I am very interested in the development and use of lasers. I first became interested after I saw the movie *Star Wars*. Curious if lasers were ever used in the real world, I began studying their origins. I did research at the library and found that a pulse laser is basically a device used for storing energy and then releasing it all at once to give an intense beam of light. Also, the word laser is an acronym for "Light Amplification by means of Stimulated Emission of Radiation." The different types of lasers are: solid state, gas, semiconductors, or liquid.

The first pulse laser was invented in 1960 by Theodore Maiman. It contained a ruby crystal and produced a short flash of light. His pulse laser has been improved and can now produce light ten million times the intensity of sunlight.

In recent years, the laser has been used for many important tasks. In construction, the laser beam can be used for precise alignment in the building of tunnels and pipelines. Laser beams can also be used to measure distance and speed. For example, the Apollo astronauts used a laser beam and a special mirror to accurately measure the distance from the earth to the moon.

New uses for lasers are currently being developed in the medical world. Eye surgery and skin cancer treatment are performed with lasers. Also, lasers are beginning to replace radio waves in communication. Laser beams can carry many more channels of information than radio waves.

I now understand that laser beams are more than weapons in science fiction movies. Laser beams are instruments of the future. Research should continue to develop new and improved uses for the laser beam.

1. Which of the following is not mentioned as a modern use of the laser?

   A. The laser beam can be used in construction.
   B. The laser beam is used in meteorology to detect air layers.
   C. The laser beam can be used to measure distance and speed.
   D. The laser beam can be used to treat skin cancer.

2. According to the author's research, what is one field in which lasers are being utilized?

   A. cellular phone industry
   B. medicine
   C. plumbing
   D. cable television industry
3. The laser can produce light _____________________________________________.
   A. slightly weaker than sunlight
   B. ten million times the intensity of sunlight
   C. one million times the intensity of sunlight
   D. slightly stronger than sunlight

4. Decide whether the underlined event is the cause or the effect.
   Krystal forgot her softball glove; she had to borrow one from Dana.
   A. cause
   B. effect

5. Decide whether the underlined event is the cause or the effect.
   We had recess inside today, because of the rain.
   A. cause
   B. effect

6. Decide whether the underlined event is the cause or the effect.
   We didn't go to school today, because we were sick.
   A. cause
   B. effect

Read the following passage and answer the questions that follow.

The Bermuda Triangle can be found off the coast of the southeastern United States. It is an area that is only a couple of miles in diameter. Since the beginning of aviation, there have been numerous reports of missing aircraft in the small area. Hundreds of such accounts have been verified by the Federal Aviation Bureau. What's most puzzling is that the planes, crews, and passengers have disappeared leaving absolutely no trace of wreckage or other physical evidence.

The earliest record of such an incident in the "Point of No Return," or "Sky Trap Zone," as it's also been called, occurred in 1943. A small English plane containing twelve passengers and a crew of three inexplicably disappeared during a flight. In its last radio transmission, the navigator stated that the weather was clear, and they were on course, approximately five hundred miles from Bermuda. Several hours later, there was no further transmission, and the plane could not be located on radar. The most puzzling factor was that there was no evidence of wreckage. A search party that was sent out was baffled by the lack of physical evidence. None of the people aboard the flight were ever found.

Even more unbelievable than the fate of the British flight in 1943 is the mysterious series of events that took place in June of 1958. It began with the take-off of a small military plane out of the Naval Air Station in Fort Lauderdale, Florida. Practice operations in which pilots underwent routine flight pattern exercises were common occurrences out of the base. Shortly after the departure of the first plane, two others became airborne. Within twenty minutes, all three pilots reported that they could not see land and were unsure of their positions.
The last radio communication was cut off in mid sentence and revealed nothing as to the fate of the three pilots. None of the pilots returned to the base, and once again, no wreckage or remains were ever located.

During the last fifty years, there have been hundreds of such incidents, none of which can be explained. Experts in the aviation field won't even hypothesize as to the cause of such mysterious events.

7. What was located by search crews after the military planes disappeared in 1958?
   A. the pilots
   B. flotation devices
   C. nothing
   D. plane wreckage

8. Why was the disappearance of the British flight so puzzling?
   A. The weather was clear and the flight was on course.
   B. No wreckage from the plane was ever recovered.
   C. No passengers, crew, or physical evidence was recovered.
   D. All of the above

9. What would be the best title for this passage?
   A. The Trouble With Small Planes
   B. Inexperienced Flight Crews
   C. Unexplained Missing Aircraft
   D. Military Aircraft Mysteries

10. Identify the following as either a fact, an opinion, or both.

Andie got her hair cut yesterday, and it looks beautiful.

   A. fact
   B. opinion
   C. both fact and opinion

11. Identify the following as either a fact, an opinion, or both.


   A. fact
   B. opinion
   C. both fact and opinion
12. Identify the following as either a fact, an opinion, or both.

Herman is 16 years old and drives a great car.

A. fact  
B. opinion  
C. both fact and opinion

Read the story and answer the questions that follow.

"I remember it like it was yesterday, Rachel." My grandfather leaned back in his chair with his eyes closed. He smoothed back the last of his gray hairs from his forehead and began to describe that historic day...

"That's one small step for man, one giant leap for mankind," astronaut Neil Armstrong proclaimed as he stepped from the lunar landing vehicle "Eagle" onto the surface of the moon. Astronaut Edwin "Buzz" Aldrin Jr. joined him on the moon a few minutes later. Michael Collins, a third astronaut, remained in the small command ship "Columbia" to monitor Armstrong and Aldrin. As Armstrong and Aldrin glided along the moon's surface, they took pictures and collected samples of moon rocks and soil. After almost 22 hours of exploring the moon's surface, the astronauts returned to the Apollo 11 spacecraft.

Grandfather opened his eyes and sat up. "Did you know some people didn't get to watch the first moon landing because they didn't have a television yet?"

"Didn't everyone have televisions in 1969?" I asked in disbelief.

Grandfather laughed. "It wasn't like today, with some families having two or three televisions. Can you understand now why I'm proud that you want to be an astronaut when you grow up? Space exploration will be more and more important to humankind as the years go by. I hope to see you in space someday, next to astronauts from all over the world. I believe space exploration in the future will bring countries together. It will be a great opportunity for you. I'm sure you'll be an astronaut we're all proud of!"

For once I agreed with my grandfather. I also believe space exploration should be a way for all countries to work together. With technology from all over the world, who knows how far we can go in space!

13. Which line is part of the story's plot?

A. The grandfather expresses an interest in his granddaughter's dream to be an astronaut.
B. The granddaughter turns off the television to talk to her grandfather.
C. The grandfather calls his wife in from another room.
D. The grandfather drives his granddaughter to Space Camp.

14. Which of the following words describes the grandfather?

A. anxious  
B. grumpy  
C. stubborn  
D. sentimental
15. Both characters in this passage believe ________________________.

A. exploring space could be dangerous
B. space exploration classes should be a required class in all schools
C. space exploration is a good way to bring countries together peacefully
D. the Apollo 11 was the best spacecraft ever built

Read the passage and answer the questions that follow.

My grandfather told me a story that his grandfather once told him. Many years ago, before my grandfather was even born, there was a village. This village was isolated from other villages because an immense forest surrounded it. Although the villagers lived in harmony with each other, they sometimes fell on hard times when food and supplies ran short. One winter, when food and supplies were almost all gone, a young boy wandered out of the village and into the snow-covered forest. The villagers searched night and day for the young boy, but no one found him.

Strange things began happening after the boy disappeared. One morning the villagers woke up to find a cow wandering around in the village square. Although they were puzzled by the cow's sudden appearance, they were thankful, for now they would have milk. The next morning several chickens were discovered. Now the villagers would have eggs. The following morning the villagers awoke to find bags of grain piled high in the baker's shop. Now the villagers would have bread.

Two weeks after the young boy had disappeared, a group of men from the village spotted a child playing in the woods. They tried to follow the child, but he mysteriously disappeared. Once again, the villagers searched the dense forest for the lost boy, but the boy could not be found.

As the next winter set in, the villagers once again found themselves running out of food and supplies. Exactly one year after the boy had disappeared, he walked into the village. He had not changed from the day he originally disappeared. He wore the same clothes and the same cheerful grin. His mother cried for joy and hurried toward her son. Just as she reached out to touch him, he disappeared. Although the mother cried with disappointment, she understood why he appeared in the village. He wanted her to know that he was fine. For the first time in a year, his mother smiled. For the next three days after the boy's disappearance, there appeared in the village another cow, more chickens, and more grain. Once again the villagers were saved from the harsh winter.

My grandfather says that the boy appears in the same village each winter to let his mother know that he is all right, and to check on the village's food and supplies.

16. Why does the grandfather believe the boy reappears every winter?

A. to scare the villagers and to steal their food
B. to see his mother and to check on the village
C. to visit his friends in the village
D. to warn the villagers of danger
17. Describe the mother's feelings at the end of the story.

A. She felt angry.
B. She felt relieved.
C. She felt frustrated.
D. She felt worried.

18. Choose the best title for this story.

A. A Boy Lost, A Village Saved
B. The Sad Mother
C. Three Chickens and a Cow
D. A Holiday Celebration

Read the story and then answer the questions that follow.

Juan sat in his desk thinking about the predicament he was in today. Since the beginning of the year, he had struggled with challenging classes. The seventh grade had been tough; the tests seemed harder, the reading assignments longer, and the homework next to impossible. Today, Mr. Mac, who was known for giving the most difficult exams in the seventh grade, had a three-page anatomy test for his science class, and Juan had not studied. He was thankful that Carlos, his best friend, had the same academic classes: math, reading, social studies, and science. The boys usually studied together and helped one another with homework assignments. That is why he could not understand Carlos' behavior earlier that day when Juan had asked him for a simple favor.

Juan replayed the scene in his head, trying to figure out why Carlos had been so mad. Earlier that morning, before the bell rang signaling the beginning of social studies, Juan had approached his friend. Carlos had been standing at his locker leafing through his science book, and he seemed to be studying. Peeking over his friend's shoulder, he asked Carlos if he had studied for the big science test.

"Of course," Carlos replied. "We have to know the entire anatomy of the frog, and we have to pass if we want to participate in the dissection next week."

"That's why I wanted to talk to you," Juan said as he put his arm around his friend's shoulder and gave him the biggest smile he could. "Since you're such a good buddy, I know you wouldn't mind if I copied off of you during the test." Juan continued smiling up at Carlos, but he noticed that Carlos looked a little irritated. Despite his friend's cold reaction, Juan went on with his plea. "Since I won't be able to dissect next week if I fail the test, I really need you to give me a helping hand." After waiting a moment, but not receiving any reply, Juan added a long, drawn out, "Please."

Carlos pushed Juan's arm off of his shoulder, saying angrily, "You know I'm already in trouble with Mr. Mac, and he'll fail me if he catches us." He reminded Juan how much he enjoyed science class, but he had been in hot water for letting the mice out of their cage last semester. "I don't know if Mr. Mac will ever forgive me for that—I lost his trust, and now you want me to cheat on one of his exams." With that, Carlos stormed off, not even giving Juan a clear answer.

Now Juan sat in Mr. Mac's classroom waiting for Carlos to arrive. Just as the bell rang, Carlos came and took his seat in front of Juan, but he did not even glance backward at his best friend. Growing impatient, Juan desperately repeated his plea in a hoarse whisper. Carlos turned around and glared at his friend. He opened his mouth to say something, but Mr. Mac entered the room, leaving Carlos' response hanging silently in the air.

Mr. Mac waved a stack of tests through the air. "Ladies and gentleman," he began, "this test should prove to be the most difficult of the year." Juan sighed as Mr. Mac continued, "As you all know, if you do not
get a grade of C or higher, you may not participate in next week's lab: dissecting a frog." Mr. Mac smiled
mischievously as he continued his lecture, "I am proud of the class's work up to this point. Since everyone has
put in a tremendous amount of effort over the last few weeks, I've decided to allow you to work with a partner
on the exam."

Juan couldn't believe his luck; he wouldn't have to cheat after all! He excitedly tapped his friend on the
shoulder, but was surprised at Carlos' expression when he turned abruptly to face Juan. "Don't even think about
asking me," Carlos said coolly. "You got a lucky break on this test, but you should never have asked me to
cheat." Carlos looked furious as he continued, "Friends aren't supposed get each other into trouble, especially
when it comes to failing a test. Find somebody else to be your partner today, because I don't want to earn a
good grade for both of us." Juan's jaw dropped as he watched Carlos walk across the room and work with
another friend, Jake. Although he knew he could now pass the test, he did not feel quite so lucky anymore.

19. How does the reader know that Carlos is angry with Juan?

A. He pushes Juan's arm off of his shoulder and will not work as Juan's partner.
B. He sits down in front of Juan before the test starts.
C. He is studying at his locker and not with Juan.
D. He tells Juan the story about letting the mice out of the cage in Mr. Mac's class.

20. Which title would best fit the passage?

A. Juan's Predicament
B. The Big Argument
C. Cheating: How Not to Get Caught
D. Carlos Lends A Helping Hand

21. Which of the following is a setting for the story?

A. Juan's house
B. the hallway
C. math class
D. Mr. Mac's classroom

Read the passage carefully and answer the questions that follow.

Long ago there lived a young girl named Sophia. Sophia grew up with six brothers who constantly
wrestled, played, and fought with her. For as long as she could remember she wanted to become a gallant
knight like her eldest brother, Charles Peter. He left home when she was very little, but she remembered all of
his visits, cherishing each moment she had spent with her idol.

Sophia's parents scoffed at her idea of becoming a knight, telling her it was only a foolish dream.
Sophia didn't understand why a girl couldn't become at least a page like her youngest brother Simon. Even
though she knew it was wrong to disobey her parents, she began plotting a way to realize her dream.

Very late one night, Sophia was awakened from a deep sleep. The first thought that came to her mind
was a sure-fire way to achieve the freedom to become a knight: she would have to run away. She began
packing right that instant, and within an hour she had all the supplies she needed for her journey. The next step
would be the most difficult-she needed to cut her beautiful long hair and write her family a good-bye letter. She
took a sharp knife and cut her hair incredibly short, and as she watched the hair fall to the ground, she began to
cry softly. Now that the moment of truth had arrived, there was only one question: would she really have the
courage to write her family a letter and leave into the night?

After an emotional hour of letter writing and re-writing (she wanted to make it perfect), she was finally
able to mount the family's trusty horse, Malcolm, and ride off into the moonlit night. By morning she had
gotten almost as far as the town of Mulberry. Sophia knew she would not be able to show her face there,
because she had too many close family members living near the area. She decided to bypass the community
altogether, which meant traveling through the forest.

As Malcolm galloped through the forest, Sophia began to miss her family. Suddenly she came upon a
young knight and his beautiful white horse. She slowly approached the stranger, hoping he would let her ride
by without asking any questions. She was disappointed when she heard him ask, "Who are you and who is your
master?"

Sophia hadn't planned on running into anyone yet, so she hadn't made up a story about who she was or
where she was going. Knowing that she had to think fast, she quickly told the man that she was a page to the
gallant knight Charles Peter of Greenway. "I'm from Greenway, yet I have never heard of this knight," the
young man said, challenging Sophia's story.

"Well, he just became a full knight, and he usually keeps to himself. I cannot stay and talk with you—I
need to be heading home now, so please excuse me," responded Sophia.

"Please wait and allow me to introduce myself. I am Paul of Alta, a small village in Greenway. Since
we are going in the same direction, I would like to travel with you. It will be much safer traveling in the woods
together, don't you agree?"

"I really need to be leaving," Sophia answered. "I don't even know your name, and I'm afraid my master
might be mad if I don't return on time," she said as she climbed on her horse and galloped away.

Paul hopped on his horse and followed after her. He reached her rather quickly and told her that she
needed to be careful because the woods were a dangerous place. Sophia reluctantly agreed to travel with him to
the outskirts of the town. During their journey they began talking about why they decided to become knights.
Sophia found Paul to be quite amusing, and he had many reasons for pursuing this avenue of work that were
similar to hers. She wanted to tell him her secret but she knew it would be too dangerous.

Finally they reached the edge of the forest, and the town of Greenway came into view. Sophia left Paul,
hoping to one day meet him in battle (on his side of course), and she sauntered into the town on her horse. She
didn't know what her next move was going to be, but she did know that she would be able to handle just about
any situation presented to her. She went into town feeling confident and happy, with only the distant thought of
her family lingering in her mind.

Just then she ran into her brother, Charles Peter. He almost didn't recognize his sister, but Malcolm
gave her away when he whinnied at his former master. The gallant knight approached and embraced his sister,
asking, "What are you doing here? Do Mother and Father know where you are?"

"Please don't be mad, Charles--I have traveled so far, and all I want is a chance to be your page for a few
weeks. If I am unable to fulfill my duties to you, then you can send me home."

"All right, sis, but you only have until I return home for Christmas. You will need to write Mom and
Dad and let them know that you are okay."

Sophia demonstrated to her brother that she was quite a capable page, and when they returned home for
Christmas the family was amazed at her transformation. Everyone was so proud of her. Sophia went on to
become a full knight, one of the first female knights ever. Most only knew her as "S," giving her a sense of
added mystery. Stories were told of her throughout the land, and she inspired young girls to dream of achieving
goals far beyond what had previously been their normal reach.
22. How would her family have felt when they awoke the next morning and found Sophia missing?

A. relieved she finally realized her dream
B. worried about her safety
C. wondering who would do her chores
D. excited that she was so brave

23. What would be the best title for this story?

A. A Girl's Adventure
B. Sophia's Journey to Knighthood
C. Knights of Long Ago
D. Sophia's Silly Dream

24. Why did Sophia want to become a knight?

A. She wanted to experience danger.
B. She thought it would be exciting.
C. She looked up to her brother the knight.
D. She had a dream which told her to become one.

Read the story and answer the questions that follow.

I dove into the ditch just as my Minipod disintegrated. I breathed a sigh of despair and began my long walk home. It felt strange to be walking. In the year 2072, no one walks. We always ride something to wherever we need to go. For instance, if I want to go from my house to my neighbor's house, I hop on the Sideride.

If I need to go slightly farther, I drive my Minipod. Of course, now that it has blown up, I'm without transportation. My parents drive a Macropod. Macropods are the best transport model because they drive themselves. Once you program in your destination, it's smooth sailing the rest of the ride. You are free to sleep, eat, or watch the videotron. My parents never let me borrow the Macropod. My dad says that light speed is too fast for a boy my age. I disagree with his reasoning. I am almost sixteen, after all.

After walking about 100 yards, I sat down to rest. My feet were aching. Out of nowhere, my younger sister arrived on her Micropod. A Micropod is like a Minipod with training wheels. I was slightly embarrassed to get on, but it was my only alternative to walking.

When we arrived at our home unit, I explained everything to my parents. They looked at each other questioningly for a minute, and then sent me to my sleep unit for the evening so they could talk. What could they be talking about? The next morning I shuffled in for morning nutrition. I spied a form of some kind on the nutrition table. Putting on my sight clarification lenses, I read the paper. It was an application for a Macropod license, with my name on it!
25. Why are Macropods the best transport model?

A. You can program them to drive themselves.
B. They have training wheels.
C. They are fireproof.
D. They don't require a Macropod license.

26. Receiving a Macropod license is similar to receiving _____________________.

A. an award
B. a speeding ticket
C. a driver's license
D. a new car

27. Why don't the author's parents lend him the Macropod?

A. His parents do lend it to him.
B. His parents need it for work.
C. It is too expensive.
D. Light speed is too fast for a boy his age.

Read the story and then answer the questions that follow.

There are strict procedures for flying the American flag and folding the American flag when it's not being flown. The flag should be flown from sunrise to sunset. There are a few exceptions in which the flag can be flown at night. One is at the Marine Corps Monument in Arlington, Virginia. Until 1968 the United States Flag flew continuously over Mount Suribachi on Iwo Jima, an island off of Japan, where it had been raised by Marines during World War II. It should be raised briskly in the morning, and in the evening it should be lowered in a slow and respectful manner. The flag should be flown every day in good weather, and especially on national holidays.

Flying the flag at half-staff honors the heroic dead; full-staff shows that the nation lives. When flown at half-staff, the flag is raised to the peak for an instant, then lowered to the half-staff position. Before it is lowered for the day, it is raised again to the top. The death of an American president calls for the flag to be flown at half-staff. Another circumstance in which the flag is flown at half-staff is on Memorial Day. On this holiday, the flag is flown at half-staff until noon and at full-staff from noon until sunset.

When folding the American flag, you must first fold the flag in half lengthwise. Repeat this step one more time. The canton, the part with the stars, must be on the outside. Then start at the fly end, opposite the stars, and fold the corner over to the opposite edge. This will form a triangle. Repeat this step until the entire flag forms a neat triangle.

28. What is the second step in folding the American flag?

A. confirming that the canton is on the outside
B. creating a triangle
C. repeat the first step, folding the flag in half lengthwise
D. repeat the first step, creating a triangle
29. When is not a good time to fly the American flag?
   A. on a national holiday
   B. at sunrise
   C. during a snowstorm
   D. a cloudy day

30. What is the canton?
   A. the fly end
   B. the end opposite the stars
   C. the entire flag
   D. the area with the stars

31. Read the following passage and answer the question that follows.

   This past weekend I turned, twisted, jumped, and sped all over the ski slopes. Usually I consider myself lucky to earn C's in school, but on my last report card I received an A in math and a B in science. My parents were so proud of me that they gave me the best gift: a weekend snowboarding trip!

   We left Friday immediately after school, and my best friend Alison came with us. We arrived at the ski lodge and rented our gear that night. The excitement overcame us, and we stayed awake half the night talking about the next day's adventure. Both Alison and I had been snowboarding before, and we knew this was one of the nicest resorts around. We woke up to find six inches of fresh powder on the ground and hurriedly ate our breakfast so we could get onto the slopes. We strapped on our boards and boots, hopped on the lift, and spent the rest of the weekend traveling up and down the mountainside.

   Why do Alison and the author eat their breakfast quickly?
   A. because it is snowing outside
   B. because they stayed up late and want to go back to sleep
   C. because they are excited to get their gear on and go snowboarding
   D. because they are hungry
32. Read the passage and answer the question that follows.

Today I visited a college campus. It was beautiful, but very big. I got lost four times. Luckily, some college students noticed me wandering and offered to give me a guided tour.

The library was my favorite building on campus. I've never seen so many books. I would have liked to have spent more time there, but my tour guides insisted that I see the cafeteria.

The cafeteria looked like a lot of fun. Students were jumping from one table to the next, visiting with all of their friends. The best part was all of the food! You could choose from buffets, salad bars, and there was even a dessert bar.

What is this passage mostly about?

A. libraries and books
B. college students and their love of cafeterias
C. the author's visit to a college campus
D. libraries and cafeterias

33. Read the passage and answer the question that follows.

Today is the most exciting day of my whole life. Not only is it my sixteenth birthday, but I'm going to get my driver's license.

First, my dad is going to fix my favorite breakfast, French toast with strawberries. Then, my mom is going to take me down to the motor vehicle department to take my road test. After I pass my test, I get to drive home!

Later that evening, I'm having a huge party at my house. A birthday tradition in my household is to open your presents at the exact time you are born. For me that is 11:11 p.m. I hope everyone can stay up that late!

Why will the author of this passage open her presents so late?

A. It's a birthday tradition when you turn sixteen.
B. She wants to wait until after the party.
C. Some members of her household will not be able to stay up that late.
D. It's a birthday tradition in her household.

Read the story carefully and answer the questions that follow.

A dam is a barricade built across a stream of water, such as a river, to hold back or control the water flow. The first known dam was built around 4000 BC along the Nile River in Egypt.

Dams are classified by their functions. There are generally three types of dams: storage, diversion, and detention. Storage dams are built to reserve water for later use. For example, a storage dam may be built to store excess water runoff, which can be used in times of drought. A storage dam can provide water to farms in times of drought. A diversion dam is created to provide water pressure. The water pressure moves the water through ditches and canals. This pressure creates a huge amount of energy that is used to generate power. Detention dams are built to reduce the effect of sudden floods. Detention dams must be very strong in order to hold massive amounts of floodwater.

There are over 50,000 dams in the United States. All three types of dams are equally important in
helping to capture water and turn it into a natural resource we can use. Although it is impossible to completely control the forces of nature, dams are able to provide the water control necessary for many communities.

34. Choose which statement is true.

A. Storage dams are built to provide water pressure.
B. There are less than 500 dams in the United States.
C. Dams are classified by the functions they serve.
D. Dams are able to completely control all natural water flows.

35. According to the passage, which type of dam holds floodwater?

A. detention
B. recycling
C. diversion
D. storage

36. Storage dams are built ________________________________.

A. for water skiers
B. to reserve water for later use
C. to reduce the effects of floods
D. to provide water pressure