

前期

英語問題

1 ()に最も適する語句を選べ。

問 1. On a hot day, your dogs can become very (1), so make sure they have plenty of water.

- ① hungry ② dominant ③ thirsty ④ evident

問 2. His breathing was getting worse and he was not expected to (2) the night.

- ① replace ② last ③ pursue ④ scare

問 3. Roy swam (3) me and put a hand on the ledge about a foot away from me to steady himself in the water.

- ① from in ② down on ③ away from ④ up to

問 4. Becoming a donor is a simple process, but many people remain (4).

- ① participate ② sensible ③ accurate ④ reluctant

問 5. (5) you to be able to return to your childhood, what would you like to do first?

- ① For ② Are ③ Were ④ Suppose

問 6. (6) at the beginning of the 20th century, the Library of Congress houses one of the largest and finest collections of books in the world.

- ① Built ② Building ③ Having built ④ To build

問 7. Caesar's death has always had a particularly powerful hold on the imagination. This is (7) Shakespeare wrote *Julius Caesar*.

- ① what ② when ③ because ④ why

問 8. You are (8) likely to gain weight in summer than in winter because you tend to lose your appetite when it is hot.

- ① more ② less ③ as much ④ so far

問 9. This beautiful area is (9) historical sites linked by scenic pathways.

- ① covered of ② impressed with ③ full with ④ full of

問10. Airline (10) will be able to have a shower during a flight on the latest version of the Airbus A 380, which has been unveiled this morning.

- ① passengers ② passers-by ③ messengers ④ guests

問11. There are two cases where you may consider (11) a tooth at home, the first being the removal of a child's primary teeth and the second being teeth in older individuals suffering from severe long-term gum disease.

- ① brushing up ② pulling out ③ taking away ④ breaking out

問12. (12) for mathematical precision been more apparent than in the field of computer technology.

- ① The need has nowhere
② Nowhere has the need
③ No need has anywhere
④ Never has the need anywhere

問13. How much (13) during the past year?

- ① has fuel cost rise ② has fuel cost raised
- ③ have fuel costs risen ④ have fuel costs raised

問14. The avian influenza has occurred in (14) countries.

- ① a growing volume of ② a growing lack of
- ③ a growing group of ④ a growing number of

問15. You may have some objections, but it is wise (15) to take the regulations.

- ① about you ② for you ③ of you ④ on you

問16. A friend of mine was forced to move from the home she (16) for 30 years because her new neighbors refused to turn down their sound system until two or three in the morning.

- ① lived in ② had lived in ③ would have lived ④ have lived

問17. Lie (17) with your arms on the floor above your head. Bend at the hips, bringing your chest and knees towards each other, balancing on your bottom.

- ① against your back ② on your back ③ on your face ④ against your face

問18. (18) with many subjects, this representation in popular culture does not reflect the reality of exposure to outer space.

- ① To being honest ② To be honest ③ As is true ④ As being true

問19. (19) the writer, the new post will help give him the time and support he needs to complete some of these projects.

- ① Due to ② Thanks to ③ As for ④ According to

問20. By 1983, the hill was (20) the Anaconda Mining Company was no longer able to extract minerals in profitable amounts.

- ① as exhausted as ② so exhausted that ③ so active that ④ such a tired place that

問21. The literature on women enslaved around the world has grown rapidly in the last ten years, (21) strong interest in the subject across a range of academic disciplines.

- ① making ② evidencing ③ certifying ④ finding

問22. Malaria is commonly (22) poverty, but is also a cause of poverty and a major hindrance to economic development.

- ① related of ② referenced with ③ assisted with ④ associated with

問23. The brochure describing the camp requested that we (23) promptly at noon.

- ① be at the registration center
- ② are at the registration center
- ③ should get at the registration center
- ④ would be to the registration center

問24. More students are coming to realize that an education at a public university can be (24).

- ① as good, if not better, than an elite private college
- ② as good, if not better, as one at an elite private college
- ③ as good as, if not better than, one at an elite private college
- ④ as good an education as, if not better than one at an elite private college

問25. Standardized tests, some argue, do not indicate a student's academic skill but (25).

- ① rather the ability to memorize and use a set of test-taking tricks
- ② rather their ability to memorize and use a set of test-taking tricks
- ③ instead it tests your ability to memorize and use a set of test-taking tricks
- ④ instead the ability of memorizing and using and asking a set of test-taking tricks

- 2 次の英文はアメリカ元大統領ビル・クリントン氏の紹介文である。26～30の()内の語句を並べ換えて意味の通るようにすると最も適切な語順はどれが選べ。

Bill Clinton is our 42nd President. He was born on August 19, 1946, in Hope, Arkansas, and served as the governor of Arkansas for twelve years before becoming President. His wife, Hillary Rodham Clinton, is the First Lady of the United States. They have a daughter named Chelsea.

The President has always loved to read. In fact, with the help of his grandfather, 26 (1. three years old 2. read 3. he was 4. how to 5. he learned 6. by the time)! When he was in elementary school, he enjoyed reading *Dick and Jane*; later his favorite books included *Black Beauty* and *The Last of the Mohicans*.

When he was in high school in Arkansas, Bill Clinton was chosen to represent his state in a mock government called Boys Nation. He came to Washington, D.C., with other young boys from all across the country. When the group was invited to tour the White House, young Bill was the first in line to shake President John F. Kennedy's hand. 27 It (1. he knew 2. was 3. he wanted 4. that 5. then 6. in public service 7. a career) and that he wanted to eventually run for an office.

For exercise, the President jogs almost every day and plays golf whenever he can. 28 He (1. fitness 2. that 3. is 4. staying healthy 5. knows 6. part of 7. a very important). His favorite color is blue, and his favorite foods are chicken enchiladas, bananas, apples, and vegetable beef soup.

The White House has its own movie theater, and President Clinton and his family love to watch movies. The President's favorite movie is "High Noon." He also loves listening to music and playing his saxophone.

As President, Bill Clinton is working hard to make the United States a better place for all Americans. He wants to provide health care to everyone, to make our streets safe from crime and violence, and to protect our environment. He is working to ensure a brighter future for everyone. 29 You (1. improve 2. help 3. can 4. our country 5. the President).

You can volunteer in your community, help clean up litter, start recycling programs in your home and school, and help others who are less fortunate than you. Most important, you can work hard in school and prepare yourself for a time when your generation will be leading America.

The President's job requires him to travel all over the world. He listens to people and gives speeches. One of his greatest joys is meeting young people. Just as President John F. Kennedy inspired him, 30 President Clinton (1. motivate 2. to become 3. a young person 4. one day 5. President 6. may 7. to strive). Maybe that person will be you!

- 問26. 26 ① 5-4-6-3-2-1 ② 3-1-6-5-4-2 ③ 3-1-4-2-6-5 ④ 5-4-2-6-3-1
- 問27. 27 ① 5-2-7-6-4-1-3 ② 2-5-4-1-3-7-6 ③ 2-7-6-4-1-3-5 ④ 2-6-4-5-1-3-7
- 問28. 28 ① 5-2-1-3-7-6-4 ② 5-2-7-6-1-3-4 ③ 5-1-2-3-7-6-4 ④ 5-4-2-3-7-6-1
- 問29. 29 ① 1-4-5-3-2 ② 3-2-5-1-4 ③ 1-5-4-3-2 ④ 2-5-3-1-4
- 問30. 30 ① 4-6-1-3-7-2-5 ② 6-1-7-3-2-5-4 ③ 6-1-4-7-3-2-5 ④ 6-4-1-3-2-5-7

3 次の(A)～(E)の英文を読み、問に対する答として最も適切なものを選び。

(A)

Beth: This month I'm taking a composition course.

Jack: That sounds difficult.

Beth: It's not difficult, really. Writing is just a more formal way of talking.

Jack: If you can talk, you can write. Is that it?

Beth: That's right. First you take a topic—not too broad, but not too narrow, either.

Jack: I like dogs. I'd like to write about them.

Beth: That's too broad a topic. Can you narrow it down?

Jack: All right. "Dogs make the best pets." How's that?

Beth: That's good.

Jack: What's the next step?

Beth: In the middle of the composition, you develop an exposition, or argument. You list examples to support what you're saying.

Jack: How many examples do you need?

Beth: Three or four should be enough.

Jack: Okay. Dogs are loyal, useful, and fun to play with.

Beth: So far, so good. Then comes your conclusion.

Jack: That's what you want people to remember, right?

Beth: Yes. In this case, you might say, "Dogs are our best friends."

Jack: That sounds good. I'll use it.

問31. What is this conversation about? 31

- ① Dogs make the best pets.
- ② How to write a composition.
- ③ How to find topics of pet animals.
- ④ The difference between talking and writing.

問32. What will Jack most likely do when writing? 32

- ① He'll find as many topics as possible.
- ② He'll make sentences as short as possible.
- ③ He'll find a wide variety of good examples.
- ④ He'll make the topic as specific as possible.

(B)

Lucy's Gift Shop sells to tourists vacationing at Lake Rainbow. Lucy put together souvenir packages that consisted of a key chain, a pack of playing cards, and a book of photos of the area. She ordered 500 of each item. Each key chain cost \$1.25, each pack of cards cost \$0.75, and each photo book cost \$2.50. Lucy decided on a 70 percent markup on the souvenir packages to make a good profit. She multiplied her cost of the items by 0.7. That came to \$3.15. She then added that to the cost of the package. This meant that she would charge \$7.65 for each package.

By the end of July, Lucy had sold 235 souvenir packages. This meant she had sales of \$1,797.75. She would have to sell another 60 packages before she would make back what she paid for the items. August was Lucy's busiest month. Luckily, all the packages were sold. Lucy subtracted the cost of the items from the total sales and figured she would make a good profit for the souvenir packages.

問33. What was the total cost for all the items of souvenir packages?

33

- ① \$7.65 ② \$1,797.75 ③ \$2,250 ④ \$3,825

問34. What was the profit Lucy made from the total sales?

34

- ① \$3.15 ② \$1,575 ③ \$2,256.75 ④ \$2,027.25

{C}

Jane: I've decided to join the school golf team.

Greg: Golf team? I didn't even know we had a golf team.

Jane: We sure do. In fact, our university is one of the best in the state.

Greg: So why would you want to join the golf team?

Jane: I love golf. It's really a lot of fun, and most importantly, it's really competitive. I love that feeling of competing with someone, or even competing with myself. Anyhow, I played it all the time in high school, but I never thought I'd have a chance to play it in university. But I tried out anyway, and I did really well.

Greg: Is the golf team a big commitment?

Jane: Not too bad. We go out to play at least three mornings a week, and every afternoon we meet behind the gym to practice our driving and putting.

Greg: Does the school have its own golf course?

Jane: No, but that's one of the best parts of the golf team — we get to play on the best courses all over the area for free. Some of them are really expensive, too.

Greg: That is a good deal, I guess — if you like golf.

Jane: You don't?

Greg: I like to exercise, but I prefer team sports and sports that are more athletic. Golf is like a nice walk, and I really like being outdoors, but I don't consider it a real sport.

Jane: You should give it a try. You might be surprised.

問35. Why does Jane love golf?

35

- ① Because it is a competitive sport.
② Because she played it in high school.
③ Because it is a nice walk in the open air.
④ Because she can play on the best courses for nothing.

問36. Which exercise would Greg most likely enjoy?

36

- ① Golf. ② Basketball. ③ Mountain Climbing. ④ Cross-country running.

(D)

It has long been recognized that those people with a family history of alcoholism are at much higher risk of becoming alcoholics themselves. And it's also known that this isn't just sociological, because it happens even when the children don't grow up in the same home with the alcoholic. Researchers in the United States have located a specific hormone in the brain, beta-endorphin, that can indicate a tendency to suffer from the disease. Beta-endorphin is a hormone that produces an extremely strong feeling of happiness and excitement and acts like morphine. The body produces this hormone to help control pain during childbirth and other physical trauma. The hormone also contributes to the feeling of well being that accompanies drunkenness. It's now known that in people with a family history of alcoholism, the response to the beta-endorphin is greater and more prolonged than in those people who aren't apt to abuse alcohol. This hormone reaction is what causes a potential alcoholic to have a strong desire for alcohol.

Researchers also learned that the manner in which the person responds to the hormone can be inherited. Of course, not everybody in the family of an alcoholic will abuse alcohol. This is because the reaction to the hormone does not affect everybody who is genetically related to the alcoholic. It's believed that with the new knowledge, doctors will soon be able to test a family and determine who is likely to abuse alcohol and who is not. However, researchers are quick to point out that people who are prone to alcoholism many times do not succumb to the disease simply because they choose not to drink and never get to the point that the inherited trait affects them.

問37. Which is true of alcoholism, according to the passage? 37

- ① Alcoholism is not a disease.
- ② Alcoholism seems to run in families.
- ③ Alcoholism is the result of a lack of self-control.
- ④ Alcoholism is believed to have no chemical basis.

問38. Which would NOT be true of beta-endorphin, according to the passage? 38

- ① Only some people have the hormone in their bodies.
- ② It naturally causes a reaction when the body encounters severe pain.
- ③ It contributes to the feeling one has when one drinks alcohol.
- ④ Some people react differently to alcohol because of the way beta-endorphin is released in their bodies.

問39. What is the difference between a person with alcoholic tendencies and a person without them, according to the passage? 39

- ① Not everybody with alcoholic tendencies will become alcoholic.
- ② A person without alcoholic tendencies gets drunk more easily.
- ③ An alcoholic responds more strongly to the release of beta-endorphin.
- ④ A person with alcoholic tendencies is more likely to give in to severe pain.

(E)

It was once believed that being overweight was healthy, but nowadays few people subscribe to this viewpoint. While many people are fighting the battle to reduce weight, studies are being conducted concerning the appetite and how it is controlled by both emotional and biochemical factors. Some of the conclusions of these studies may give insights into how to deal with weight problems. For example, when several hundred people were asked about their eating habits in times of stress, 44 percent said they reacted to stressful situations by eating. Further investigations with both humans and animals indicated that it is not food which relieves tension but rather the act of chewing.

A test in which subjects were blindfolded showed that obese people have a keener sense of taste and have a strong desire for more flavorful food than non-obese people. When deprived of the variety and intensity of tastes, obese people are not satisfied and consequently eat more to fulfill this need. Blood samples taken from people after they were shown a picture of food revealed that overweight people reacted with an increase in blood insulin, a chemical associated with appetite. This did not happen to average-weight people.

In another experiment, results showed that certain people have a specific, biologically induced hunger for carbohydrates. Eating carbohydrates raises the level of serotonin, a chemical in the body that helps carry messages from the brain and is believed to make one feel happy. Enough serotonin produces a sense of satisfaction, and hunger for carbohydrates subsides. Exercise has been recommended as an important part of a weight-loss program. However, it has been found that mild exercise, such as using the stairs instead of the elevator, is better in the long run than taking on a strenuous program, such as jogging, which many people find difficult to continue over long periods of time and which also increases appetite.

問40. Which is true of the passage?

40

- ① Weight watchers should avoid eating spicy foods.
- ② Thin people don't eat when they are under stress.
- ③ Serotonin tells the brain when a person feels hungry.
- ④ A variety of foods and strong flavors satisfy overweight people.

問41. Which is true of insulin, according to the passage?

41

- ① Insulin can be used to lessen the appetite.
- ② Insulin causes a chemical reaction when food is seen.
- ③ Insulin levels don't change in average-weight people who see food.
- ④ Insulin increases in the brain when people eat large amounts of food.

問42. Which one of the following exercises might be the best for an overweight person to take daily?

42

- ① A long swim.
- ② An evening walk.
- ③ A strenuous bicycle ride.
- ④ A long-distance running.

4 次の〔A〕～〔D〕の文の内容として適切でないものを一つ選べ。

〔A〕

The gateway to Australia, Sydney is renowned as a dynamic and cosmopolitan city, combining excellent business and education facilities with great leisure. Famous for its World Heritage-listed Sydney Opera House, Sydney is one of the world's favorite cities, and has been voted "world's best city" by readers of US travel magazines *Travel & Leisure* and *Conde Nast Traveler*. Sydney is also ranked first in the Asia Pacific for quality of life by the *IMD World Competitiveness Yearbook 2007*. Australia's oldest and largest city is set on one of the world's most stunning harbors, fringed by easy-to-reach, sandy beaches. Sydney Harbor separates the city into north and south, with harborside villages, beachside suburbs and inner city areas full of life and their own distinctive character. The city has a sunny, moderate climate which contributes to Sydneysiders' relaxed lifestyle and love of the great outdoors. There are five major national parks around Sydney with 8,000 square kilometers of open space. This multicultural city's restaurant and cafe scene is enhanced by outstanding local fresh produce and world-class wines. Sydney has dynamic arts and cultural scenes. It is home to some of Australia's leading arts organizations such as Opera Australia, Sydney Symphony, Sydney Dance Company and Sydney Theatre Company, and has produced many talented writers, film directors and performers. Employment prospects are plentiful, and education is world-class and healthcare readily available. Sydney offers a secure environment for families, with excellent facilities, transport and telecommunications.

問43. 43

- ① Sydney is well-known for its World Heritage-listed Opera House and one of the most loved and best cities in the world.
- ② Sydney is ranked as one of the cities to provide the highest quality of life in the world by the *IMD World Competitiveness Yearbook 2007*.
- ③ Sydney is the oldest and largest city in Australia, which has one of the world's most wonderful harbors and sandy beaches for you to reach easily.
- ④ Sydney is separated into north and south by Sydney Harbor and has harborside villages, beachside suburbs and inner city areas.

問44. 44

- ① The climate of Sydney is sunny and moderate, so people in Sydney enjoy their relaxed lifestyle and love the great outdoors.
- ② Sydney has five major national parks which are located around it and have 8,000 square kilometers of open space.
- ③ In Sydney, there are multicultural restaurants and cafes where you can see world-class wines, dynamic arts and cultural scenes.
- ④ Sydney has produced many talented writers, film directors and performers because it is home to some Australian leading arts organizations.

〔B〕

I remember when people were ill years ago they would stay in bed and the doctor would come to the home, and treat them. Now we have to drag ourselves out of bed, feeling sick and sitting in an office waiting room. In this room we have many other sick people spreading germs, and for what? The master plan is alive and well. Why should a doctor treat you in your own home when he or she can blatantly send you into a room full of many germs to keep you sick for a long time with a bunch of new illnesses you don't have?

Now we have many types of the flu. We have the swine flu, the Asian flu, the bird flu, and the dog flu. Well, just remember the motives for money. The flu is a flu. If doctors place many labels on the same flu, they can make more money for their own benefit. Remember, this is how the headache started. It is all a headache but they started to

label the same thing with many names to treat more people. We are tricked into thinking the way they want us to think. A fracture, for instance, is treated by placing a cast on the injury until the bone is fixed. Now we have many different kinds of fractures but the treatment is the same. I think I have the Razzamatazz flu. I feel like having the regular flu. Only I feel like dancing to old jazz records too.

Always trust these simple rules, and you will save yourself a lot of money. When it is a cold or flu, stay in bed and drink plenty of juice and tea. When it is a headache, take aspirin and rest a while but don't call the doctor in the morning. Lack of things your body is used to is usually the cause. If you usually drink caffeine, and it is stopped a day or two, that will surely cause a headache. Sugar is another cause. Your body is just craving the things it is used to.

問45. 45

- ① In the past a doctor would come and see us at home when you were sick and treat you.
- ② Now we have to go to hospital and sit in a hospital waiting room, even if we feel sick.
- ③ The hospital waiting room has many germs that sick people spread in order for us to live well.
- ④ A doctor should treat you in your own home because the hospital waiting room is full of germs to keep you sick.

問46. 46

- ① There are many types of the flu because doctors put many labels on the same flu to make more money for their own benefit.
- ② There are many different kinds of headaches with many names for doctors to treat.
- ③ You don't have to spend a lot of money to treat your cold or flu, but stay in bed and drink a lot of juice and tea.
- ④ If you stop taking caffeine which you usually drink, you will cause a headache, because your body needs the things it is used to.

(C)

Languages, colors, cultures and also the way one behaves may differ from one nation to another. Yet, each and every one of us living on the surface of this planet has several things in common. One of these similarities is that we all have a way of regarding our own self. It is believed that a large amount of individuals feel very good about themselves. Nevertheless, from time to time even the best of us get a dose of negative emotions. Very heartbreaking stories about self-dislike were told by many depressed teenagers and older people. What are the causes of this kind of low self-esteem and how can one person get solutions to overcome them?

Self-esteem is defined as confidence in your own merit as an individual. Such concepts as self-esteem and self-image have been regarded by some social psychologists as useful, while others have regarded them as unnecessary. There is a considerable amount of research on such topics but it would be very difficult to find the exact definition because volumes have been written about self-esteem. Definitions given in self-esteem literature run a yard long. But after cutting through all the scientific words, the question of self-esteem really centers down to something quite simple: How does a person feel about him or herself? If the person feels good about him or herself, he or she has a high self-esteem. If he or she feels bad about him or herself, he or she has a low self-esteem. Since low self-esteem is a worse problem than the higher one, let's examine it to find some solution by investigating a number of low self-esteem causes and personal cases.

問47. 47

- ① Each nation may have its own languages, colors, culture and the way one behaves but has several common things.
- ② Many people are believed to feel very good about themselves, but they sometimes have some negative emotions.
- ③ Many depressed young or old people told very heartbreaking stories about hating themselves.
- ④ The causes of self-hatred or low self-esteem are not clear and no one can get solutions to overcome them.

問48. 48

- ① The definition of self-esteem is that you are confident that you can do anything you want to do.
- ② Some social psychologists think that self-esteem is useful but others don't think so.
- ③ It would be difficult to locate the exact definition but the question of self-esteem comes down to something simple.
- ④ High-esteem and low-esteem are both related to a person's feeling about him or herself, but low-esteem is worth investigating.

(D)

This is a very amusing and true ice skating story. First of all, figure skaters need to do the following if they fall while performing how to fall gracefully during figure skating competitions:

- Get up quickly.
- Don't show emotion.
- Continue skating and focus on whatever else is planned in the skating program.
- Act like the fall did not happen.

This story is an example of how a fall was handled at an ice skating event. It is a funny story that is "a classic" in the figure skating world. It is not the story of a typical fall. I am Alice. My ice skating partner and I were preparing to compete in an ice dancing event. My ice dance partner was a very handsome twenty-year-old with long, brown hair. Even though this was a time when long hair was "in" for most young people, the style was not seen as appropriate for competitive skaters. As the competition approached, everyone involved with my partner's skating bothered him to get his hair cut. He assured everyone that he would get it done. The day of the competition came, and sure enough my ice dance partner showed up at the ice rink with the perfect haircut ... or so everyone thought. My partner, newly groomed, and I skated to a second place in the initial round of the competition. Entering the final round, the competition was close. If we skated well, we could pull up to first place. Little did we know what waited in store for us during the warm-up for the final round! At the end of the warm-up, the announcer made the call to clear the ice. We were the only skaters remaining on the ice. My partner insisted that we take one more difficult step. It was an ill-fated move. Upon falling during the maneuver, I turned to my partner and said, "I told you we shouldn't have performed the step!" In shock, I noticed that my skating partner's new "hairdo," which was actually a man's wig, had fallen off his head! He was wearing a beanie (small skullcap) over his hair and looked sillier than you could imagine. I grabbed the wig and placed it back on his head. The judges, officials, audience, and our coach were laughing so hard! The laughing went on for a good five to ten minutes. We didn't pull up—we dropped to fourth. We did not skate our best, but we sure have a good story and memory about that competition!

問49. 49

- ① If figure skaters fall during the competitions, they need to get up quickly, to show emotion, to continue skating, and act like nothing happened.
- ② Even if figure skaters fall during the competitions, they need to show their best performance during the competitions.
- ③ The story is Alice's real experience of how her ice skating partner fell in an ice dancing event.
- ④ Alice's ice skating partner was a very handsome twenty-year-old boy but his long brown hair was not appropriate at that time.

問50. 50

- ① Alice's partner pretended to get his hair cut but everyone thought he showed up at the ice rink on the day of the competition with the appropriate haircut.
- ② Alice and her partner skated well in the initial round of the competition, so they were in second place.
- ③ In the final round, Alice's partner skated very well but everyone laughed at him because he was wearing a wig.
- ④ Alice and her partner couldn't recover from their failure, so they couldn't win the championship.

5 次の英文の()に入る最も適する文を下の選択肢から選べ。

At about the same time that Darwin was writing *The Origin of Species*, an Austrian monk, Gregor Mendel, was beginning a series of experiments that would lead to a new understanding of the mechanism of inheritance. For his experiments in heredity, Mendel chose the common garden pea. It was a fitting choice. The plants were commercially available, easy to cultivate, and grew rapidly. (51) However, he was successful in formulating the fundamental principles of heredity — where others had failed — because of his approach to the problem. First, he tested a very specific hypothesis in a series of logical experiments. (52) Third and most importantly, he counted the offspring and then analyzed the results mathematically. Even though his math was simple, the idea that a biological problem could be studied quantitatively was startlingly new. Finally, he organized his data in such a way that his results could be evaluated simply and objectively.

Mendel began with 32 different types of pea plants, which he studied for several years before he began his quantitative experiments. As a result of his preliminary observations, Mendel selected for detailed study seven traits that appeared in two conspicuously different forms in different varieties of plants. (53) Mendel conducted experimental crosses and found that in every case in the first generation, or F₁, all of the offspring showed only one of the two alternative characteristics; the other disappeared completely. (54)

In contrast to the dominant characteristics, Mendel labeled as recessive those that had disappeared in the first generation but reappeared in the second generation. They must have been present in the first generation, even though they did not appear externally. (55) The hypothesis that every individual carries pairs of factors for each trait and that the members of the pair separate during the process of reproduction has come to be known as Mendel's first law, or the principle of segregation.

- ① Mendel called the characteristics that appeared in the F₁ generation dominant.
- ② Mendel's choice of the pea plant for his experiments, though appropriate, was not original.
- ③ For example, one variety of plant always produced yellow peas, while another always produced green ones.
- ④ After Mendel completed his work with peas, he turned to experimenting with honeybees, in order to extend his work to animals.
- ⑤ Then, he studied the offspring of not only the first generation but also the second and subsequent generations.
- ⑥ Mendel's greatest contribution lies in his explanation of how the recessive genes that disappeared so completely reappeared again and always in such a constant proportion.