answer the questions that follow.

**True Friendship**

(1) In many ways Mack Bawden and Cameron Judd were typical high school friends. (2) They enjoyed playing video games, bowling, and watched movies together. (3) Both boys loved sports and did well in school. (4) But Mack and Cameron’s friendship was different in one important way. (5) In fact, it might actually be described as extraordinary.

(6) Cameron had been born with cerebral palsy, a condition that limits a person’s ability to move. (7) He used a wheelchair to get around. (8) He communicated through a sophisticated computer system that responded to his eye movements. (9) Cameron loved sports and hoped to be a coach someday. (10) Mack enjoyed sports, too. (11) He was also an excellent student and served as senior class president. (12) The boys had met years before when Mack was the new kid in the neighborhood. (13) By first grade the two had become inseparable, and by high school they were still best friends. (14) “We laugh at the same things,” Mack once said, “but we’re also different. (15) Cam’s into following sports, while I’m more nerdy and into good grades. (16) He’s fun to be around, so we find things we can do together.”

(17) Although Mack and Cameron had been friends most of their lives, no one had ever expected them to run in high school track meets together. (18) Mack was determined. (19) He wanted his best friend to participate in that part of high school life, too. (20) Beginning in their junior year, the boys teamed up, and Mack used a special wheelchair to push Cameron in every race. (21) Mack understood that this meant he couldn’t earn points at the meets. (22) But as he later explained, he didn’t really care about that.
As the seasons progressed, the boys had some memorable experiences together on the track. In one race the front wheel of Cameron’s wheelchair fell off. Mack quickly unharnessed Cameron and carried him across the finish line in his arms. At other meets Cameron held the baton during the 4x400-meter relay. Each of the runners would take a turn pushing Cameron around the track while he carried the baton. Running with Cameron slowed Mack down some, but the pair still managed to beat some other kids in races. “We’re not like the best, but we’re not bad,” Mack said proudly.

Today both boys have finished high school and moved on to college. They’re still friends, and they still run together. In fact, they recently completed a half marathon, finishing in less than an hour and a half, which is faster than seven minutes a mile!
1 What is the most effective way to revise sentence 2?

A They enjoyed playing video games, they bowled and watched movies together.
B They enjoyed playing video games, bowling, and watching movies together.
C They enjoyed playing video games and watched movies together and bowling.
D They enjoyed playing video games, while they also enjoyed movie watching and bowling.

2 What is the most effective way to combine sentences 7 and 8?

F He used a wheelchair to get around and communicated through a sophisticated computer system that responded to his eye movements.
G He used a wheelchair to get around, he communicated through a sophisticated computer system that responded to his eye movements.
H Using a wheelchair to get around and communicating through a sophisticated computer system, he responded to his eye movements.
J He used a wheelchair to get around, which communicated through a sophisticated computer system that responded to his eye movements.

3 Danny would like to add the following detail to the second paragraph (sentences 6–16).

_He was a top-ten runner on the track and cross-country teams at Copper Hills High School._

Where is the most effective place to insert this sentence?

A After sentence 9
B After sentence 10
C After sentence 11
D After sentence 12
4 What is the most effective transition to add to the beginning of sentence 18?

F Consequently
G In fact
H However
J In the end

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5 Danny would like to add a relevant quotation to the end of the third paragraph (sentences 17–22). Which of the following could best follow sentence 22 and help support the ideas in this paragraph?

A “He hangs out with Cameron every weekend,” Mack’s mom noted.
B “I just felt like it needed to be done,” Mack said, “so I did it.”
C “High school has been just great,” Mack commented.
D “Mack was nice to me and really funny,” Cameron explained.

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6 Danny ended his paper abruptly. Which sentence could be added after sentence 32 to bring this paper to a more effective close?

F Isn’t it hard to imagine a person in a wheelchair traveling that fast in a race?
G In conclusion, only time will tell how much these amazing runners will be able to accomplish if their friendship stays strong and their determination brings hope to others.
H Mack and Cameron’s story is inspirational, a reminder to the world that challenges can never stop true friendship.
J Obviously, Mack and Cameron will be friends forever and will be sure to make a difference in many exciting ways.
Read the selection and choose the best answer to each question. Then fill in the answer on your answer document.

Julio has written the following paper about an exciting new invention. The invention, a water-producing wind turbine, was designed to help solve water shortages in certain parts of the world. Read Julio’s paper and look for any revisions he should make. Then answer the questions that follow.

From Wind to Water

(1) In November 2011 a French company began testing an exciting new wind turbine in the United Arab Emirates. (2) Wind turbines, which capture energy from the wind, have been around for years. (3) So what’s so exciting about this one? (4) It’s a winner. (5) It’s quite special.

(6) Inventor Marc Parent wasn’t thinking about turbines. (7) He was simply watching water droplets bead up on an air conditioner one day and decided to put a pan under the unit to catch them. (8) The drops trickled down into the pan, eventually filling it. (9) That made Parent wonder. (10) What if a machine could mimic what he was watching but on a much larger scale? (11) How much water could be collected in this way? (12) Suddenly Parent was inspired. (13) If his idea worked, the machine he was envisioning might actually help solve the world’s water crisis.
There are those who don’t know about this. Sporadic shortages may require us to stop watering our lawns or take shorter showers, but most Americans don’t face serious water issues. However, about 40 percent of the people in the world must routinely go to extreme measures to obtain water. Collecting water for drinking, bathing, and cooking is a daily chore, usually assigned to women and children. According to the World Health Organization, women around the world spend 200 million hours a day just getting water for their family’s basic needs.

But individual families’ access to water is only one part of the water crisis. Shortages and conflict can arise when nations disagree over how to share rivers that pass through more than one country. For example, Cambodia, Bulgaria, and Syria receive about 75 percent of their freshwater from rivers that flow across the borders of hostile upstream neighbors. This has prompted them to predict that access to water will one day replace oil as the main cause of war.

Marc Parent was aware of these problems and excited about the role he might play in helping alleviate some of them. For 10 years he worked on his idea, gathering funds, founding a water company, and beginning the necessary research and development. When Eole Water finally tested a large-scale prototype of Parent’s invention, the results were remarkable. It had been over a period of six months that the turbine produced up to 211 gallons of water per day.

Because of the successful test run, Eole Water is now working with commercial manufacturers to mass-produce Parent’s new turbine. Of course, these turbines won’t solve all the world’s water problems. But they could be an important part of the solution, bringing much-needed relief to people everywhere.
Julio did not write an effective thesis for this paper. He would like to delete sentences 4 and 5 and replace them with two sentences that better articulate his thesis. Which of the following should he use?

A  Wind turbines aren’t anything new. They have been around for a long time.
B  People come up with new ideas. And new ideas mean creative solutions for all.
C  This wind turbine is unique. It can produce both energy and water.
D  A wind turbine may be the perfect answer. Experts believe this is true.

Julio’s transition from the second paragraph (sentences 6–13) to the third paragraph (sentences 14–18) is weak. Which of the following could best replace sentence 14 and provide a more effective transition between these two paragraphs?

F  It’s our job as young people to bring national attention to the crisis.
G  We need something to assist with the serious water crisis we are facing.
H  Today there are people who are illiterate about this situation.
J  Many people in the United States are unaware that such a crisis exists.

Which sentence can Julio add after sentence 17 to provide additional support for the ideas presented in the third paragraph (sentences 14–18)?

A  I cannot imagine having to spend any portion of my day collecting the water that my family needs to survive.
B  Some must travel great distances for water, carrying containers that weigh as much as 40 pounds.
C  Women and children are the ones who typically have to bear this responsibility.
D  Water has to be found that will meet all the family’s needs for drinking, bathing, and cooking.
10 The meaning of sentence 22 is unclear. What is the most effective way to clarify the meaning of this sentence?

F Change *This* to *It*

G Change *them* to *some analysts*

H Change *water* to *it*

J Change *main* to *primary*

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11 What is the most effective way to revise sentence 26?

A It had been over a period of six months, the turbine produced up to 211 gallons of water per day.

B Because it had been over a period of six months, the turbine produced up to 211 gallons of water per day.

C Over a period of six months, the turbine produced up to 211 gallons of water per day.

D The turbine produced up to 211 gallons of water per day, this was over a period of six months.
Lewis has written the following paper to persuade readers to stop using plastic bags. Read Lewis’s paper and look for any corrections he should make. Then answer the questions that follow.

Ban the Bag!

(1) Standing in line at the grocery store last week, I watched the woman in front of me buy a tube of toothpaste. (2) As the clerk placed her purchase in a plastic bag, I couldn’t hardly help wondering how long it would take for that bag to end up in the trash. (3) Then I noticed the big purse the woman was carrying and wondered why she had needed a plastic bag at all. (4) Of course, this is an extreme example. (5) Most people need plastic bags to carry larger loads. (6) But are there better ways to carry our loads? (7) Should we be using plastic bags at all?

(8) People have come to rely on plastic bags as everything from totes for groceries to trash-can linners to lunch bags. (9) Around the world more than 500 billion of them are used each year. (10) Although plastic bags can be recycled, only about one percent of those used in the United States are. (11) Instead, after helping people transport items from one place to another, most are thrown away. (12) But what does "away" mean? (13) It means that they end up in landfills, where it can take a plastic bag up to a thousand years to decompose. (14) Some bags end up elsewhere in the environment, clinging to trees and fences, clogging rivers and oceans, or wafting along city sidewalks.
Plastic bags harm the environment in several ways. First, they break down into particles that pollute our soil and water. And because most plastic bags are made of polyethylene, a product derived from crude oil or natural gas. They waste nonrenewable resources. Plastic bags can also harm animals. Scientists estimate that more than one million sea animals, including whales, seabirds, and turtles, die each year from ingesting or becoming entangled in plastic. And in both 1988 and 1998, plastic bags that were blocking sewers, and drains in Bangladesh contributed to devastating flooding.

People all over the world are starting to recognize the problems associated with plastic bags. Countries such as China, South Africa, Switzerland, and Uganda are taking action and banning the bags. Other nations, including Italy and Ireland, have been trying to curtail the use of plastic bags by taxing them. In the United States more and more communities are ridding themselves of plastic bags. In 2012, Los Angeles became the largest U.S. city to institute a plastic-bag ban, while Hawaii became the first state to do so. And several cities and towns in Texas, such as Austin and Brownsville, have banned the bag.

Some people can’t imagine life without plastic bags. But these bags didn’t come into widespread use until around 1980, and before that time people got along just fine without it. Now more and more people are purchasing inexpensive, reusable fabric bags and using them when they shop. If we all take this simple step, we can be a part of a “green” revolution. Pay attention to the disastrous toll plastic bags are taking on our environment and stop using them today!
12 What change should be made in sentence 2?

F Change placed to places
G Change the comma to a period
H Delete hardly
J No change should be made in sentence 2.

13 What change, if any, should be made in sentence 8?

A Change come to came
B Change groceries to grocery's
C Change linners to liners
D Make no change

14 What is the correct way to write sentences 17 and 18?

F And because most plastic bags are made of polyethylene, a product derived from crude oil or natural gas, they waste nonrenewable resources.
G And most plastic bags are made of polyethylene, a product derived from crude oil or natural gas, they waste nonrenewable resources.
H And most plastic bags, which are made of polyethylene derived from crude oil or natural gas, wasting nonrenewable resources.
J The sentences are written correctly in the paper.
15  What change needs to be made in sentence 21?
   
   A  Change *were blocking* to *was blocking*
   
   B  Delete the comma after *sewers*
   
   C  Change *devasting* to *devestating*
   
   D  No change needs to be made in this sentence.

16  What change should be made in sentence 29?
   
   F  Change *come* to *came*
   
   G  Change *use* to *using*
   
   H  Delete *and*
   
   J  Change *it* to *them*
Read the selection and choose the best answer to each question. Then fill in the answer on your answer document.

Kyle read an article about a man with an idea that seemed small but is making a big difference. Kyle wrote this paper to share what he learned. Read the paper and look for the corrections that Kyle should make. Then answer the questions that follow.

**The Global Soap Project**

(1) Most people in this country wash their hands regularly. (2) They know the important role that hand washing plays in the war against disease. (3) But what about people who live in places where it’s difficult to wash their hands? (4) What about those who have little or no access to soap? (5) That’s the reality for many people in impoverished nations. (6) However, thank’s to the idea of one man and the hard work of many volunteers, this situation is changing.

(7) Derreck Kayongo is from the African nation of Uganda. (8) Him and his family left the war-torn country in the early 1980s, but before leaving, Kayongo saw many of his fellow Ugandans struggling to survive in refugee camps. (9) These people lacked basic necessities; as a result, dreadful, but avoidable, illnesses were commonplace. (10) Years later, when Kayongo was an adult working in the United States, he still remembered what he had witnessed in his home country. (11) But it wasn’t until he stayed at a hotel in Philadelphia, Pennsylvania, that he envisioned a way to help.

(12) At the hotel Kayongo noticed a wrapped bar of soap in the bathroom of his room. (13) He used a little of the soap and then placed it back in the soap dish for later use. (14) When he returned to his room at the end of the day, he was astonished to find that the gently used bar was gone and a brand-new one was in its place. (15) Baffled by the idea of discarding perfectly good soap. (16) Kayongo asked the hotel for an explanation. (17) “When I was told that it was hotel policy to provide new soap every day, I couldn’t believe it,” he said. (18) Upon further investigation he discovered that this is standard procedure in hotels across the country. (19) In fact, each year in North America, hundreds of millions of soap bars are discarded, eventually ending up in landfills. (20) Outraged by this practice and mindful of the situation in his native country, Kayongo asked himself, “Are we
really throwing away that much soap at the expense of other people who don’t have anything?"

(21) Although Uganda is recovering from years of war, the nation is still plagued by poverty, many workers earn no more than a dollar a day. (22) Soap is available, but at a cost of 25 cents per bar, most people cannot afford to buy it. (23) Kayongo began to ask, "What if we took some of this soap and recycled it, made brand-new soap from it, and then sent it home to people who couldn’t afford soap?" (24) This simple question led to the founding of a nonprofit organization the Global Soap Project.

(25) Today more than a thousand hotels across the country donate soap bars for the Global Soap Project. (26) Local volunteers collect the bars and send them to the organization’s warehouse in Atlanta, Georgia. (27) There other volunteers clean, reprocess, and package the bars for delivery. (28) Since beginning its work, the Global Soap Project has delivered more than a million bars of soap to communities in about 30 countries. (29) This innovative program is bringing an important disease-fighting tool to people around the world.
17 What change needs to be made in sentence 6?

A  Change thank’s to thanks
B  Change idea to ideal
C  Change volunteers to volunteers’
D  No change needs to be made.

18 How should sentence 8 be changed?

F  Change Him to He
G  Change the comma after leaving to a semicolon
H  Change saw to seen
J  Change refugee camps to Refugee Camps

19 What is the correct way to write sentences 15 and 16?

A  He was baffled by the idea of discarding perfectly good soap, Kayongo asked the hotel for an explanation.
B  While baffled by the idea of discarding perfectly good soap, Kayongo asked the hotel for an explanation.
C  Baffled by the idea of discarding perfectly good soap, Kayongo asked the hotel for an explanation.
D  The sentences are written correctly in the paper.
20  What is the correct way to write sentence 21?

F  Although Uganda is recovering from years of war, the nation is still plagued by poverty. With many workers earning no more than a dollar a day.

G  Although Uganda is recovering from years of war. The nation is still plagued by poverty, and many workers earn no more than a dollar a day.

H  Although Uganda is recovering from years of war, the nation is still plagued by poverty. Many workers earn no more than a dollar a day.

J  The sentence is written correctly in the paper.

21  What change needs to be made in sentence 24?

A  Insert which after question

B  Change led to lead

C  Change nonprofit to nonproffit

D  Insert a comma after organization

22  How should sentence 29 be changed?

F  Change innovative to innovative

G  Change is bringing to was bringing

H  Insert a comma after tool

J  Sentence 29 should not be changed.
Read the following quotation.

Right actions for the future are the best apologies for wrong ones in the past.

— Tryon Edwards

Sometimes changing your behavior is the only way to make up for a past mistake. Think carefully about this statement.

Write an essay explaining how actions can be more powerful than words.

Be sure to —

• clearly state your thesis
• organize and develop your ideas effectively
• choose your words carefully
• edit your writing for grammar, mechanics, and spelling
Read the next two selections and answer the questions that follow.

Copyright restrictions prevent “Creative Solutions to Life’s Challenges” from being displayed in this format. The selection is available at http://www.npr.org/templates/story/story.php?storyId=5298083.

A photograph was included with this selection in the printed version of the English I test and is shown below.

Creativity Abounds

Frank X Walker is assistant professor of English at Eastern Kentucky University. He coined the word “Affrilachian” to describe African Americans living in Appalachia and helped found a group of Affrilachian poets. Walker is the author of three collections of poetry and was awarded a prestigious Lannan Literary Fellowship in 2005. He believes artists aren’t the only creative people: barbers, cooks, janitors, and kids all enrich the world with their creativity as much as the painters, sculptors, and writers.
Copyright restrictions prevent “Creative Solutions to Life’s Challenges” from being displayed in this format. The selection is available at http://www.npr.org/templates/story/story.php?storyId=5298083.
As a child, I lived some distance back in the woods. The road wandered aimlessly like a writhing snake among huckleberry bushes and briers, along a sloping hillside where mountain laurel and honeysuckle blooms scented the air in late spring. It passed beside a field, which was enclosed with a barbed wire fence. Black Betty, our cow, was pastured there. Growing profusely beside the fence were large lavender violets.

When the road got tired of winding, and I got tired of walking, we were always at the same place. The huge boxwood bushes stood tall and graceful, as though they were soldiers, guarding a humble little shack, the closest place to heaven—my home.

There was a two-story frame dwelling, politely asking for a fresh coat of whitewash. It had a tin roof, painted as red as a strawberry, that rattled when the wind blew. A wisteria vine was tightly clinging to the front-porch columns, and a rusty screen door shrieked loudly when it was opened.

The floor was bare except for a few scatter rugs my grandma had crocheted with a button hook. The ceilings were high, and draped with a few cobwebs. The mantle was decorated by a seven-day alarm clock that had been on vacation for years. A kerosene lamp, its globe black from smoke, stood atop a dresser in the corner.

To the chimney was attached an old cast-iron heater, cracked down the side, which gave us comfortable warmth in cold weather. There was also a box of neatly sawed oak wood.

During the summer we waved a palm leaf fan to stir up a little breeze. However, the second floor was air-conditioned rather well by a "balm-of-gilead" tree that swayed with the wind and circulated a gentle breeze through our upstairs windows.

We ate in a little kitchen which stood out in the backyard away from the main house. The kitchen was like an icebox in the winter and a furnace in summer.

We had an ugly, old black cookstove, a huge square table covered usually with a bright floral-patterned oilcloth, and some round-back wooden chairs. A bucket of water from the moss-covered well in the backyard was placed on a little table by the stove, and a coconut shell dipper hung beside the bucket. Electricity hadn’t found its way to our part of the country yet.

But our food was good. Nothing can quite compare to the homemade biscuits, fried ham sizzling in red gravy, cabbage floating in ham grease, or
butter cake with homemade chocolate icing. My mother would stand on the
kitchen porch and call out when the meals were ready.

10 I spent a lot of time on the barrel-stave hammock in the backyard under the
old gnarled trees. I would swing for hours in the fresh air and sunshine and
become lost in pleasant reverie. That was my idea of recreation. I didn’t
know what it was to be lonely.

11 Mama was a delightful person. She was tall, stately and slender, with warm
brown eyes. Her long black hair was tucked in a bun at the nape of her neck.
She was always busy cooking, churning, feeding chickens, washing clothes
on an old scrub board, or drawing water with a windlass and rope from a
fifty-foot well. But she found time to rock and cuddle me, and sew for my
dollies.

12 Daddy walked behind a mule and a horse and a double plow all day, turning
up fresh ground and putting out of sight old dead grass and broom straw.
There were fresh earthy smells everywhere. In the distance a crow would
“caw,” and Daddy would mock him and try to frighten him away.

13 After supper sometimes we’d walk out to a neighbor’s house, or else we’d
just sit and talk or play the hand-cranked Victrola. Life was simple for us,
but it was good.

14 Since those days the world has changed a great deal—and so have I. With all
our progress though, love is still the greatest force on earth. I saw it in my
parents long ago. It was love that made a humble country home seem like
heaven.

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23 Read this sentence from paragraph 4.

I always knew when she was making something, because she would be singing or humming.

How is this sentence significant to the author’s central argument?

A It is evidence that creative work promotes happiness.
B It shows that his mother was multitalented.
C It demonstrates the benefit of having a strong work ethic.
D It illustrates that his mother was an exceptional role model.

24 Which sentence best describes the author’s attitude toward art?

F Art instruction must begin in the home.
G Practice and effort produce great art.
H Art is something everyone should have access to.
J Most people are incapable of appreciating art.
25 The author supports his argument primarily with evidence drawn from —

A a variety of artistic and literary works
B his personal experiences and observations
C the firsthand accounts of eyewitnesses
D recent history and current events

26 The author tells the story of painting the Baskin-Robbins windows in order to support his belief that —

F creativity and freedom of expression are essential to a happy childhood
G children should not expect to be paid for performing minor tasks
H children who are kept busy with art projects are less likely to get into trouble
J art lessons can provide children with valuable skills on the job market

27 The author of the boxed information about Walker most likely chose to use the word “abounds” in the title because Walker —

A likes using words in an unusual way
B has received many awards and is heavily published
C writes poetry for a wide audience
D believes that there are many ways to be creative
Use “Back Home” (pp. 26–27) to answer questions 28–33. Then fill in the answers on your answer document.

28  Which sentence best reflects a primary theme of the selection?

   F  Mama was a delightful person.
   G  Life was simple for us, but it was good.
   H  As a child, I lived some distance back in the woods.
   J  I didn’t know what it was to be lonely.

29  The figurative language in paragraph 2 suggests that for the narrator the boxwood bushes are a symbol of —

   A  hope
   B  isolation
   C  independence
   D  security

30  The tone of the passage can best be described as —

   F  blunt and candid
   G  sarcastic and irreverent
   H  light and whimsical
   J  nostalgic and sentimental
31 Based on how the narrator describes her childhood, readers can conclude that she —

A attaches meaning to the details and rituals of daily life
B believes she has had to live without certain luxuries
C regrets that she did not appreciate her family more
D thinks that nature is both beautiful and overwhelming

32 In paragraph 10, the word *reverie* means —

F amusement
G laughter
H slumber
J daydreaming

33 In paragraph 12, the narrator’s father is portrayed as —

A ambitious and determined
B loving and kind
C hardworking yet playful
D honest yet insensitive
34 Read these quotations.

**Creative Solutions to Life’s Challenges**

I believe that the highest quality of life is full of art and creative expression and that all people deserve it.

**Back Home**

After supper sometimes we’d walk out to a neighbor’s house, or else we’d just sit and talk or play the hand-cranked Victrola.

Which sentence best describes the difference in tone between the two quotations?

- **F** The tone of the first quotation is elevated and lofty, while the tone of the second quotation is modest and casual.
- **G** The tone of the first quotation is strident and shrill, while the tone of the second quotation is soft and understated.
- **H** The tone of the first quotation is cynical and pessimistic, while the tone of the second quotation is bright and idealistic.
- **J** The tone of the first quotation is disapproving and moralistic, while the tone of the second quotation is open-minded and tolerant.

35 As children, the authors of both selections had —

- **A** an interest in art and literature
- **B** an appreciation of nature’s beauty
- **C** an active imagination
- **D** a strong will to succeed
Unlike the author of “Creative Solutions to Life’s Challenges,” the author of “Back Home” grew up —

F in a family without much disposable income
G in an isolated area
H in a cold northern climate
J in a materialistic environment

37 What does food represent in the two selections?

A In “Creative Solutions to Life’s Challenges,” food is associated with love and family, but in “Back Home,” food is associated with the struggle for survival.
B In “Creative Solutions to Life’s Challenges,” food is associated with unfulfilled desires, but in “Back Home,” food is associated with a basic human need.
C In “Creative Solutions to Life’s Challenges,” food is associated with scarcity and the need for innovation, but in “Back Home,” food is associated with abundance and comfort.
D In “Creative Solutions to Life’s Challenges,” food is associated with friendship and hospitality, but in “Back Home,” food is associated with a tight family bond.
DIRECTIONS

Answer the following question in the box labeled “Short Answer #1” on page 4 of your answer document.

In “Creative Solutions to Life’s Challenges” and “Back Home,” what made the authors happy as children? Explain your answer and support it with evidence from both selections.
Everyone knows yawning is contagious. If you yawn, someone else will probably yawn shortly thereafter. As I did the research for this column, I noticed that nearly every article about yawning pointed out that just reading the article itself could make you yawn. Even your dog will yawn if it sees you yawning.

That last observation has been confirmed scientifically, in an elegant experiment discussed last week by psychology graduate student Jason Goldman. Ramiro Joly-Mascheroni, Atsushi Senju, and Alex Shepherd had an experimenter visit dogs in their homes and yawn as the dogs looked on. In 21 of the 29 dogs tested, the dog yawned after seeing the human yawn. In a control condition, the experimenter made a yawning motion with his mouth but didn’t make other yawning gestures and sounds. Under these circumstances none of the dogs yawned. The research was published in *Biology Letters*.

Goldman points out that yawning has been observed in many species of vertebrates, including dogs, cats, chimpanzees, and birds. But why do we yawn? Does it serve any real purpose (besides, perhaps, subtly hinting to a conference presenter that his or her allotted speaking time has elapsed)?

The biologist who blogs as “Grrlscientist” points to a pair of studies that seem to support one explanation: Yawns help cool the brain. Andrew Gallup, who led both studies, says the brain is more efficient when cooler, so if yawns allow us to cool our brains, then they may allow us to think more clearly. In one study, researchers had humans hold either cold towels or warm towels to their foreheads: people yawned more frequently when exposed to the warm towels. In the second study, budgerigars (parakeets) were observed in environments of varying temperatures. When the temperature was warmer, the budgerigars yawned more frequently, suggesting they might be using yawns to cool off. At extremely high temperatures, yawning again decreased, perhaps because yawns don’t help when the temperature is too warm.

Gallup’s work is disputed; even the commenters on Grrlscientist’s post point out that there are other, simpler explanations for the trends shown in the research. For example, budgerigars may be “yawning” to cool their whole bodies, not their brains. Humans have sweat glands for this purpose, while birds do not, so this research wouldn’t explain human yawning. In addition, Gallup’s research doesn’t explain why yawning seems to be contagious. If the function of yawning is to cool my brain, why do I do it more often when I see others yawning?
Spanish-language blogger Anibal Monasterio Astobiza points to an article by Jennifer Yoon and Claudio Tennie speculating on the possible causes of contagious yawning. Yoon and Tennie say yawning could be an expression of empathy, simple mimicry, or a learned behavior that is reinforced (i.e., dogs that imitate humans tend to be treated better than dogs that don’t imitate humans). Humans who are likely to be more empathetic also exhibit more contagious yawning, so maybe yawning is contagious between humans and dogs for similar reasons. Yoon and Tennie say more research is needed to know for sure.

Jason Goldman agrees, and suggests several possible new experiments. Researchers could see whether yawning was contagious between adult dogs and puppies. If puppies don’t copy yawns the way human babies do, it suggests that dogs learn to mimic human yawns later in life. They could also compare dog–dog contagion to dog–human contagion. Maybe dogs actually copy humans yawning more often as a result of domestication.

So why don’t we know more about yawning? Why aren’t these additional studies being done? I suspect it’s because yawning generally isn’t a very big problem. While excessive yawning can be problematic, normal, day-to-day yawning doesn’t generally bother anyone other than those of us who wonder why we do it so frequently.

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**Did You Know? All About Yawns Edition**

We may not yet have the answer to why we yawn, but here are some interesting facts behind the elusive reflex.

**Did You Know...**

- Most yawns last about six seconds.
- While the majority of the 58,000 species of vertebrates yawn, only humans, chimpanzees, and dogs appear to find them contagious.
- Humans are capable of yawning as young as 11 weeks after conception—before they are even born!
- Yawns become contagious in humans between the first and second years of life.
- While yawns are commonly associated with boredom or fatigue, your heart rate actually increases during a yawn—by as much as 30%.
38 What is the primary purpose of the article?

F To summarize research on contagious yawning

G To explain why yawning is healthful for people and animals

H To describe how human yawning differs from dog yawning

J To suggest that scientists will never fully understand why people yawn

39 In paragraph 3, which word means “passed” or “slipped by”? 

A observed

B elapsed

C allotted

D subtly

40 Which line suggests that seeing someone else yawn is not the only way to experience contagious yawning?

F As I did the research for this column, I noticed that nearly every article about yawning pointed out that just reading the article itself could make you yawn.

G Goldman points out that yawning has been observed in many species of vertebrates, including dogs, cats, chimpanzees, and birds.

H At extremely high temperatures, yawning again decreased, perhaps because yawns don’t help when the temperature is too warm.

J Humans who are likely to be more empathetic also exhibit more contagious yawning, so maybe yawning is contagious between humans and dogs for similar reasons.
41  The author uses an aside in paragraph 3 to —

A  supply additional information
B  provide some humor
C  criticize public speakers
D  give an example

42  Why does the author say that yawning “isn’t a very big problem”?

F  To explain why there has been little research done on yawning
G  To suggest that studying yawning would be a waste of resources
H  To argue the importance of studying the causes of yawning
J  To demonstrate that all studies of yawning have reached the same conclusion
43 Which of these is the best summary of the article?

A Scientists have discovered one possible reason humans yawn. Studies indicate that we yawn to cool our brains. This cooling process is important because a cool brain functions more efficiently. However, this explanation is too simplistic to serve as the definitive answer.

B Research has shown that yawning has been observed in many species of vertebrates. What is not clear is why this is so or what purpose yawning serves. While some researchers indicate yawning occurs to cool the brain, others dispute this hypothesis because of differences between humans and animals.

C Yawning is contagious. When humans, or even dogs, see someone yawn, they often yawn, too. Studies have found, however, that when someone just pretends to yawn—moving his or her mouth but without making any of the gestures—people don't yawn in response. While more studies may be needed to explain this phenomenon, yawning isn't a very big problem.

D Many species yawn, but the purpose served by yawning is still unknown. It is also unclear why yawning seems to be contagious. Researchers have offered various theories, such as yawning serves the purpose of cooling the brain or body or expressing empathy or mimicry. However, further studies are needed before yawning can be fully understood.

44 Which of the following statements best characterizes the objective of the boxed information about yawning?

F To provide possible explanations for why people yawn

G To amuse the reader with common myths about yawning

H To provide facts about yawning to supplement information given in the article

J To suggest that scientists are close to understanding the cause of yawning
Read the selection and choose the best answer to each question. Then fill in the answer on your answer document.

In Emory’s Gift, Charlie is a 13-year-old boy just out of seventh grade. His mother’s death and his father’s grief leave Charlie feeling isolated at school, at home, and even at the junior-lifesaving training class he attends, where he practices his lifesaving skills on seventh-graders, otherwise known as sevies. In the excerpt below, Charlie has returned home after class and has walked to the creek to go fishing.

from

Emory’s Gift

by W. Bruce Cameron

1 During the spring the waters of the creek were dark and cold, a sharp contrast from the milky pool water from which I’d been saving sevies all morning. From bank to bank the stream was more than thirty feet. In the summer, though, with the runoff down to a trickle, the creek bed was mainly dry, littered with rocks and mud and tree branches. The creek itself shrank back until it was only six feet wide, hugging the far bank and deep enough to swim in. That’s where the fish liked to lurk, up under the tree root overhang. From the base of our hill the creek had only another couple hundred yards of independence before it joined the river, adding strength to the flow to town.

2 I started casting along the banks of the opposing shore, and it wasn’t long before I’d hooked and pulled in a nice little brook trout. I put it in the creel, thinking that a couple more just like it and we’d skip the hamburgers that evening.

3 A few minutes later I had another one, and then another. Man, they were really biting! I left the creel lying on the bank and moved downstream a bit.

4 The fourth trout was the best of all, fat and glistening, bending my rod with authority while I wrestled it ashore. I was carefully pulling the hook from its mouth when I got the sense of being watched.

5 I turned and studied the opposite bank. The slight breeze gave the woods an empty sound, but I knew there was someone there, and I felt the hair on my arms stand up as my skin goose-bumped in alarm.

6 I gave a start when I looked higher up the hill. A pair of amber eyes met mine, unblinking.

7 It was a cougar, watching me from a jumble of rocks.
When he saw I’d spotted him, he leaped with nimble ability down the slope, closing the gap between us. With a soaring jump that was almost absurdly graceful, he cleared the part of the creek that was deep water and bounded to a sudden halt in the shallows, making scarcely a spray.

It all happened so quickly I never even had time to gasp. He stopped, staring at me, evaluating the situation. No more than fifteen feet of rocky creek bed lay between us.

There was no retreat possible. Behind me the bank was sandy, capable of supporting some sparse grass but no trees—as if climbing a tree would save me from a cat. If I tried to scramble up the bank the cougar could easily take me from behind. The deep water was too far away and there wasn’t enough of it anyway. There were no good options.

The mountain lion was not running away. His rear end was lowered, his gaze intent. I was reminded of what my dad had said: *Ever see a cat jump on a string?* That’s what the cougar looked like to me now, a cat getting ready to pounce.

There were no sticks nearby. My rod was handy but so thin I doubted it would be intimidating. What was it Dad said? *A bite-sized boy like you could make a tasty meal.*

My fear was so strong and real I was sick with it. *Stand up big and tall,* my father had instructed. *What you want is for that cougar to see you as a meal that’s going to cost him, put up a real fight.*

I took in a shuddering breath, raising my trembling hands over my head.

The cougar moved again, holding his body low, slinking toward me. There was absolutely no question of his intentions. He stopped, crouching. I stood my ground, quivering.

“Go away,” I said in a whisper.

The cougar stood motionless. His muscles bunched; he sank lower; his lips drew back.

I found my voice. “Grrrr!” I roared at him.

There was no reaction at all.

“Grrrr!”

I watched in terrified fascination as the tension built in the big cat’s shoulders. His eyes were locked on mine. *This was it.* I braced myself for the attack. I would put up a good fight. I would make him decide that, as meals go, I was too much trouble to bother with.
I swallowed. I would put up a good fight, or I would die.

He was coiling to spring and then he froze, raising his head sharply, his eyes widening. I actually saw the irises turn dark with alarm. The cougar stood still for only a second and then turned and rocketed away, scampering up the bank and disappearing into the brush.

My legs were still weak and trembling. I wasn’t sure what had happened. How had I gone from bite-sized to intimidating in midpounce? I stared after the big cat, terrified he might return, but after ten seconds, then twenty, there was no sign of him.

I was safe.
45 This excerpt can best be described as exploring the theme of —

A survival in extreme conditions
B courage in the face of danger
C reverence for the natural world
D standing up for a principle

46 The details about the size of the creek in paragraph 1 are significant to the story’s plot because —

F the creek is too narrow to offer the narrator any protection from the cougar
G the narrator knows exactly where to catch the most fish in the creek
H the creek is so wide and deep that the narrator’s escape route is cut off
J the narrator is so busy studying the creek that he does not notice the cougar right away

47 From paragraphs 11 through 13, what can the reader infer about the narrator’s relationship with his father?

A The narrator wishes that he could be more like his father.
B The narrator has an instinctive respect for his father.
C The narrator feels conflicted about his father.
D The narrator wants to escape his father’s influence.
48 What is left unresolved at the end of the story?

F The narrator’s conflict with his father
G The cougar’s dilemma
H The reason why the cougar fled
J The narrator’s need to find his way home

49 Which sentence best describes how the author uses point of view in the selection?

A The author uses a third-person narrative to help the reader understand what motivates the protagonist to stand his ground and meet a deadly threat.
B The author uses an unreliable first-person narrator to suggest that the protagonist exaggerates the dangers he faces.
C The author uses a first-person narrative to help the reader identify with the thoughts and feelings of a protagonist under extreme stress.
D The author uses an omniscient narrator to create suspense by revealing the existence of a threat to a naive, vulnerable protagonist.

50 The tone of the story becomes increasingly —

F hopeful
G critical
H despairing
J suspenseful

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS ON THE ANSWER DOCUMENT.
DIRECTIONS

Answer the following question in the box labeled “Short Answer #2” on page 6 of your answer document.

In the excerpt from *Emory’s Gift*, what does the narrator learn about himself? Explain your answer and support it with evidence from the selection.