FCAT 2.0 Reading Online Practice Test

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Directions: This Practice Test contains six reading passages and 51 multiple-choice questions. Mark your answers in the Answer Sheet section at the back of this book.

Read the article "Technology and Humans" before answering Numbers 1 through 6.

Technology and Humans

Olympic Swimmers Shattering Records in NASA-Tested Suit
NASA. 8-13-2008

Swimmers from around the world are setting world and Olympic records in Beijing this month and most are doing it wearing a swimsuit made of fabric tested at NASA.

Among the Olympic gold medalists wearing Speedo's LZR Racer are Americans Michael Phelps—who has now won more Olympic gold medals than any athlete in the modern era—and Natalie Coughlin.

Both had a hand in developing the skintight body suit.

So did aerospace engineer Steve Wilkinson from NASA's Langley Research Center in Hampton, VA.

Wilkinson, who says he's not much of a swimmer himself, is watching this summer's Olympics with enthusiasm.

"I'm paying very close attention to the swimmers' times," said Wilkinson. "I'm amazed that so many athletes are wearing a fabric I tested in a laboratory in Hampton, Virginia."

Researcher Wilkinson has tested dozens of swimsuit fabrics in NASA Langley's 7-by 11-Inch Low Speed Wind Tunnel.

"This is a fundamental research facility," said Wilkinson. "What we look at are concepts for reducing drag on otherwise smooth surfaces. This is more directed toward fundamental physics … the interactions between the flow AND THE SURFACE."

The fabric that made it through Wilkinson's wind tunnel analysis has already caused a big splash since the LZR Racer swimsuit was introduced in February. Even before the Olympics swimmers wearing the skin-tight body suit set 48 world records.

But how did NASA get involved in what is probably the most talked-about swimsuit since the bikini? Warnaco Inc., the U.S. licensee of the Speedo swimwear brand, approached NASA Langley to test fabric samples, since NASA Langley has researched drag reduction for aircraft and even boats for decades.

"We evaluated the surface roughness effects of nearly 60 fabrics or patterns in one of our small low speed wind tunnels," said Wilkinson. "We were assessing which fabrics and weaves had the lowest drag. The tests have generally shown the smoother the fabric, the lower the drag."

Just like reducing drag helps planes fly more efficiently, reducing drag helps swimmers go faster. Studies indicate viscous drag or skin friction is almost one-third of the total restraining force on a swimmer. Wind tunnel tests measure the drag on the surface of the fabrics.

"The fabric comes in the form of fabric tubes, a small diameter fabric tube," Wilkinson added. "We pull that over our smooth flat model, which is an aluminum plate underneath. We prepare the edges so they're straight and square with no protruding corners or edges to interfere with the drag on the surface."

The plate goes into the small wind tunnel test section. With a flip of a switch, air flows over it. Wilkinson runs the tunnel through a number of wind speeds and, with the help of sensors, measures drag on the surface. He records the data and then sends it on to Speedo researchers.

Speedo's research and development team, Aqualab, takes the results and uses them to help create advanced "space-age" swimsuit designs.

Wilkinson says he never expected that he would test swimsuit fabric when he started at NASA 30 years ago. He adds he gets a lot of chuckles from his colleagues. As he's watching the Olympics, knowing that he played a small part in swimming history, Wilkinson may be having the last laugh.

What Were the Final Results in 2008

whitehouse.gov

Before the 2008 Bejing Olympic Games, Michael Phelps won six gold medals in the games held in Athens, Greece (2004). At these games he also won two bronze medals. With eight total awards in the 2004 games, Phelps matched the record for the most medals won in a single Olympics. The previous holder of the record had been Alexander Dityatin who competed for the Soviet Union in Moscow's 1980 games. This Russian gymnastic gymnast scored three gold medals, four silver, and one bronze.

Many of the world's divers now wear the Speedo suits that NASA helped design. In Beijing's 2008 Summer Olympic Games, the swimming events were among some of the most-watched by television audiences around the earth. Michel Phelps led the U.S. Olympic team to unprecedented victories in these events. Again he earned a record of eight medals in a single Olympics, but this time they were all gold. Phelps set world records almost every time he won these eight gold medals.

Go On

Some people began questioning whether it was Phelps' abilities or the new suits that made the records possible. However, Beijing's pool was two feet deeper and a full lane wider than pools used in earlier Olympic games. Experts explain that this design reduced the wakes and waves normally created by swimmers competing in an event. This might help explain his incredible times, but the pool did not help him keep the lead in his first race, a relay. The Americans were behind when Phelps completed the third leg of the relay. Then Jason Lezak hit the pool and swam faster than he had ever swum before, allowing all four members of the relay team to take gold. It is logical to explain Lezak's time as another example of the pool's effect in setting all the new world records, but it doesn't explain Phelps' slower time in that race. Phelps simply wasn't swimming up to his potential, and the pool and the suit did not help keep him maintain his usual speed. As Phelps continued to win race after race, the truth about this amazing athlete began to set in. His talents, minute planning of training and each race, and his extreme dedication in carrying out these plan are what earned his awards. His achievements may have been helped by LZR suits and the unusual pool, but Mark Spitz, the previous holder of the record of most gold medals won in a single Olympics, stated that athletic gear does not make the athlete. He said if that were true, then anyone who plays with the same clubs as Tiger Woods would be a top-notch golfer too.

Corporations like Speedo and agencies like NASA will continue to develop new products, many of which will allow athletes and astronauts to amaze the world. But the example set by these organizations, researchers, scientists, and athletes show that the greatest technology only assists humans who are the ones who truly achieve success.

Answer Numbers 1 through 5. Base your answers on the article "Technology and Humans."

1 What influenced Speedo and NASA to work together?

(A) using advanced technology to develop new products

(B) finding a practical application for space equipment

(C) discovering how fabrics might enhance suits and ships

(D) earning money for both Speedo and NASA

2 Which word BEST describes Phelps' approach to athletics?

(F) determined

(G) hurried

(H) disciplined

(I) solitary

3 What is the MAIN drawback to Phelps' fame in setting so many world records in Beijing?

(A) Some people give too much credit to the suits rather than Phelps' abilities.

(B) So many swimmers beat world records that Phelps does not seem that unusual.

(C) Space technology changed the ways in which athletes train and compete.

(D) Phelps' record did not last as long as Spitz's.

4 Which of the following is an example of an obstacle Speedo turned into a business advantage?

(F) turning to NASA for new and better fabrics

(G) improving swimming results by using space technology

(H) studying the ways in which boats and ships are designed

(I) selling its products in other countries

5 What is the author's purpose in writing this article?

(A) to teach business owners the importance of technology

(B) to provide athletes with a plan for training and success

(C) to persuade readers of the necessity of always using quality products

(D) to entertain the reader with a story of space technology and athletics

Read the article "On the Training of a Seeing-Eye Dog" before answering Numbers 6 through 9.

On the Training of a Seeing-Eye Dog

Source: Antonio Cruz/Abr

In many ways, a seeing-eye dog serves as a blind person's eyes in the world. A trained guide dog is thus not a luxury but a necessity for many sightless individuals. It helps a visually impaired person move with confidence, without worry of stumbling into obstacles or tripping someone with his or her cane. To handle such responsibility, each guide dog undergoes a rigorous program that includes much more than obedience training.

A guide dog begins preparing for its special career as a puppy. The best candidates are German Shepherds, Labrador Retrievers, and Golden Retrievers. Each dog receives loving care, learns obedience, and becomes accustomed to loud noises and public places. Trainers pay close attention to each dog's temperament, the better to match the dog with a suitable owner. After two years of preliminary training, the guide dog is ready.

Go On

With luck, a sightless person and this new companion will hit it off, and a bond of trust and respect will soon be formed. The dog's trainer teaches the blind individual and the dog to work smoothly together using basic commands and repeated procedures. On city streets, for example, a guide dog will stop at each curb and only proceed when the path is clear. In turn, the dog's owner will count curbs as a way of navigating a familiar neighborhood. Onlookers often gawk at the aplomb with which a guide dog and its owner stride along a busy thoroughfare. They should never try to interfere in this relationship since they are not familiar with the way in which the dog has been trained or the exact way in which the two work together.

One of a guide dog's most important abilities might be called "reasonable disobedience." Should the owner give a command that is not safe to follow, the dog will simply refuse to obey. Rather than feeling frustration or anger, the owner quickly learns to appreciate the dog's judgment. Perhaps having an ever-present friend to serve as a brake on our own worst impulses is not such a bad idea for sighted people, as well.

Answer Numbers 6 through 9. Base your answers on the article "On the Training of a Seeing-Eye Dog."

6 In order to achieve the skills that are needed, seeing-eye dogs begin their training

(F) with the sightless people they will help and live with.

(G) in a local animal shelter that provides animals to the seeing-eye program.

(H) at the youngest age possible.

(I) by learning what it is to be without the sense of sight.

7 What characteristics are most essential in pairing people with seeing-eye dogs?

(A) luck and love

(B) trust and respect

(C) training and hard work

(D) compatibility and friendship

8 Why are seeing-eye dogs so extremely necessary?

(F) They help sightless people live independent lives.

(G) They enable sightless people to see again.

(H) They prevent sightless people from being extremely lonely.

(I) They keep sightless people safe in their homes.

9 What idea BEST describes the author's purpose in writing this article?

(A) to encourage people to become seeing-eye dog trainers

(B) to defend the use of German Shepherds, Labrador Retrievers, and Golden Retrievers as seeing-eye dogs

(C) to explain how sighted people should behave when they encounter a seeing-eye dog

(D) to describe how seeing-eye dogs work to help sightless people

Read the poems "Autumn Fires" and "Over the Land Is April" before answering Numbers 10 through 16.

Robert Louis Balfour Stevenson, 1850–1894

Robert Louis Stevenson Drawing by Peter Severin Krøyer: dated 'Cernay la ville/20 juin 79' by P.S. Krøyer (The Hirschsprung Collection/Den Hirschsprungske Samling, Copenhagen)

Robert Louis Stevenson was born December 13, 1850 in Edinburgh, Scotland. At seventeen he entered Edinburgh University with plans of becoming an engineer who designs lighthouses, a career held by his father and grandfather. Realizing he was not strong enough to work in construction, Stevenson decided on a career in literature. He first earned his law degree to please his father. Already suffering from weak lungs, his health deteriorated during his college years. Stevenson spent his years writing hugely successful novels, poetry, and essays and traveling around the world. He finally settled in Samoa, where he died on December 3, 1894. The people of Samoa gave him a great funeral, and he was buried on a mountain overlooking the sea. His reputation as a writer declined in the twentieth century, but some critics have reevaluated his work and have found it remarkable.

Autumn Fires

In the other gardens
And all up the vale,
From the autumn bonfires
See the smoke trail!

Pleasant summer over
And all the summer flowers,
The red fire blazes,
The grey smoke towers.

Sing a song of seasons!
Something bright in all!
Flowers in the summer,
Fires in the fall!

Over the Land Is April

Over the land is April,
Over my heart a rose;
Over the high, brown mountain
The sound of singing goes.
Say, love, do you hear me,
Hear my sonnets ring?
Over the high, brown mountain,
Love, do you hear me sing?

By highway, love, and byway
The snows succeed the rose.
Over the high, brown mountain
The wind of winter blows.
Say, love, do you hear me,
Hear my sonnets ring?
Over the high, brown mountain,
[Love, do you hear me, do you hear,
Do you hear the song of spring?]

Answer Numbers 10 through 16. Base your answers on "Autumn Fires" and "Over the Land Is April."

10 Read these lines from the poem "Autumn Fires."

In the other gardens
And all up the vale,
From the autumn bonfires
See the smoke trail!

What is the meaning of the word *vale* as it is used in these lines?

(F) valley

(G) scarf

(H) river

(I) pond

11 Read these lines from "Autumn Fires."

Flowers in the summer,
Fires in the fall!

Based on the rest of the poem, which sentence best restates the meaning of these lines?

(A) Autumn is the exact opposite of summer.

(B) The things people do also change with the seasons.

(C) Summer brings flowers and leaves, but autumn begins their destruction.

(D) Each season brings something for people to appreciate.

12 The author of "Autumn Fires" suggests that people who "Sing a song of seasons" will most likely

(F) find joy in nature during any time of the year.

(G) appreciate how plants change with the cycle of the seasons.

(H) find greater happiness at home and work.

(I) spend time planning carefully for the future.

13 Which word best describes the tone of "Over the Land Is April"?

(A) exhilaration

(B) loneliness

(C) hope

(D) weariness

14 The speaker of "Over the Land Is April" refers to the same location in spring and winter. Why does the author most likely structure the poem in this way?

(F) to suggest that the speaker loves spring more than any other season

(G) to illustrate that all his poems are written for the one he loves

(H) to indicate how long he has been separated from the one he loves

(I) to emphasize the importance that spring has on feelings of love

15 Which phrase best describes both the speaker of "Autumn Fires" and the speaker of "Over the Land Is April"?

(A) busy, but content

(B) listless, but healing

(C) satisfied, but uneasy

(D) yearning, but hopeful

16 Which excerpt best expresses the theme of both "Autumn Fires" and "Over the Land Is April"?

(F) "Pleasant summer over, And all the summer flowers, . . ."

(G) "Over the high, brown mountain, The sound of singing goes."

(H) "The red fire blazes, The grey smoke towers."

(I) "Over the land is April, Over my heart a rose; . . ."

Read the article "Making Connections" before answering Numbers 17 through 21.

Making Connections

NASA

Astronaut Karen Nyberg will soon experience her first spaceflight, but the Minnesota native's history with NASA dates back to her college years.

Nyberg was a college sophomore when she first worked as a co-op student at NASA's Johnson Space Center in Houston, Texas. She worked at the center while earning her bachelor's and master's degrees in mechanical engineering. NASA's cooperative education projects give students real-world working experience and support the agency's goal of strengthening NASA's and the nation's future workforce.

During her first co-op tour, Nyberg did mechanical design in the engineering robotics group at Johnson, specifically designing robotic technology to install portable foot restraints. Astronauts use portable foot restraints to keep them anchored in one place while on a spacewalk outside spacecraft like the International Space Station or the Hubble Space Telescope. While on spacewalks to install new or upgraded equipment on the space station or Hubble, the portable foot restraints keep astronauts in one place to do their work and can then be relocated to another part of the spacecraft for work to be done there.

Astronaut Karen Nyberg operated the robotic arms on the space shuttle and the space station to install a new Japanese lab on the space station in May 2008. Image Credit: NASA

Nyberg helped the team at Johnson design a robotic mechanism to lock the portable foot restraint as astronauts move to different work sites during a spacewalk. She received a patent for her design of the robot-friendly probe and socket assembly.

Nyberg worked in a variety of areas, from robotics to mission operations to crew and thermal systems. She liked the work with crew and thermal systems the best and conducted research in this area in graduate school. Her graduate research at the

University of Texas at Austin BioHeat Transfer Laboratory investigated human thermoregulation and thermal control in spacesuits.

Nyberg said her co-op experiences at NASA were the first time she could see how the things she was learning in school could be applied in the real world. "It was the first time that it was really starting to come together for me, why we were learning what we were learning," she said.

Nyberg earned a doctorate in mechanical engineering in 1998 and went to work as an environmental control systems engineer with NASA's Crew and Thermal Systems Division. The division is responsible for designing, testing and developing technology for environmental control and life support systems for spacecraft, as well as crew equipment and spacesuits for spacewalks.

Nyberg supported improvements to the spacesuit thermal control system and the evaluation of firefighter suit cooling technologies; coordinated and monitored analyses for the environmental control and life support system for the proposed X-38 space station crew return vehicle; and provided conceptual designs of the thermal control system for studies into the Advanced Mars and Lunar Lander Mission.

In 2000, Nyberg applied and was selected as an astronaut. She said the path that led her to the astronaut corps was not necessarily intentional.

"I chose engineering because I knew that was a path to be an astronaut, but I also chose engineering because it was something I was interested in even if I didn't become an astronaut," she said. "I never made my decision on 'I need to do this to be an astronaut' or 'That would be helpful to be an astronaut.'" Nyberg said she instead asked herself, "What do I need to do to have a nice, happy life?"

The upcoming STS-124 mission may be Nyberg's first spaceflight, but it will not be her first NASA mission. Two years ago, she participated in the NASA Extreme Environment Mission Operations, or NEEMO, project. The project sends crews of NASA astronauts, employees and contractors to live aboard the National Oceanic and Atmospheric Administration's underwater laboratory "Aquarius" for weeks at a time. Located off the coast of Florida, Aquarius is an analog for space exploration as NEEMO crew members experience some of the same tasks and challenges underwater as they would in space.

Nyberg was a member of the NEEMO 10 crew, who lived in the underwater habitat for 10 days in July 2006. The mission included undersea extravehicular activities that imitated spacewalks and tested new concepts for mobility. Crew members used weighted backpacks to simulate lunar and Martian gravity. They also tested remote-controlled robots and new methods of communication and navigation as analogs for working on the moon.

Nyberg believes the underwater habitat experience helped her prepare for the upcoming spaceflight. "It's one of the best analogs for the mission itself as far as living and working together with a small crew where you can't leave," she said of the NEEMO mission.

Nyberg is a mission specialist on the STS-124 mission, targeted for launch in May 2008. The mission's primary goal is the installation of the pressurized module and the robotic arm for the Japanese Experiment Module "Kibo." The new lab is being installed during three shuttle missions, with the final component to be installed in 2009.

Nyberg's primary task during the STS-124 mission is using the robotic arms on the space shuttle and the space station to install the new Japanese lab. She trained closely with astronaut Akihiko Hishode of the Japan Aerospace Exploration Agency to prepare for the installation and powering-up of the new lab. She will also be using Kibo's robotic arm once the arm is installed and working.

"This is a very important mission for Japan," Nyberg said. "It's just another step in the international partnership of the International Space Station.

Astronaut Karen Nyberg waves as she looks through a habitat portal while on an extravehicular activity during the NEEMO 10 mission. Image Credit: NASA

"Getting these international partners on there is an important part of the space station. Once we get the space station to the point where it needs to be, then we can concentrate on what it was built to do, which is science, and then concentrate on other adventures."

Answer Numbers 17 through 21. Base your answers on the article "Making Connections."

17 Read these sentences from the article.

> **Nyberg supported improvements to the spacesuit thermal control system and the evaluation of firefighter suit cooling technologies; coordinated and monitored analyses for the environmental control and life support system for the proposed X-38 space station crew return vehicle; and provided conceptual designs of the thermal control system for studies into the Advanced Mars and Lunar Lander Mission.**

What is the most likely meaning of the word *thermal?*

(A) involving heat

(B) having the characteristics of thermometers

(C) having to do with heaters

(D) involving heat for cooking

18 How did Nyberg change after working at NASA?

(F) She earned more degrees and became an astronaut.

(G) She learned to love mechanical engineering.

(H) She became the world's leading expert in building robots.

(I) She discovered a love for the oceans and submarines.

19 Nyberg explains the choices she made during college and in her career. Why does she want readers to understand the decisions she made?

(A) She shows readers how all decisions have consequences.

(B) She wants readers to use her method for making important decisions.

(C) She explains that her decisions were made for a happy life not just getting a certain job.

(D) She encourages readers to see that one decision can change the entire course of a person's life.

20 "Making Connections" was written in the same style as

(F) a news report.

(G) a persuasive paper.

(H) a formal speech.

(I) a narrative.

21 Why did the author write "Making Connections"?

(A) to encourage the reader to take up the work of a mechanical engineer

(B) to describe the process NASA uses to choose astronauts

(C) to relate the experiences that teach a scientist how to use what has been learned

(D) to present achievements of one person who has worked hard to reach a goal

Read the article "Salmon" and the poem "The Tide Rises, The Tide Falls" before answering Numbers 22 through 28.

Salmon

Indigenous people of the Pacific Northwest survived for millennia on one of our most popular foods—salmon. Like the bison of the Great Plains, these fish became the basis of Native American society in coastal areas of Oregon, Washington, Alaska, and Canada. In fact the oceans helped the people define themselves. Like most Native Americans, the ancient Makah people called themselves "The People." However, the name also indicated that they were people who lived near seagulls and rocks."

The people of the Pacific Northwest enjoyed other foods than just salmon. They harvested seals, sea otters, clams, sea urchins, and mussels. From the great inland forests, they hunted deer, moose, and caribou. But the most special time of the year was the summer salmon runs when millions of fish returned from the sea to swim up into streams and rivers so they could reproduce and a new generation of salmon could be born.

Several species of salmon live in the waters of the Northern Hemisphere, in both the Pacific and Atlantic Oceans. People on the coasts of Europe, North America, and Asia have relied on salmon as a food source. The largest salmon in the Pacific Northwest are Chinook. Some can live as long as nine years and grow to 100 pounds. Other salmon include Coho, Sockeye, Chum, and Steelhead.

Each type of salmon is further divided into smaller groups. Salmon return to the same stream, river, or lake where they were born in order to spawn and lay eggs, but the salmon in one particular body of water possess genes that are different from those spawning elsewhere. This huge variety of species and subgroups has enabled salmon to survive for over two million years.

How do salmon know where to find the places where they were born? Scientists have discovered that salmon can sense the slight differences in the water, nutrients, and chemicals that make up each body of water. They suspect that the salmon's incredible sense of smell enables them to accomplish this feat, but this theory has not been proved beyond a doubt.

Once they reach adulthood, salmon swim downstream and spend their lives in the open oceans. Some live in waters off the southern coasts of California, but they never enter the streams or rivers that flow from that state into the Pacific Ocean. Somehow salmon know when it is time to return to their birthplaces so that their young can be born. Once they return to the Pacific Northwest, the salmon identify the exact rivers and streams that lead to their birthplaces. However, different bodies of water are homes to different kinds of salmon. Pink salmon love huge fast flowing rivers and do not swim very far upstream. Steelhead salmon love big rivers too, but they swim to the uppermost reaches of the rivers, streams, and tributaries. Other salmon live their lives entirely in freshwater areas. Coho live in smaller tributaries of big rivers. Sockeye salmon spend their existences in lakes.

Salmon swim upstream to spawn. Source: US Fish & Wildlife Service

After spawning is complete, a salmon has run the course of its life. Each fish dies leaving the eggs to hatch and the fingerlings to grow up by themselves, just as all fish do. Why salmon go through such a life cycle is still a mystery to scientists, but this widespread death has great benefits for the environment and ecology of the Pacific Northwest. Bears, otters, and other meat-eating animals gorge themselves on the dead salmon as a way of fattening themselves up for the long winter hibernation. Decaying fish add nutrients to the water feeding water plants and the animals that eat these plants. The nutrients spread to the land and fertilize trees, grasses, and other plants that form the habitats of land animals. The cycle of death brings on a new cycle of life, so the Pacific Northwest remains a rich and abundant source of our planet's life forms.

Even though salmon and other creatures of the Pacific Northwest are so abundant, they are also very susceptible to changes in the environment. Freshwater salmon, for example, require very clean water in order to live. When natural or human pollutants enter the water or the water temperature becomes too high, these fish die off. Nevertheless, salmon have survived climate changes, volcanoes, and other forces for millions of years. People, however, have brought grave dangers to these fish.

According to the federal government's National Marine Fisheries Service, "Pacific salmon and steelhead were once abundant throughout the Pacific coast of the United States. Salmon and steelhead play an important role in our society for their historical, cultural and economic value. They are also ecological indicators of the overall health of our rivers and streams. Over the past decades populations of salmon and steelhead throughout the Pacific coast have declined to extremely low levels. These declines have led to the protection of some Pacific salmon and steelhead populations under the Endangered Species Act. The recovery of salmon and steelhead is a high priority for local, tribal, state and federal interests, as well as the general public."

The fishing industry was so successful that people all across the country came to depend on salmon as a good, cheap source of healthy food. Yet some people saw something they could not believe. The numbers of salmon were dwindling year by year, and some even reached the point of extinction. Scientific studies established by the industry and government studied salmon and determined the facts of their lifestyles. Steps were taken to deal with the problem.

Government fisheries catch salmon and raise them in tanks filled with water from rivers and streams that have few salmon left. When the fingerlings hatch, they are returned to the places where the water was obtained. They grow to adulthood, swim to the ocean, and return to spawn in the water they remember from their childhoods.

Dams created a great obstacle to salmon that tried to swim upstream to spawn. Special ladders, or water troughs built in the forms of steps, allow salmon to bypass the dams. Thousands of tourists gather each season to watch the amazing sight of so many fish undertaking perilous journeys.

Despite all these efforts, many kinds of salmon are still on endangered lists. Unless the problems are solved, a living treasure and the environment of the Pacific Northwest will be damaged beyond all recognition.

The Tide Rises, The Tide Falls

Henry Wadsworth Longfellow

The tide rises, the tide falls,
The twilight darkens, the curlew calls;
Along the sea-sands damp and brown
The traveller hastens toward the town
And the tide rises, the tide falls.

Darkness settles on the roofs and walls
But the sea, the sea in darkness calls;
The little waves, with their soft, white hands,
Efface the footprints in the sands
And the tide rises, the tide falls.

The morning breaks; the steeds in their stalls
Stamp and neigh, as the hostler calls;
The day returns, but nevermore
Returns the traveller to the shore,
And the tide rises, the tide falls.

Answer Numbers 22 through 28. Base your answers on the article "Salmon" and the poem "The Tide Rises, The Tide Falls."

22 According to the article, why have salmon always been an important part of life in the Pacific Northwest?

(F) Salmon are so abundant that people and creatures came to depend on them as a food source.

(G) Salmon has proved to be one of the healthiest foods for people to eat.

(H) Salmon can be used not only as a food source but also for tools and other goods.

(I) Salmon provide fertilizer for crops raised by farmers around the world.

23 If the article were reprinted in a science textbook, which title would be most accurate?

(A) "Life Forms"

(B) "Biological Functions"

(C) "Life Cycles"

(D) "Geographic Regions"

24 What do salmon and other species of endangered animals have in common?

(F) They face survival problems caused by human activity.

(G) They are protected by government agencies against illegal hunting.

(H) They are all important food sources for human beings.

(I) They go through life cycles that are extremely fragile and easily harmed.

25 The National Marine Fisheries Service can be called an environmental group because

(A) of its research about the geography of the United States.

(B) of its work in assisting individual and corporate fishing.

(C) of the work it has carried out in tracking the numbers of salmon.

(D) of its work in preserving and protecting salmon for future generations.

26 With which sentence would the author and the National Marine Fisheries Service most likely agree?

(F) The best way to protect salmon from becoming extinct is to ban all salmon fishing.

(G) Human beings must learn to develop other fish to replace salmon as a food source.

(H) Government is the only entity that can afford the costs of preserving salmon and other endangered fish.

(I) Salmon must be maintained in order to protect the lives of both humans and the other organisms that make up the habitat of the Pacific Northwest.

27 In the poem, the narrator compares the tide to

(A) a sailor journeying across the ocean.

(B) a system of keeping time.

(C) a cycle of birth, life, and death.

(D) a race against the dangers created by storms.

28 Which phrase could be applied to the author of the article and to the poet?

(F) strong focus on harnessing the Earth's natural forces

(G) realistic evaluations of the affects human have on nature

(H) public concern about our planet's environment and ecology

(I) deep appreciation of the stages all life forms experience

Read the article "Longing" before answering Numbers 29 through 34.

Longing

Dull skies marked the last month of summer, days filled with rain and dreary inside activities. The bright hope of the first day of school was not uplifting since none of my friends were in any of my classes. We even had different lunch periods, so I was left with the daunting task of making new school friends and dealing with the toughest classes ever. Even the teachers seemed as dark and forbidding as autumn crept in like someone weeping for a great thing that has been lost.

Sloshing through muddy football games, raking up sodden leavers that were glued together in soggy masses, facing daily piles of assignments and projects, and listening to the drip, drip, drip of a sky that seemed to have transformed into the most annoying leaky faucet anyone can imagine sapped my strength, energy, enthusiasm, and even hope.

Halloween, that lively holiday, arrived on the tails of a late season hurricane that dumped floods onto states already swamped, streets already filled, rivers and lakes already overflowing, and souls adrift on a sea of bland nothingness. Everyone went through the motions, but the festivities were garish phantoms themselves, unreal and unconnected to anything the participants were truly feeling.

Then the unimaginable happened, Thanksgiving. What was there to be thankful for? The rain, the boredom, the lethargy that left the populace wrung out on sofas and chairs, too uninspired to even turn on a television? The world seemed too deep inside one of those solitary sensory deprivation tanks used to discover how people react when they have contact with no one or any influence that might create an effect. Were we to struggle through the preparations for a feast that no one anticipated and through the cotton-like gloom that trapped us all in our lonely minds? There had to be someway out of this miasma that sickened us with every breath.

I saw the answer lying on the kitchen table when I trudged in from another smothering day in study hall where I made only a dent in what my teachers expected of me. It was only a slip of paper folded into thirds. But there was pink on the outside, not the sappy pink some people paint a baby's room or the syrupy pink of a wedding, but the tan-toned pink of earth caught in the heat and light of the sun—sunlight that had disappeared as if forever from our days and lives. All the drowned creatures of our world had forgotten the joy of sunlight in all the eons since the rains had begun. Sunlight had soothed and dazzled and warmed and inspired us through those heady days of early summer. Where could we recapture the gifts of our own star and the days when we had seemed so young? Above the pink-tinged photo there was a name on that brochure—Bermuda! It was a name as exotic and exhilarating as the sun itself. Bermuda was my parents' choice of a cathartic to cure the illnesses brought on by the cold gray days that shadowed our lives. We truly had an adventure to be thankful for.

The sun became the motif of our treatment; it joined us as soon as the pilot guided our plane above the mountainous clouds that gripped the Earth in such a wrestler's hold. It smiled on us as we flew over the open ocean that brought aches and then relief to light-starved eyes. It arms embraced us as we exited the airport into the perfume imperfectly called "air" on the island paradise of Bermuda.

Dark shadows that had held our souls hostage simmered and evaporated on the drive to our cabin, situated right on the pink sand that had signaled a respite from the dreary days at home. We dumped our bags and rushed onto the beach so eager to bake ourselves healthy again. Lying right on the sand, thrilling to the sun's massage, and marveling at the sights of life and its joyful activities on the sea, it wasn't long before we prisoners knew that the bars were gone forever.

As if to signal our release, I spied a fin break the surface of the water, a gleaming form of that substance that has forced our flight from all we loved. Without a suit, I scrambled into the waves and swam toward that happiest of the sea's creatures, a dolphin. My new-found joy gave me the hope that I could catch this swift and playful animal. It almost seemed to laugh as it easily outpaced me. After long months of little use, my muscles soon gave out and I let myself drift toward shore on the incoming tide, much to the relief of my family who stood worriedly on the beach.

The next afternoon we packed a fabulous lunch, rented a sailboat, and began the most mysterious and magical event of the entire holiday. Mom captained the ship like a pro, with Dad, Kayla, and me as the crew. She steered us along shimmering pink beaches, around tall rocky crags standing as tall guards of the stately homes that dotted the island. She took us away from the shore and to the unknown of the deep waters of the ocean. We dropped anchor, set out the food, and feasted in thanks for the medicine God had sent to us. The gentle rocking of the boat matched the rhythm of the day and left us in a stupor so pleasing that no one spoke. We lay on the deck contentedly, as if our emotions had joined hands so that we could not be separated.

Then I spotted it again. Could it be the same one, that same fin from the day before. If not, it was its twin. Dad raised the anchor and we raised the sails. Mom took the tiller again, and I stretched out on the bow watching it slice through the water curling back the edges along the slice that it cut. Ahead was the fin leading us back toward the selves we had lost to the rain. Then the dolphin seemed to slow and more fins appeared. They gathered on both sides of our boat, swimming to match our pace, jumping occasionally in delight. My first friend swan close, so close I could see its eyes smiling as on the day before. I reached out a careful hand, but it did not startle this amazing creature. Inching slowly my hand finally reached its glistening side. I felt the barest touch of water-slicked skin. Warmth seeped through that skin and into my heart. Now I truly knew the meaning of Mother Teresa's words "A joyful heart is the inevitable result of a heart burning with love."

Answer Numbers 29 through 34. Base your answers on "Longing."

29 Read this sentence from "Longing."

> **The rain, the boredom, the lethargy that left the populace wrung out on sofas and chairs, too uninspired to even turn on a television?**

What does the word *lethargy* mean?

(A) illness

(B) disappointment

(C) exhaustion

(D) relaxation

30 The author says that the rainy months were a "miasma that sickened us with every breath." The author calls the weather a disease because it is

(F) destroying everyone's plans for the fall holidays.

(G) causing such low spirits and morale for the people of the area.

(H) bringing a sense of hopelessness to people in areas already suffering from hurricanes.

(I) affecting people's abilities to achieve success in outdoor activities.

31 With which statement would a professional oceanographer most likely agree?

(A) Dolphins are the smartest of all ocean creatures.

(B) Seasons differ greatly between land areas and oceans.

(C) Humans most often react to dolphins in positive ways.

(D) Dolphins enjoy contact with human beings.

32 The author includes this quote from Mother Teresa.

"A joyful heart is the inevitable result of a heart burning with love."

Which statement best shows that the author has accepted this philosophy?

(F) The author learns that happiness comes from a person's attitude and heart.

(G) The author discovers a new outlook on nature and the creatures of the sea.

(H) The author understands that everything in nature is related.

(I) The author gains an insight into the personalities of dolphins.

33 Based on the passage, what action will the author most likely take in the future?

(A) The author will work to protect dolphins from further injury from humans.

(B) The author will encourage others to visit oceans when they are depressed.

(C) The author will study oceanography in college.

(D) The author will always remember this event in both good times and bad.

34 How does the author help the reader better understand the passage?

(F) The author uses similes to present ideas about water and its forms.

(G) The author uses alliteration to show the ways in which dolphins communicate.

(H) The author uses imagery to help the reader visualize characters, events, and the setting.

(I) The author refers to various colors to highlight the feelings created by things mentioned in the passage.

Read the article "Dividing Continents" before answering Numbers 35 through 41.

Dividing Continents

As trade flourished in the Middle Ages, Asian goods reached European markets that went crazy for such goods as silks, spices, and porcelain vases and dishes. As demand grew more and more, traders undertook the long and difficult trek across Europe and Asia to reach the fabled lands of India and China. Since the trips were so long and dangerous, they were also very expensive. Europeans began exploring the oceans in the hopes of finding a sea route to the East.

Portugal discovered that ships could sail along the coasts of Africa, around the southern tip of that continent, and then on to India itself. News of the discovery astounded the nations of Europe. However, the Portuguese made another important discovery at the same time. Asian explorers had already reached the east coasts of Africa and trading posts had been established as much as three hundred years before. Europeans could trade in Africa for the goods they wanted from India and China.

After the discovery of the Americas, shipping grew up around the southern tip of South America. Ships from the great cities of North and South America carried goods around Cape Horn to the western coasts of the continents, but this could mean a voyage of 14,000 miles for a ship to sail from New York to San Francisco.

Ideas and plans for newer and shorter routes between eastern and western continents kept people busy into the early 1900s. France succeeded in rebuilding the ancient canal that connected the Mediterranean Sea with the Red Sea in the 1870s. Such canals had been constructed by the pharaohs but had filled with sand over the centuries. Once the Suez Canal was built, ships could sail between Asia and Europe in much shorter times.

As early as 1534 Spain had studied the Isthmus of Panama as the possible location for a canal, but the feat was not possible with the technology of the day. Instead a road was built through the jungle. The Camino Real carried millions of dollars in gold, silver, and other goods between the nations of the East and the West. By the late 1800s another Spanish study established that a canal could be built but the plan was not put into effect.

Finally the government of Colombia devised a plan for a railroad to replace the Camino Real. After years of planning and failed schemes, an U.S. group of investors began the Panama Railroad. Heat, heavy rains, and disease made the project extraordinarily difficult and dangerous to complete. Money ran out and the company struggled to find a way to turn their plans into a success. Then gold was discovered in California and thousands of people boarded ships headed around Cape Horn. Two ships sought refuge in Panama during a storm. The railroad offered to carry the passengers to the end of their line so that they could complete the rest of the crossing on the Camino Real. As more and more ships took advantage of the railroad, enough money was raised to complete the entire line in 1855.

The construction took a terrible toll on the company and its workers. Estimated to cost one million dollars, the actual cost rose to eight million dollars. In 1855 the forty-eight miles of track were the most expensive lines ever laid. Even though more investors were found, the unexpected passengers paying $25 per ticket to ride the line and $10 to ride mules along the Camino Real covered about one-third of the final cost to build the railroad.

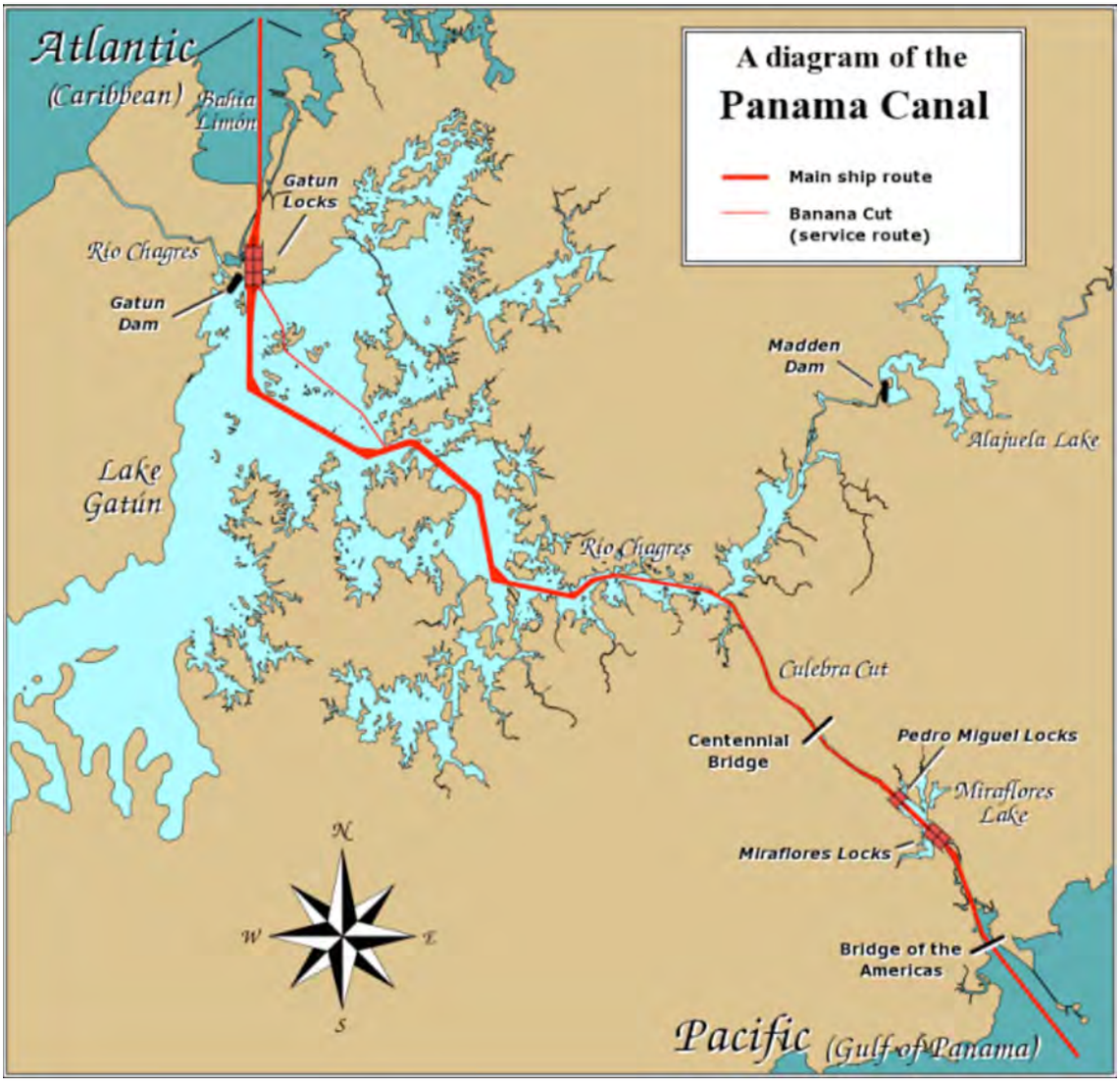
Since the railroad was built in a jungle area, diseases such as malaria, cholera, and yellow fever killed thousands of workers. Estimates for the number of deaths exceed 12,000. Not all the workers were from the Americas since people from China, Europe, the United States, and the West Indies rushed to the area in order to get good-paying jobs. Even enslaved Africans helped construct the railroad in the hopes of becoming rich and achieving their freedom. Through all this effort, a three-hundred-year-old dream became reality.

Along with passengers, the completed railroad picked up goods from ships on one side of the isthmus and transported them to ships on the other side. There the goods were reloaded and sent on to the final destinations. For the next fifty years the Panama Railroad continually set the record for the most freight carried for its length. But dreams of a canal had not stopped.

After completing the Suez Canal, the French government turned its eyes toward Panama and set up its own plans for the area. In order to build the canal, the French recognized the importance of the Panama Railroad to construction and transportation and purchased it in 1881. However, the task proved more daunting than the French had planned for. The equipment provided simply could not handle the task. The United States stepped in and bought out the French for $40 million in 1904.

Instead of digging a canal that allowed the waters of the Pacific to flow into the Atlantic, the United States came up with a plan for damming rivers to make lakes. Canals would be dug to connect these lakes so that ships could cross Panama. Since the land was not level, the United States built huge locks that could raise and lower ships to the lakes' different levels. The amazing feat of construction was completed and the Panama Canal was opened in August 1914.

Go On



The cost in lives was still high during the American phase of construction. Research by Cuban and American doctors proved that mosquitoes caused diseases like malaria and yellow fever, so appropriate steps were taken to curb these illnesses. Hospitals and clinics were built to care for workers who did succumb, decreasing the number of deaths. Still over 5,000 workers died in completing the canal, and over 22,000 had died during the French project.

Overall, the success of the Panama Canal cannot be overstated. Its boon to shipping, tourism, and affect on the local economy has been phenomenal. By the early 2000s new problems began facing the Panama Canal. Build for ships of the late 1800s and early 1900s, the canal has become too shallow and the locks too small to handle the huge ships built today. After taking over the Panama Canal in 1999, the government of Panama has invested over one billion dollars in improving the canal to meet modern demands. Some people have even called for a new and larger canal to be built in a different location. Whatever the future may hold, there will always be a need for a route over the Isthmus of Panama.

Go On

Answer Numbers 35 through 41. Base your answers on the article "Dividing Continents."

35 Read this sentence from the article.

> **Even though more investors were found, the unexpected passengers paying $25 per ticket to ride the line and $10 to ride mules along the Camino Real covered about one-third of the final cost to build the railroad.**

What does *investors* mean?

(A) bankers

(B) laborers

(C) shareholders

(D) governments

36 According to the article, why has the Panama Canal lost some of its importance for shipping today?

(F) Many ships are now too large to pass through the canal.

(G) Cargo planes and trucks have taken over so much of the transportation business.

(H) Fewer ship companies can afford the high fees charged to use the canal.

(I) Water has become scarce in the region and the canal is very shallow.

37 According to the article, why was the Panama Railroad so important in constructing the Panama Canal?

(A) It provided the best route that the builders could use for the canal.

(B) Building the railroad reduced the jungles that bred terrible disease.

(C) Workers and goods could be transported by railroad to all points along the canal.

(D) Sales of railroad tickets raised the money needed to build the canal.

38 From reading the article, the reader can infer that Panama and its region will

(F) lose its importance to shipping because of new technology.

(G) be the focus for other nations interested in improving their economies.

(H) continue to improve and develop canals that are so important to shipping.

(I) sell the Panama Canal to the private group that can invest the large amounts of money needed for improvements.

39 What caused the United States to take on the Panama Canal project?

(A) Its ships could not transport all the goods needed on both sides of the country.

(B) France's plans failed and the new canal was left uncompleted.

(C) Gold from California made the United States rich enough to afford the costs of such a project.

(D) The vast majority of travelers across the isthmus were Americans and American business people.

40 According to the article, why are other countries interested in building a larger canal to replace the one in Panama?

(F) They want the economic benefits and riches that Panama gained from its canal.

(G) These governments want to employ large numbers of their citizens who have no jobs or careers.

(H) A new and larger canal will keep the nations of Central America safe from attack.

(I) Disease is still a major problem for people who work or travel through Panama.

41 The author of this article would most likely make the statement that major canals must

(A) be built in the near future so that ships will continue to be built.

(B) be placed in control of the nations through which they pass.

(C) include the capacity to handle the smallest and largest ships in the world.

(D) include safety measures to protect the canals from hurricanes and other natural disasters.

Read the following speech and answer questions 42 through 47.

Is It a Crime for a Citizen of the United States to Vote?

By Susan B. Anthony

Before the nineteenth amendment was passed in 1920, Susan B. Anthony shocked people by daring to vote in the 1872 presidential election. Several days later, she was arrested and charged with "illegal voting." Anthony pleaded "not guilty" to these charges and then traveled around the country, campaigning for women's right to vote.

Friends and Fellow-citizens: I stand before you to-night, under indictment for the alleged crime of having voted at the last Presidential election, without having a lawful right to vote. It shall be my work this evening to prove to you that in thus voting, I not only committed no crime, but, instead, simply exercised my citizen's right, guaranteed to me and all United States citizens by the National Constitution, beyond the power of any State to deny.

Our democratic-republican government is based on the idea of the natural right of every individual member thereof to a voice and a vote in making and executing the laws. We assert the province of government to be to secure the people in the enjoyment of their unalienable rights. We throw to the winds the old dogma that governments can give rights. Before governments were organized, no one denies that each individual possessed the right to protect his own life, liberty and property. And when 100 or 1,000,000 people enter into a free government, they do not barter away their natural rights; they simply pledge themselves to protect each other in the enjoyment of them, through prescribed judicial and legislative tribunals. They agree to abandon the methods of brute force in the adjustment of their differences, and adopt those of civilization.

Nor can you find a word in any of the grand documents left us by the fathers that assume for government the power to create or to confer rights. The Declaration of Independence, the United States Constitution, the constitutions of the several states and the **organic** laws of the territories, all alike propose to protect the people in the exercise of their…rights.

Not one of them pretends to bestow rights.

> "All men are created equal…with certain unalienable rights. Among these are life, liberty and the pursuit of happiness. That to secure these, governments are instituted among men, deriving their just powers from the consent of the governed."

Here is no shadow of government authority over rights, nor exclusion of any from their full and equal enjoyment…. And here, in this very first paragraph of the declaration, is the assertion of the natural right of all to the ballot for, how can "the consent of the governed" be given, if the right to vote be denied. Again:

> "That whenever any form of government becomes destructive of these ends, it is the right of the people to alter or abolish it, and to institute a new government, laying its foundations on such principles, organizing its powers in such forms as to them shall seem most likely to effect their safety and happiness."

Surely, the right of the whole people to vote is here clearly implied. For however destructive in their happiness this government might become, a disfranchised class could neither alter nor abolish it, not institute a new one, except by the old brute force method of insurrection and rebellion. One-half of the people of this nation today are utterly powerless to blot from the statue books an unjust law, or to write there a new and a just one. The women, dissatisfied as they are with this form of government, that enforces taxation without representation,—that compels them to obey laws to which they have never given their consent,—that imprisons and hangs them without a trial by a jury of their peers, that robs them, in marriage, of the custody of their own persons, wages and children,—are this half of the people left wholly at the mercy of the other half, in direct violation of the spirit and letter of the declarations of the framers of this government, every one of which was based on The preamble of the federal constitution says:

> "We, the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare and secure the blessings of liberty to ourselves and our posterity, do ordain and established this constitution for the United States of America."

It was we, the people, not we, the while male citizens, nor yet we, the male citizens' but we, the whole people, who formed this Union. And we formed it, not to give the blessings or liberty, but to secure them; not to the half of ourselves and the half of our posterity, but to the whole people—women as well as men. And it is downright mockery to talk to women of their enjoyment of the blessings of liberty whole they are denied the use of the only means of securing them provided by this democratic-republican government—the ballot.

42 For which audience does Ms. Anthony address the above speech?

(A) all of the citizens of her hometown

(B) the female citizens of the United States

(C) the members of the federal government

(D) all of the citizens of the United States

43 Which BEST describes how this speech is structured?

(A) an opinion followed by supporting details
(B) a list of the speaker's best characteristics
(C) a problem followed by several solutions
(D) a sequence of historical events

44 Throughout the speech, the speaker uses examples to

(A) convince people that she is right.
(B) compare two different ideas.
(C) help support her own opinion.
(D) explain an opposing viewpoint.

45 What is the most likely reason Ms. Anthony gave this speech?

(A) She wanted to prove that she didn't commit a crime when she voted.
(B) She wanted to show that women have as much right to vote as men.
(C) She wanted to convince other women to send letters of protest.
(D) She wanted to demand an apology for the way she was treated.

46 As used in the passage, *organic* most nearly means

(A) just.
(B) great.
(C) basic.
(D) former.

47 The point of view used in the passage reveals the speaker's

(A) distrust of government.
(B) feelings of superiority.
(C) frustration with unjust laws.
(D) desire to prove her innocence.

Read the article "Silly Invention" before answering Numbers 48 through 51.

Silly Invention

During World War II there was a rubber shortage in the United States. Rubber was needed for things such as tires and soldiers' boots. Because Japan invaded the countries that had provided the U.S. with rubber, America's supply was cut off. As a result, Americans were asked to donate things made of rubber to the war effort.

In the meantime, scientists were searching for a rubber substitute. In 1943 at a General Electric lab in Connecticut, an engineer named James Wright developed a new substance by combining boric acid and silicone oil. The material he produced would bounce and was more flexible than regular rubber. Like rubber it stretches, but Wright discovered that it could be pulled into a longer rope-like shape than rubber. With all of these amazing characteristics, the substance did not prove to be a viable replacement for rubber, however.

In 1949, the bouncing putty came to the attention of the owner of a toy store. Ruth Fallgatter packaged it in a clear case and sold it through a catalogue. After a year, it had outsold all the other toys except crayons. When the owner decided not to sell it anymore, a man named Peter Hodgson became interested. Hodgson was deeply in debt, but borrowed $147 to buy the substance. He packaged it in plastic eggs and named it "Silly Putty." It became a toy sensation. By 1961 Silly Putty was a hit around the world and beyond. The *Apollo 8* astronauts carried Silly Putty on board their mission to the moon. When Hodgson died in 1976, his estate was worth $140 million.

Answer Numbers 48 through 51. Base your answers on the article "Silly Invention."

48 What use did the United States have for a "rubber substitute"?

(F) It would be made into goods needed by America's troops.

(G) It would be turned into oil needed by the U.S. during World War II.

(H) It would replace rubber destroyed by Japan's armies in World War II.

(I) It would be used to create soft toys so metal could be used in the war effort.

49 Despite its amazing characteristics, Wright's invention

(A) came too late to help the war effort.

(B) failed to repel water like soldiers' boots made from rubber.

(C) did not work well enough to be used in place of rubber.

(D) was kept a secret until long after the war was over.

50 How did the substance first become a commercial success?

(F) as a replacement for crayons

(G) as a toy

(H) as a seal for joints on *Apollo 8*

(I) as a fiber that could be made into ropes

51 What idea BEST describes the author's purpose in writing this article?

(A) to encourage scientists to check out all the possibilities of their discoveries

(B) to defend the astronauts' unusual use of Silly Putty on *Apollo 8*

(C) to explain how wars affect people's lives in many different ways

(D) to describe how what seems to be a failure can become a success