SAT WRITING AND LANGUAGE PRACTICE PAPER

Seeing Her Way to Space

[1]

On the strength of these achievements, Ochoa was selected for a NASA space mission in 1990. She became the first Hispanic female astronaut and the first in space in 1993. Ochoa's career at NASA has been every bit as illustrious as one would expect of Hispanic descent: in 2013, she became the first person and the second woman to become director of NASA's Johnson Space Center.

[2]

Her second patent came in 1989, for a device that identifies the positional coordinates of objects with a new kind of precision, the kind required in military operations. The device, which is characterized by their almost exact precision, uses the light and movement data to compute a specific spatial coefficient. The images produced by this device allow a mathematical precision that digital photography simply cannot provide. This invention has had popular applications as well, including advances in face-recognition technology and airport-security scanning devices.

1.

- A. NO CHANGE
- B. Ochoas's
- C. Ochoas'
- D. Ochoas

2. If the punctuation were to be adjusted accordingly, the best placement for the underlined portion would be:

- A. where it is now.
- B. after the word *she*.
- C. after the word *person*.
- D. after the word *Center*.

3.

- A. NO CHANGE
- B. are characterized by their
- C. are characterized by its
- D. is characterized by its

4. Which of the following true choices would best support the idea presented in the first part of this sentence?

- A. NO CHANGE
- B. though scientists can sometimes be less interested in popular applications than in scientific soundness.

- C. but popular is a relative term when you're talking about high-level, complex scientific discoveries.
- D. which is not to say that like people were sitting around reading the patent for fun or anything.

[3]

Ellen Ochoa was born in Los Angeles, CA, in 1958. She did her primary schooling in La Mesa, and went on to get a bachelor's degree in physics from San Diego State University. She earned a Ph.D. from Stanford in electrical engineering in 1981. San Diego State University is a good school, but Stanford is a truly great research institution.

[4]

Ochoa was first revere for her research. Her most notable contribution is an optical system that can detect defects in a repeating pattern. Her first patent came in 1987 for a special camera that could correct in real time. Unlike digital technology, which can operate neither quickly nor accurately enough in space missions, Ochoa's optical analysis device uses laser light technology instead of the traditional digital. The technology operates on electromagnetic wavelengths and produces instantaneous hologram images that are themselves incorporated into the final image output. This technology has enabled the further development of such optics technology as powerful telescopes that can see through electromagnetic aberrations to accurate images.

5. Which of the following true sentences would best conclude this paragraph and support the main idea of the passage?

- A. NO CHANGE
- B. Despite her fairly conventional beginnings, Ochoa has gone on to become one of the most revered Hispanic women in science.
- C. Ochoa is a fairly common surname for celebrities: Guillermo Ochoa is a soccer player, Amparo a singer, and Lorena a golfer.
- D. On average, it takes approximately five years to earn a doctorate in electrical engineering.

6.

- A. NO CHANGE
- B. reverent
- C. referred
- D. revered

7.

- A. NO CHANGE
- B. Rather than using digital technology,
- C. Using her knowledge of digital technology,
- D. A specialist in non-digital technology,

8.

- A. NO CHANGE

- B. in the place of digital.
- C. not digital technology.
- D. DELETE the underlined portion (ending the sentence with a period).

[5]

Ochoa's third patent was issued in 1990. This technology enables a user to filter two-dimensional images to focus on particular parts of that image with equal precision. An electronic system ranks the components of image, removing the "noise" that is irrelevant to the desired part of the image. This technology gives a three-dimensional perspective to two-dimensional objects, essentially offering users the ability to search an image with the same range of motion and perspective that they could use when analyzing a real-life object. This patent has had an obvious role in high-definition cameras, but it has also led to innovations in other areas, such as fingerprint-recognition software.

9. At this point, the writer is considering adding the following true statement.

A design patent typically lasts for 14 years, but a utility patent lasts for 20.

Should the writer make this addition here?

- A. Yes, because it helps to clarify many parts of the passage that discuss patents.
- B. Yes, because the statement is true and advances the larger cause of education.
- C. No, because the statement removes the focus from Ellen Ochoa's career and accomplishments.
- D. No, because patents are a politically sensitive topic when there are competing claims to them.

10.

- A. NO CHANGE
- B. a two-dimensional image
- C. one or two dimensional images
- D. a pair of dimensional images

11. The best sequence for the paragraphs would be

- A. 1, 2, 3, 4, 5
- B. 2, 4, 3, 5, 1
- C. 3, 4, 2, 5, 1
- D. 4, 2, 3, 1, 5