

EXPLORE[®]

ABBREVIATED TEST BOOKLET

Contents

This booklet provides sample test questions from each of the four content areas measured by the EXPLORE Test:

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TEST 1: ENGLISH TEST

DIRECTIONS: In the passage that follows in this abbreviated version of the test, certain words and phrases are underlined and numbered. In the right-hand column, you will find alternatives for the underlined part. You are to choose the one that best expresses the idea, makes the statement appropriate for standard written English, or is worded most consistently with the style and tone of the passage as a whole. If you think the original version is best, choose “NO CHANGE.”

You will also find questions about a section of the passage, or about the passage as a whole. These questions do not refer to an underlined portion of

the passage, but rather are identified by a number or numbers in a box. Sometimes the paragraphs or the sentences of a paragraph will be numbered and referred to in these questions.

For each question, choose the alternative you consider best and then circle that answer in the test booklet. Read the passage through once before you begin to answer the questions that accompany it. For many of the questions, you must read several sentences beyond the question to determine the answer. Be sure that you have read far enough ahead each time you choose an alternative.

PASSAGE I

The Boise Nature Center

[1] In Boise, Idaho, a waterfall spills into a rocky pool, then forms a clear mountain stream. [2] The stream becomes a river and twisted across a semi-arid plateau.

[3] From there the river wanders through farmland and then vanishes underground. [4] Amazingly, all of this river’s activity takes place within the shadow of tall office buildings a few feet from a city park. [5] The river, you see, is the centerpiece of Boise’s Nature Center. [6] When at last it surfaces, it falls from a rock cliff into wetlands. 2

The Center reproduces four environmental systems found in Idaho; the heart of each is the river. Although it travels only 550 feet, ducks, geese, mink, squirrels, and quail call home. Keeping them company are fish:

salmon, sturgeon, bass, and trout. And the fish, more than anything else, draw visitors to the Center.

1. A. NO CHANGE
B. has twisted
C. twists
D. twisting

2. For the sake of unity and coherence, Sentence 6 should be placed:
F. where it is now.
G. before Sentence 2.
H. before Sentence 3.
J. before Sentence 4.

3. A. NO CHANGE
B. are
C. call it
D. call for

4. F. NO CHANGE
G. like everything else,
H. similar to everything,
J. like anything,

For a fish-eye view of the world, peer through an underwater window. Fat rainbow trout patrol between⁵ territory, chasing smaller fish from prime feeding areas. In the tangles of a sunken log, a three-foot-long sturgeon floats, motionless. At the bottom, naturally vacuuming⁶ cleaner—the sucker—feeds on algae and waste.

Step to another window and suddenly you're alongside the spawning grounds. Safe within "redds" (shallow gravel nests), tiny eggs bob in the current.

Look more closer⁷ for a dark dot in the orange egg. If you come back in two weeks, the dot will be an eye,

the egg will have a tail, and a witness⁸ for the first

stages of a trout's⁹ life.

Built entirely with volunteer labor and paid for by donations, the Boise Nature Center is unique. Plenty of cities have aquariums. Others have zoos. Still others have wildlife refuges. Only Boise has blended them all together in a fascinating and educational mix.

- 5. A. NO CHANGE
B. their
C. his
D. in
- 6. F. NO CHANGE
G. nature vacuum
H. natures' vacuum
J. nature's vacuum
- 7. A. NO CHANGE
B. closely
C. most closer
D. in closing
- 8. F. NO CHANGE
G. then witness
H. you'll have witnessed
J. witness
- 9. A. NO CHANGE
B. stage's of a trout's
C. stage's of a trout
D. stages for a trouts

Question 10 asks about the preceding passage as a whole.

- 10. The writer has been asked to write an essay that would be part of a brochure on enjoyable things to do and see in Boise, Idaho. Would this essay successfully fulfill that assignment?
 - F. Yes; the essay focuses on mammals, which are apparently of the greatest interest for visitors at the Boise Nature Center.
 - G. Yes; the essay employs a lot of vivid descriptions of animals and fish that visitors to Idaho can see in zoos in cities across the U.S.
 - H. Yes; the essay provides a concise and informative description of one of Boise's attractive facilities.
 - J. No; the essay does not tell readers how much it costs to go to the Center or how crowded the Center typically is.

END OF TEST 1

TEST 2: MATHEMATICS TEST

DIRECTIONS: Solve each problem in this abbreviated version of the test, choose the correct answer, and then circle that answer in the test booklet.

Do not use too much time on any one problem. Solve the ones you can do quickly; then return to the others in the time you have left.

You should have a calculator to use for this test. You may use your calculator for any problems you choose, but some of the problems may best be done without using a calculator.

Note: Unless the problem states otherwise, you should assume all of the following.

1. Diagrams are NOT necessarily drawn to scale.
2. Geometric figures lie in a plane.
3. The word *line* indicates a straight line.
4. The word *average* indicates arithmetic mean. For example, the average of 2, 6, and 7 is $\left(\frac{2 + 6 + 7}{3}\right)$.

[The space for figuring is for your convenience only. Such space is not provided in an actual EXPLORE test booklet.]

1. What is the remainder when 189,540 is divided by 27 ?

- A. 0
- B. 7
- C. 13
- D. 250
- E. 7,020

DO YOUR FIGURING HERE.

2. What is the least expensive shower head on the chart below that will NOT deliver more than 3 gallons of water per minute (gpm)?

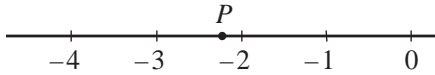
Information from *Consumer Reports*, "How to Save Water."
©1990 by Consumers Union of U.S., Inc.

<u>Brand and Model</u>	<u>Price</u>	<u>Maximum gpm</u>
F. Sears 20173	\$23	3.4
G. Teledyne 5 SM-3U	\$43	2.6
H. Alsons 462PB	\$11	2.6
J. Alsons 45C	\$58	2.7
K. Moen 3981	\$95	2.4

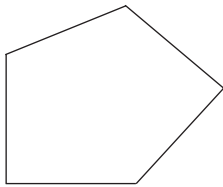
3. If $x = 23$, then $[4 \times (69 \div x)] + 2x = ?$

- A. 49
- B. 58
- C. 226
- D. 230
- E. 235

4. What is the coordinate of point P shown on the real number line below?



- F. $-3\frac{3}{4}$
 G. $-3\frac{1}{4}$
 H. $-2\frac{3}{4}$
 J. $-2\frac{1}{4}$
 K. -2
5. The length of each side of the pentagon shown below is 17 millimeters. What is the perimeter of the pentagon in millimeters?



- A. 22
 B. 44
 C. 68
 D. 85
 E. 102
6. Carmen was excited about the possibility of earning the “Mayfield Math Award.” In order to do this she must have an average score of at least 92 on her first 5 tests. If her first 4 scores were 96, 90, 89, and 97, what is the lowest possible score Carmen could have on the 5th test and still earn the award?
- F. 88
 G. 89
 H. 90
 J. 91
 K. 92
7. Kane bought a bag of taffy at the candy store. He got 10 vanilla for his mom, 15 chocolate for his dad, 6 licorice for his sister, and 22 peppermint for himself. On the way home, Kane’s sister grabbed a piece out of the sack without looking. What are the chances that she pulled out a licorice piece?
- A. $\frac{1}{6}$
 B. $\frac{6}{6}$
 C. $\frac{6}{47}$
 D. $\frac{6}{53}$
 E. $\frac{47}{53}$

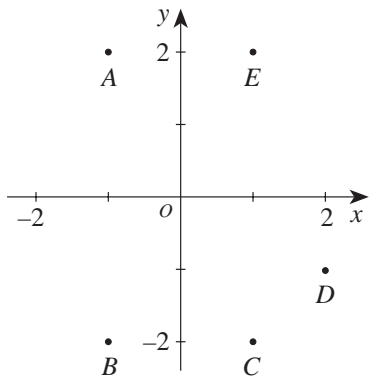
DO YOUR FIGURING HERE.

8. A prime number is a whole number greater than 1 that has only 1 and itself as factors. All other whole numbers greater than 1 are considered composite. Which of the following is true of the number 51 ?
- F. 51 is prime because it has no factors other than 1 and 51.
 - G. 51 is prime because it is an odd number.
 - H. 51 is composite because it has 3 as a factor.
 - J. 51 is composite because it has 13 as a factor.
 - K. It is not possible to tell whether 51 is prime or composite.

9. Which of the following numbers is the greatest?

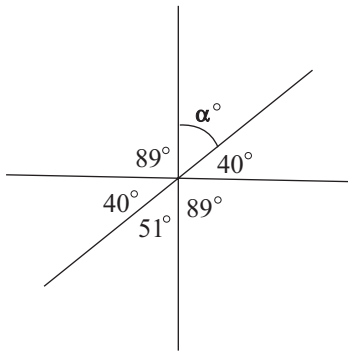
- A. $0.\overline{2324}$
- B. $0.\overline{23}2\overline{4}$
- C. $0.23\overline{24}$
- D. $0.232\overline{4}$
- E. 0.2324

10. One of the points, labeled *A* through *E*, shown in the standard (x,y) coordinate plane below has coordinates $(-1,2)$. Which point is it?



- F. *A*
- G. *B*
- H. *C*
- J. *D*
- K. *E*

11. What is α° in the figure below?



- A. 40°
- B. 50°
- C. 51°
- D. 60°
- E. 140°

12. At the movie theater, popcorn costs \$1.75 per bucket, soft drinks cost \$1.50 each, and the price of admission is \$3.75 for all ages. If x is the number of people who buy 1 ticket, 1 bucket of popcorn, and 1 soft drink, which of the following is an expression for the total number of dollars spent at the movie theater by the x people?

- F. $3.25x$
- G. $3.75x$
- H. $3.25 + 3.75x$
- J. $3.25x + 3.75$
- K. $7x$

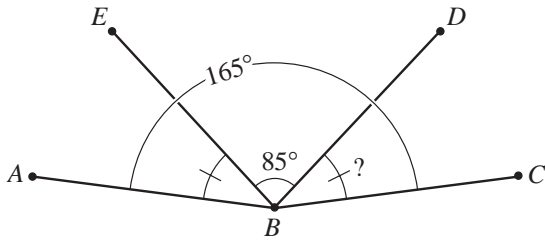
13. If $x = 0.7$, which of the following values of y makes the equation below true?

$$5x + y^2 = 9.75$$

- A. 2.5
- B. 3.125
- C. 3.14
- D. 4.05
- E. 6.25

DO YOUR FIGURING HERE.

14. In the figure below, the measure of $\angle ABD$ is equal to the measure of $\angle EBC$. Also, the measure of $\angle ABC$ is 165° and the measure of $\angle DBE$ is 85° . What is the measure of $\angle DBC$?



- F. 40°
G. $42\frac{1}{2}^\circ$
H. 45°
J. 50°
K. 55°
15. Paco wants to redecorate his room. On one wall he wants to put up new wallpaper. The wall is a 13-by-11-foot rectangle and has a door which takes up a 7-by-3-foot rectangular area. After the area of the door is subtracted, how many square feet of wall remain to be covered?
- A. 28
B. 48
C. 122
D. 143
E. 288

DO YOUR FIGURING HERE.

END OF TEST 2

TEST 3: READING TEST

DIRECTIONS: There is one passage in this abbreviated version of the test. The passage is followed by several questions. After reading the passage, choose the best answer to each question and circle the answer in the test booklet. You may refer to the passage as often as necessary.

Passage I

SOCIAL SCIENCE: This passage is adapted from the article “Land of the Candy Bar” by Ray Broekel (©1986 by Forbes Inc.).

The candy bar as we know it was born in America. So too, many centuries earlier, was chocolate itself. Mexican natives cultivated the cocoa bean for more than twenty-five hundred years before Hernán Cortés took it to Spain with him in 1528. Spanish royalty drank a cold, sweetened beverage made from the beans, but they liked it so much they kept it a secret from the rest of Europe for the remainder of the century. Not until the 1840s did a British firm make the first chocolate bar. The *candy* bar, agglomerating a variety of flavors and textures—almost always including chocolate—in one piece, was a purely American invention, and (as of this writing) it’s still not one hundred years old.

Milton Snavely Hershey, the father of the modern candy bar, had already built a successful business in caramels when he first saw German chocolate-making machines at the 1893 Chicago world’s fair. He ordered some for his factory in Lancaster, Pennsylvania, and began turning out chocolate bars the next year. By the turn of the century he was through with caramels. He made not just plain chocolate and milk-chocolate bars but also innovative items like almond bars, kisses, and chocolate cigars. By 1911 his company had sales of five million dollars a year; by 1921 it was making four times that.

Such dazzling success begat swift competition, and soon a multitude of companies was making bars of chocolate combined with caramel, marshmallow, peanuts, crisped rice, and anything else that might sell.

30 Throughout the first two decades of the century, a bewildering variety of candy bars appeared on shelves across the country, most of them fleetingly. There have probably been more than one hundred thousand different candy bars sold in the United States, including some 35 thirty thousand that existed only in the years just after World War I. Nearly every confectioner in the land turned out a candy bar, choosing a name that might reflect a news or sports event, a popular hero, a food, a place, or even a popular saying of the age.

40 The industry began on the East Coast but quickly fanned out across the country. Since the basic ingredients were dairy products, Chicago became the natural hub for candy bars, and Milwaukee and Minneapolis were major producers.

45 The Depression brought lean times to the candy-bar business, and not until the late 1930s did the industry begin to recover. When war struck again, the makers of candy bars once more were pressed into service supplying the troops. Hershey made “field ration D,” a 50 refined chocolate that didn’t melt at high temperatures, and it was packed in kits for soldiers, sailors, and Marines. On the home front, as the supply of chocolate dwindled, manufacturers struggled to concoct new bars from ingredients such as peanuts and marshmallows and 55 gave them patriotic names like Torpedo.

If World War I made candy bars a major industry, World War II made them a worldwide symbol of America. The GI handing out candy bars to children came to stand for liberation everywhere. Hershey bars 60 became an international wartime currency.

1. The passage mentions all of the following as candy-bar ingredients EXCEPT:
 - A. crisped rice.
 - B. caramel.
 - C. raisins.
 - D. almonds.
2. What, according to the passage, did Hernán Cortés contribute to the development of the candy bar?
 - F. He introduced the cocoa bean to Spain.
 - G. He protected the secret of cocoa from the abuses of Europe.
 - H. He discovered the cocoa bean growing wild in Mexico.
 - J. He utilized chocolate as an international currency.
3. Why, according to the passage, did Chicago become the hub for candy-bar production?
 - A. It was located at the midpoint between Minneapolis and Lancaster, Pennsylvania.
 - B. It was the transportation center of the U.S.
 - C. The majority of the population was found in this part of the country.
 - D. Many dairy products came from the region around Chicago.
4. As it is used in line 32, the word *fleetingly* means:
 - F. of poor quality.
 - G. lasting only a brief time.
 - H. similar in taste.
 - J. becoming permanent.
5. The main idea of the passage is that:
 - A. chocolate has been in use since the sixteenth century.
 - B. chocolate, a symbol of royalty, was kept a secret for a long time.
 - C. the candy bar has come to occupy an important place in American life.
 - D. the candy bar played a part in the outcomes of the two world wars.
6. According to the passage, which of the following historical events helped to stimulate demand for the chocolate- and candy-bar industry?
 - I. World War I
 - II. World War II
 - III. The Depression
 - F. I only
 - G. I and II only
 - H. I and III only
 - J. II and III only
7. It can most reasonably be inferred from the passage that by the turn of the century Hershey was “through with caramels” (line 20) because:
 - A. he saw a larger market for chocolate bars.
 - B. they didn’t work in his new chocolate-making machines.
 - C. too many other companies were competing for their sales.
 - D. their taste clashed with the chocolate he had begun to use.
8. The passage indicates that the first chocolate bar was made by the:
 - F. Mexicans.
 - G. Spanish.
 - H. British.
 - J. Americans.
9. According to the passage, where did Milton Snavely Hershey learn about chocolate making?
 - A. At a German chocolate-making factory
 - B. At his own plant in Lancaster, Pennsylvania
 - C. At a British chocolate-bar factory
 - D. At the 1893 Chicago World’s Fair
10. The passage indicates that candy bars have been named after all of the following EXCEPT:
 - F. patriotic things.
 - G. wartime currency.
 - H. popular sayings.
 - J. sporting events.

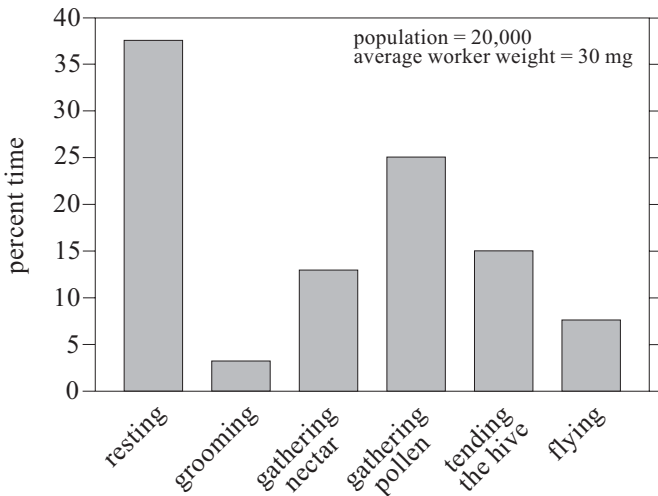
END OF TEST 3

TEST 4: SCIENCE TEST

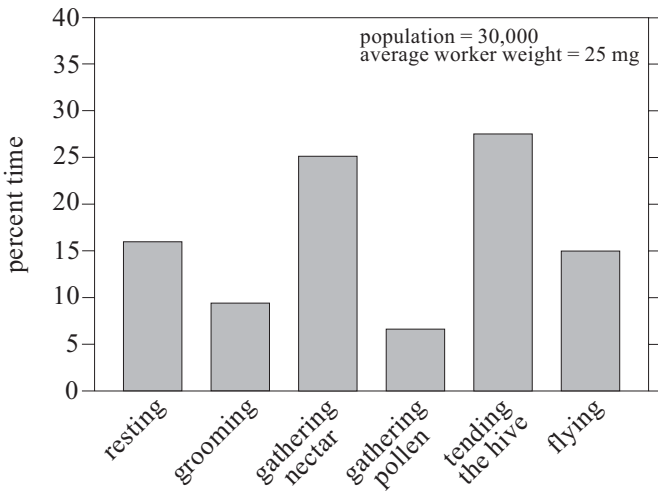
DIRECTIONS: There are two passages in this abbreviated version of the test. Each passage is followed by several questions. After reading a passage, choose the best answer to each question and circle the answer in the test booklet. You may refer to the passages as often as necessary.

Passage I

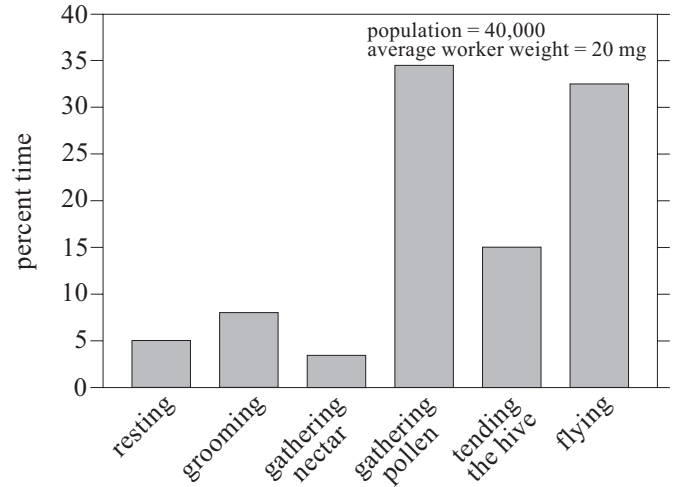
Observations of three different beehives were made over a two-week period in the spring. The hives were located in different areas containing blooming flowers. The activities of the worker bees were observed for each hive at the same time of day for each day during the study period. The population and average weight of the worker bees in each hive were also determined. The data obtained from this study are displayed in the following figures, identified as Hive 1, Hive 2, and Hive 3.



Hive 1



Hive 2



Hive 3

- According to the data for Hive 1, one can conclude that the bees spend more time flying than:
 - resting.
 - grooming.
 - gathering pollen.
 - tending the hive.
- According to the data presented for Hive 3, the percentage of time spent by the worker bees tending the hive was approximately:
 - 10%.
 - 15%.
 - 20%.
 - 35%.
- According to the figures, the greatest percentage of time spent by worker bees in gathering nectar is approximately:
 - 10%.
 - 15%.
 - 25%.
 - 35%.

4. According to the figures, what is the relationship between the weight of the individual worker bees and the amount of time spent flying?

- F. The lighter the bee, the more time spent flying.
- G. The heavier the bee, the more time spent flying.
- H. Lighter bees are faster, so less time is spent flying.
- J. Heavier bees are faster, so less time is spent flying.

Passage II

Several factors affect the *rate* (how fast the chemicals react) at which a chemical reaction proceeds. Reaction rate is affected by the *concentrations* (relative amounts per unit volume) of the chemicals being reacted and the temperature at which the reaction takes place. The addition of a *catalyst* (substance that affects the rate of a reaction without itself being used up) can also increase the reaction rate.

When Solutions A and B (two colorless liquids) are mixed, a reaction takes place. When the reaction is completed, the mixture turns dark blue.

Experiment 1

Students mixed 20 mL each of Solutions A and B at 22.2°C, and stirred the mixture as the reaction proceeded. The students recorded the time that it took for the mixture to turn dark blue. This was repeated 4 more times. The average time for the 5 trials was 29 seconds (sec).

The students then mixed 20 mL of Solution A, 10 mL of Solution B, and 10 mL of distilled water, all at 22.2°C. The average reaction time for 5 trials was 71 sec.

The students then mixed 10 mL of Solution A, 10 mL of distilled water, and 20 mL of Solution B, all at 22.2°C. The average reaction time for 5 trials was 72 sec.

Experiment 2

The students mixed 20 mL each of Solutions A and B at 3 different temperatures. Each time, they stirred until the reaction was complete. The average reaction times for 5 trials are shown in the table.

Temperature (°C)	Time until reaction was completed (sec)
12.2	58
22.2	29
32.2	15

Experiment 3

The students added 5 drops of copper sulfate, a catalyst, to 20 mL of Solution A. When this was mixed at 22.2°C with 20 mL of Solution B, the average reaction time for 5 trials was 19 sec.

5. How is the experimental design of Experiment 1 different from that of Experiment 2 ?

- A. Experiment 1 varies the concentration of the solutions and Experiment 2 varies the temperature of the mixture.
- B. Experiment 1 varies the temperature of the mixture and Experiment 2 varies the concentration of the solutions.
- C. Experiment 1 varies the concentration of the solutions and Experiment 2 adds a catalyst.
- D. Experiment 1 adds a catalyst and Experiment 2 varies the temperature of the mixture.

6. Based on the results of Experiment 2, what is the relationship, if any, between the temperature of the mixture and the reaction time?

- F. As the temperature increases, the reaction time decreases only.
- G. As the temperature increases, the reaction time stays the same.
- H. As the temperature decreases, the reaction time increases, then decreases.
- J. There is no relationship between the temperature and the reaction time.

7. Which of the following indicated that the reaction was completed in the experiments?

- A. Solution A was added to Solution B.
- B. The two solutions were stirred.
- C. The mixed solutions turned clear and colorless.
- D. The mixed solutions turned dark blue.

8. Based on the results of Experiments 2 and 3, which of the following conditions would most likely lead to the longest reaction time?

- F. A reaction temperature of 50°C and the use of a catalyst
- G. A reaction temperature of 50°C and no catalyst
- H. A reaction temperature of 30°C and the use of a catalyst
- J. A reaction temperature of 10°C and no catalyst

9. Based on the results of Experiment 2, one would predict that if the reaction was repeated at 2.2°C, the reaction time would be approximately:

- A. 8 sec.
- B. 30 sec.
- C. 60 sec.
- D. 116 sec.

10. Which of the following conditions was directly changed by the students in Experiment 1 ?

- F. Total volume of the mixture
- G. Concentration of each solution in the mixture
- H. Temperature of the mixture
- J. Reaction rate

END OF TEST 4

Abbreviated EXPLORE Test Answer Key

English Test	
Question	Answer
1	C
2	J
3	C
4	F
5	B
6	J
7	B
8	H
9	A
10	H

Mathematics Test	
Question	Answer
1	A
2	H
3	B
4	J
5	D
6	F
7	D
8	H
9	D
10	F
11	C
12	K
13	A
14	F
15	C

Reading Test	
Question	Answer
1	C
2	F
3	D
4	G
5	C
6	G
7	A
8	H
9	D
10	G

Science Test	
Question	Answer
1	B
2	G
3	C
4	F
5	A
6	F
7	D
8	J
9	D
10	G