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3B – The International Space Station

eTOC

G1 Chobun TypeB

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Publicity about the International Space Station (ISS) <u>tends to</u> overwhelm readers with the impressive claims that it is the largest <u>man-made</u> object in space, and that by the time its final component is attached later this year, it will have required the collaboration of over 100,000 people around the world. Often omitted, however, are the facts that it has been fraught with problems since its inception and is already the most expensive object ever built, having cost close to \$100 billion.

Further Questions

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- 1) What is the largest man-made object in space?
- The International Space Station is the largest man-made object in space
- 2) How many people worked on the International Space Station?
- 11. Over 100,000 people around the world have collaborated on the space station.
 - The first ISS components were launched in 1998, but the project's roots date to 1984, when U.S. President Ronald Reagan announced plans for an Earth-orbiting space station named Freedom. The years that followed were a portent of what was to come for the ISS. The National Aeronautics and Space Administration (NASA) repeatedly underestimated Freedom's development costs, while at the same time Congress slashed NASA's budget, thereby limiting the project's scope. Freedom never got off the ground, but in 1993, President Bill Clinton enlisted the financial and technological help of 13 countries to design and building a successor, the ISS. The initial \$35 billion price tag alienated many politicians, and in a public relations blitz, ISS proponents made excessive claims about the supposed myriad benefits of scientific research that would be performed on the station. The official ISS press kit said such research could lead to "possible treatments for cancer, diabetes, emphysema and immune system disorders," technologies to improve computers and revolutionize industry, and innovative products that would greatly enhance everyone's lives.

(32) What is suggested about the space station Freedom?

- 1. The project ultimately had to be scrapped because Bill Clinton believed the limited funds available should be redirected to the development of the ISS.
- 2. Given the troubled state of the U.S. economy at the time, and the country's lack of experience in space exploration, the project's goals were too ambitious.
- 3. The troubles the project encountered should have served as a warning of the difficulties involved in developing and building a space station.
- 4. Proponents in the United States ignored requests made by space researchers
- from other countries, which resulted in those countries pulling out of the project.

Further Questions

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- 3) Why did the plans for the Freedom fail?
- NASA repeatedly underestimated Freedom's development costs, while at the same time Congress slashed NASA's budget.
- 4) What did the official ISS press kit say the research on the ISS could lead to?

 It said the research could lead to possible treatments for cancer, diabetes,
- 44. emphysema and immune system disordered, technologies to improve
- 45. computers and innovative products.
- In fact, according to ISS critics, the project resulted rather in a myriad of problems. "It's always easier to draw these things than to build them," says
 - National Air and Space Museum historian Roger Launius. Ironically,
- 49. international cooperation contributed to the difficulties. Space station parts
- were built in various countries and failed to fit precisely when assembled.
- Electrical and life-sustaining systems malfunctioned, and computer systems
- crashed. After the space shuttle Columbia exploded in 2003, no other country could carry payload to the station. Proponents said such complications should
- 53. could carry payload to the station. Proponents said such complications should be expected, given the magnitude of a project stretching the limits of human
- be expected, given the magnitude of a project stretching the limits of human
- innovation. Critics actually agree with that assessment, but believe the real
- problem is that the management of such projects needs to be forward-thinking and long-term.

(33) The author of the passage implies that backers of the ISS

- 1. Focused on issues which were important when the ISS was proposed but made the mistake of continuing to promote them even when they were no longer relevant.
- 2. were encouraged by politicians to overemphasize the easier and less expensive aspects of the program and to avoid discussing the technical difficulties involved.
- 3. used false computer data to convince scientists to conduct research on the space station that they knew could more easily have been carried out on Earth.
 - 4. made claims which exaggerated the potential benefits of work that could be done on the space station in order to persuade people to accept the cost of building it.

Further Questions

- 5) What happened because the space station parts were built in various countries?
- 72. The station parts failed to fit precisely when assembled.
- 6) What happened when the space shuttle Columbia exploded in 2003?
- 74. No other country could carry payload to the station.
- As if to prove this point, the problems that crippled Freedom resurfaced with
- the ISS. Costs ballooned to the current \$100 billion and the station's aim kept changing with the political climate. Keith Cowing, founder of NASA Watch, a
- website that provides commentary about the U.S. space program, notes that
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this "makes it difficult to explain to Congress and the public what the purpose of the ISS is." All of this might not have mattered if tangible results had materialized, but here, too, the ISS has fallen short. The little science conducted on the ISS has focused on helping astronauts overcome the negative health effects of long-term stay in space. Such experiments are geared towards space exploration, not towards improving the lives of people on Earth.

(34) What can be said of the setbacks experienced by the ISS?

- 1. They have been compounded by the fact that scientific research being conducted on the station is unlikely to result in advancements that are directly
- 89. applicable to society.

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- 90. 2. They could have been avoided if scientists in the program had been awarded
- more funds to carry out experiments on the effect of long periods in space on human health.
- 3. They could not have been so significant if NASA had made efforts to address
- the concerns and suggestions of astronauts who had spent time working on the station.
 - 4. They occurred because those involved in the station's construction and management focused on long-term objectives rather than setting more immediate goals.

Further Questions

- 7) What science has been conducted on the ISS?
- The little science conducted on the ISS has focused on helping astronauts overcome the negative health effects of long-term stay in space.
- 8) Do you think the ISS will be beneficial in the future?
- I think the ISS will be very beneficial, but it might take a long time.

104. 解答: (32) 3 (33) 4 (34) 1



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