READING COMPREHENSION

INTERNATIONAL SCHOOL OF MONTERREY

Trim. #:___

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Questions 1-10

The ballpoint pen is the universal writing instrument of the twentieth century. When the tiny metal ball at the writing tip is drawn across a sheet of paper, it rotates within a housing at the end of an ink reservoir and is coated with ink, which it transfers to the paper.

The first ballpoint pen was invented by John Loud in 1888. Loud has been working on a design for a nonleaking pen to mark leather and fabrics and, although his cumbersome design was similar in essence to the modern item, it was never manufactured in large quantities and the patent was allowed to expire. The first workable design was patented in 1938 and became widely accepted in 1942 when the United States Army required a pen that would not leak in high-flying aircraft.

The ball of the pen is fitted into a socket so that it rotates freely. Several internal ducts in the socket feed ink to the ball; the other end of the socket is fitted onto a metal or plastic tube that contains the ink. When the ball is pressed on paper and moved, the capillary action draws the ink from the reservoir. In effect, the ball functions as a valve to prevent overflow, and on rotation it acts as a suction pump drawing out the ink.

One problem was that as some of the ink ran out, a partial vacuum was formed between the back of the ball and ink reservoir, which cut off the supply. This was solved by making a small hole at the far end of the reservoir. As the ink at the tip is sucked out, more ink from the tube is drawn into the socket to fill its place, the vacuum being prevented by air that is drawn through the vent.

Disposable ballpoints have improved considerably in efficiency and reliability since 1938. Further improvements made recently include the production of a pen that writes at any angle, even upside down, and the development of a new ink that is erasable.

LIVEWORKSHEETS

1. The word "it" in line 2 refers to
(A) paper
(B) ink reservoir
(C) writing instrument
(D) ball

2. The word "housing" in line 3 is closest in meaning to
(A) point
(B) residence
(C) case
(D) orbit

3. It can be inferred from the passage that there was interest in designing a new type of pen because the old ones
(A) were too big
(B) were expensive
(C) leaked
(D) cracked

4. The word "expire" in line 8 is closest in meaning to
(A) end
(B) change
(C) copy
(D) expand

5. It can be inferred that the ballpoint pen first gained popularity among
(A) military personnel
(B) businesspeople
(C) scientists
(D) artists

6. Which of the following statements is true of the ball in a ballpoint pen?
(A) It is fitted directly into the tube.
(B) It controls the flow of ink.
(C) It has a small hole.
(D) It contains a reservoir of ink.

7. The author mentions a "suction pump" in line 17 to indicate a function of the
(A) reservoir
(B) plastic tube
(C) socket
(D) ball

8. The word "which" in line 19 refers to
(A) supply
(B) back of the ball
(C) partial vacuum
(D) ink reservoir

9. What was the purpose of the small hole mentioned in line 20?
(A) To drain off excess ink
(B) To improve ink flow to the tip of the pen
(C) To reduce the amount of air in the pen
(D) To allow the reservoir to be refilled

LIVEWORKSHEETS

10. Until recently one limitation of ballpoint pens was

(A) their inability to function upside down

(B) the cost of replacing empty reservoirs

(C) the fragility of the point

(D) corrosion due to the ink

LIVEWORKSHEETS