READING

This section measures your ability to understand academic passages in English.

There are three passages in the section. Give yourself 20 minutes to read each passage and answer the questions about it. The entire section will take 60 minutes to complete.

You may look back at a passage when answering the questions. You can skip questions and go back to them later as long as there is time remaining.

Directions: Read the passage. Then answer the questions. Give yourself 20 minutes to complete this practice set.

POWERING THE INDUSTRIAL REVOLUTION

In Britain one of the most dramatic changes of the Industrial Revolution was the harnessing of power. Until the reign of George III (1760–1820), available sources of power for work and travel had not increased since the Middle Ages. There were three sources of power: animal or human muscles; the wind, operating on sail or windmill; and running water. Only the last of these was suited at all to the continuous operating of machines, and although waterpower abounded in Lancashire and Scotland and ran grain mills as well as textile mills, it had one great disadvantage: streams flowed where nature intended them to, and water-driven factories had to be located on their banks, whether or not the location was desirable for other reasons. Furthermore, even the most reliable waterpower varied with the seasons and disappeared in a drought. The new age of machinery, in short, could not have been born without a new source of both movable and constant power.

The source had long been known but not exploited. Early in the century, a pump had come into use in which expanding steam raised a piston in a cylinder, and atmospheric pressure brought it down again when the steam condensed inside the cylinder to form a vacuum. This "atmospheric engine," invented by Thomas Savery and vastly improved by his partner, Thomas Newcomen, embodied revolutionary principles, but it was so slow and wasteful of fuel that it could not be employed outside the coal mines for which it had been designed. In the 1760s, James Watt perfected a separate condenser for the steam, so that the cylinder did not have to be cooled at every stroke; then he devised a way to make the piston turn a wheel and thus convert reciprocating (back and forth) motion into rotary motion. He thereby transformed an inefficient pump of limited use into a steam engine of a thousand uses. The final step came when steam was introduced into the cylinder to drive the piston backward as well as forward, thereby increasing the speed of the engine and cutting its fuel consumption.

Watt's steam engine soon showed what it could do. It liberated industry from dependence on running water. The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

By 1800 more than a thousand steam engines were in use in the British Isles, and Britain retained a virtual monopoly on steam engine production until the 1830s. Steam power did not merely spin cotton and roll iron; early in the new century, it also multiplied ten times over the amount of paper that a single worker could produce in a

day. At the same time, operators of the first printing presses run by steam rather than by hand found it possible to produce a thousand pages in an hour rather than thirty. Steam also promised to eliminate a transportation problem not fully solved by either canal boats or turnpikes. Boats could carry heavy weights, but canals could not cross hilly terrain; turnpikes could cross the hills, but the roadbeds could not stand up under great weights. These problems needed still another solution, and the ingredients for it lay close at hand. In some industrial regions, heavily laden wagons, with flanged wheels, were being hauled by horses along metal rails; and the stationary steam engine was puffing in the factory and mine. Another generation passed before inventors succeeded in combining these ingredients, by putting the engine on wheels and the wheels on the rails, so as to provide a machine to take the place of the horse. Thus the railroad age sprang from what had already happened in the eighteenth century.

Directions: Now answer the questions.

PARAGRAPHS 1 & 2

In Britain one of the most dramatic changes of the Industrial Revolution was the harnessing of power. Until the reign of George III (1760–1820), available sources of power for work and travel had not increased since the Middle Ages. There were three sources of power: animal or human muscles; the wind, operating on sail or windmill; and running water. Only the last of these was suited at all to the continuous operating of machines, and although waterpower abounded in Lancashire and Scotland and ran grain mills as well as textile mills, it had one great disadvantage: streams flowed where nature intended them to, and water-driven factories had to be located on their banks, whether or not the location was desirable for other reasons. Furthermore, even the most reliable waterpower varied with the seasons and disappeared in a drought. The new age of machinery, in short, could not have been born without a new source of both movable and constant power.

The source had long been known but not exploited. Early in the century, a pump had come into use in which expanding steam raised a piston in a cylinder, and atmospheric pressure brought it down again when the steam condensed inside the cylinder to form a vacuum. This "atmospheric engine," invented by Thomas Savery and vastly improved by his partner, Thomas Newcomen, embodied revolutionary principles, but it was so slow and wasteful of fuel that it could not be employed outside the coal mines for which it had been designed. In the 1760s, James Watt perfected a separate condenser for the steam, so that the cylinder did not have to be cooled at every stroke; then he devised a way to make the piston turn a wheel and thus convert reciprocating (back and forth) motion into rotary motion. He thereby transformed an inefficient pump of limited use into a steam engine of a thousand uses. The final step came when steam was introduced into the cylinder to drive the piston backward as well as forward, thereby increasing the speed of the engine and cutting its fuel consumption.

1. Which of the sentences below best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect choices change the meaning in important ways or leave out essential information.

   Ⓐ Running water was the best power source for factories since it could keep machines operating continuously, but since it was abundant only in Lancashire and Scotland, most mills and factories that were located elsewhere could not be water driven.
   Ⓑ The disadvantage of using waterpower is that streams do not necessarily flow in places that are the most suitable for factories, which explains why so many water-powered grain and textile mills were located in undesirable places.
   Ⓒ Since machines could be operated continuously only where running water was abundant, grain and textile mills, as well as other factories, tended to be located only in Lancashire and Scotland.
   Ⓓ Running water was the only source of power that was suitable for the continuous operation of machines, but to make use of it, factories had to be located where the water was, regardless of whether such locations made sense otherwise.

2. It can be inferred from paragraph 1 that before the reign of George III there were no sources of power that

   Ⓐ were movable
   Ⓑ were widely available
   Ⓒ did not disappear during certain seasons of the year
   Ⓓ could provide continuous power

3. Which of the following best describes the relation of paragraph 2 to paragraph 1?

   Ⓐ Paragraph 2 shows how the problem discussed in paragraph 1 arose.
   Ⓑ Paragraph 2 explains how the problem presented in paragraph 1 came to be solved.
   Ⓒ Paragraph 2 provides a more technical discussion of the problem introduced in paragraph 1.
   Ⓓ Paragraph 2 shows why the problem discussed in paragraph 1 was especially important to solve.

4. The word "exploited" in the passage is closest in meaning to

   Ⓐ utilized
   Ⓑ recognized
   Ⓒ examined
   Ⓓ fully understood

5. The word "vastly" in the passage is closest in meaning to

   Ⓐ quickly
   Ⓑ ultimately
   Ⓒ greatly
   Ⓓ initially

6. According to paragraph 2, the "atmospheric engine" was slow because

   Ⓐ it had been designed to be used in coal mines
   Ⓑ the cylinder had to cool between each stroke
   Ⓒ it made use of expanding steam to raise the piston in its cylinder
   Ⓓ it could be operated only when a large supply of fuel was available

7. According to paragraph 2, Watt's steam engine differed from earlier steam engines in each of the following ways EXCEPT:

   Ⓐ It used steam to move a piston in a cylinder.
   Ⓑ It worked with greater speed.
   Ⓒ It was more efficient in its use of fuel.
   Ⓓ It could be used in many different ways.

PARAGRAPH 3

Watt's steam engine soon showed what it could do. It liberated industry from dependence on running water. The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

8. In paragraph 3, the author mentions William Murdoch's invention of a new form of nighttime illumination in order to

   Ⓐ indicate one of the important developments made possible by the introduction of Watt's steam engine
   Ⓑ make the point that Watt's steam engine was not the only invention of importance to the Industrial Revolution
   Ⓒ illustrate how important coal was as a raw material for the Industrial Revolution
   Ⓓ provide an example of another eighteenth-century invention that used steam as a power source

9. The phrase "grew accustomed to" in the passage is closest in meaning to

   Ⓐ began to prefer
   Ⓑ wanted to have
   Ⓒ became used to
   Ⓓ insisted on

PARAGRAPH 4

By 1800 more than a thousand steam engines were in use in the British Isles, and Britain retained a virtual monopoly on steam engine production until the 1830s. Steam power did not merely spin cotton and roll iron; early in the new century, it also multiplied ten times over the amount of paper that a single worker could produce in a day. At the same time, operators of the first printing presses run by steam rather than by hand found it possible to produce a thousand pages in an hour rather than thirty. Steam also promised to eliminate a transportation problem not fully solved by either canal boats or turnpikes. Boats could carry heavy weights, but canals could not cross hilly terrain; turnpikes could cross the hills, but the roadbeds could not stand up under great weights. These problems needed still another solution, and the ingredients for it lay close at hand. In some industrial regions, heavily laden wagons, with flanged wheels, were being hauled by horses along metal rails; and the stationary steam engine was puffing in the factory and mine. Another generation passed before inventors succeeded in combining these ingredients, by putting the engine on wheels and the wheels on the rails, so as to provide a machine to take the place of the horse. Thus the railroad age sprang from what had already happened in the eighteenth century.

10. The word "retained" in the passage is closest in meaning to

Ⓐ gained
Ⓑ established
Ⓒ profited from
Ⓓ maintained

11. According to paragraph 4, which of the following statements about steam engines is true?

Ⓐ They were used for the production of paper but not for printing.
Ⓑ By 1800, significant numbers of them were produced outside of Britain.
Ⓒ They were used in factories before they were used to power trains.
Ⓓ They were used in the construction of canals and turnpikes.

12. According to paragraph 4, providing a machine to take the place of the horse involved combining which two previously separate ingredients?

Ⓐ Turnpikes and canals
Ⓑ Stationary steam engines and wagons with flanged wheels
Ⓒ Metal rails in roadbeds and wagons capable of carrying heavy loads
Ⓓ Canal boats and heavily laden wagons

PARAGRAPH 3

■ Watt's steam engine soon showed what it could do. ■ It liberated industry from dependence on running water. ■ The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. ■ The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

13. Look at the four squares [■] that indicate where the following sentence can be added to the passage.

The factories did not have to go to the streams when power could come to the factories.

Where would the sentence best fit?

Ⓐ **The factories did not have to go to the streams when power could come to the factories.** Watt's steam engine soon showed what it could do. ■ It liberated industry from dependence on running water. ■ The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. ■ The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

Ⓑ ■ Watt's steam engine soon showed what it could do. **The factories did not have to go to the streams when power could come to the factories.** It liberated industry from dependence on running water. ■ The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. ■ The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new

machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

Ⓒ ■ Watt's steam engine soon showed what it could do. ■ It liberated industry from dependence on running water. **The factories did not have to go to the streams when power could come to the factories.** The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. ■ The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

Ⓓ ■ Watt's steam engine soon showed what it could do. ■ It liberated industry from dependence on running water. ■ The engine eliminated water in the mines by driving efficient pumps, which made possible deeper and deeper mining. **The factories did not have to go to the streams when power could come to the factories.** The ready availability of coal inspired William Murdoch during the 1790s to develop the first new form of nighttime illumination to be discovered in a millennium and a half. Coal gas rivaled smoky oil lamps and flickering candles, and early in the new century, well-to-do Londoners grew accustomed to gaslit houses and even streets. Iron manufacturers, which had starved for fuel while depending on charcoal, also benefited from ever-increasing supplies of coal; blast furnaces with steam-powered bellows turned out more iron and steel for the new machinery. Steam became the motive force of the Industrial Revolution, as coal and iron ore were the raw materials.

14. **Directions**: An introductory sentence for a brief summary of the passage is provided on the next page. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage.

    Write your answer choices in the spaces where they belong. You can either write the letter of your answer choice or you can copy the sentence.

The Industrial Revolution would not have been possible without a new source of power that was efficient, movable, and continuously available.

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Answer Choices

A In the early eighteenth century, Savery and Newcomen discovered that expanding steam could be used to raise a piston in a cylinder.

B In the mid-1700s, James Watt transformed an inefficient steam pump into a fast, flexible, fuel-efficient engine.

C Watt's steam engine played a leading role in greatly increasing industrial production of all kinds.

D In the 1790s, William Murdoch developed a new way of lighting houses and streets using coal gas.

E Until the 1830s, Britain was the world's major producer of steam engines.

F The availability of steam engines was a major factor in the development of railroads, which solved a major transportation problem.

LISTENING

This section measures your ability to understand conversations and lectures in English.

Listen to each conversation and lecture only one time. After each conversation and lecture, you will answer some questions about it. Answer each question based on what is stated or implied by the speakers.

You may take notes while you listen and use your notes to help you answer the questions. Your notes will **not** be scored.

In some questions, you will see this icon:  . This means that you will hear, but not see, the question.

Answer each question before moving on. Do not return to previous questions.

It will take about 60 minutes to listen to the conversations and lectures and answer the questions about them.

Directions: Listen to Track 42.

Directions: Now answer the questions.

1. Why does the student go to the career services office?

   (A) To confirm the date and time of the career fair
   (B) To learn the location of the career fair
   (C) To find out if he is allowed to attend the career fair
   (D) To get advice about interviewing at the career fair

2. Why does the student think that companies' representatives would not be interested in talking to him?

   (A) He will not be graduating this year.
   (B) He is not currently taking business classes.
   (C) He has not declared a major yet.
   (D) He does not have a current résumé.

3. What does the woman imply about the small print on the career fair posters and flyers?

   (A) The information in the small print was incomplete.
   (B) The print was smaller than she expected it to be.
   (C) The information the small print contains will be updated.
   (D) The information in the small print will be presented in a more noticeable way.

4. What does the woman say is a good way for the student to prepare for speaking to companies' representatives? *Choose 2 answers.*

   [A] Take some business classes
   [B] Familiarize himself with certain businesses beforehand
   [C] Have questions ready to ask the representatives
   [D] Talk to people who work for accounting firms

5. Listen to Track 43.

Ⓐ To acknowledge that he cannot go to this year's career fair
Ⓑ To acknowledge the amount of preparation he will have
Ⓒ To indicate that he has school work he must complete before the career fair
Ⓓ To indicate that he needs to go to his job now

Directions: Listen to Track 44.

Directions: Now answer the questions.

6. What is the main purpose of the talk?
   - (A) To show what happens after an economy has experienced a boom-and-bust cycle
   - (B) To illustrate the conditions needed to produce a boom-and-bust cycle
   - (C) To demonstrate how boom-and-bust cycles have changed over time
   - (D) To explain why the boom-and-bust cycle is not a frequent historical occurrence

7. What is the professor's opinion about the dot-com crash?
   - (A) She thinks that people should have realized it would happen.
   - (B) She does not believe that anything like it will happen again.
   - (C) She is surprised that it did not have more serious consequences.
   - (D) She is confident that people learned a valuable lesson from it.

8. According to the professor, where did tulips originate?
   - (A) In the mountains of central Asia
   - (B) In the region around Istanbul in Turkey
   - (C) In the sandy soils of the Netherlands
   - (D) In the forests of northern Europe

9. Why does the professor mention a merchant who ate tulip bulbs?
   - (A) To explain how the Turks introduced the flower to European visitors
   - (B) To explain what happened to tulip bulbs that did not produce desirable colors
   - (C) To give an example of one way that the rich in the Netherlands showed off their wealth
   - (D) To illustrate her point that Europeans were unfamiliar with the flower

10. What were some of the factors that contributed to the tulip craze in the Netherlands in the seventeenth century? *Choose 3 answers.*
    - [A] Wealthy gardeners liked to compete for rare plants.
    - [B] The number of people with disposable income was growing.
    - [C] Tulip bulbs were initially cheap and easy to obtain.
    - [D] Tulips in the wild bloomed in unusual color combinations.
    - [E] The tulip market was not regulated by the government.

11. The professor mentions the practice of trading promissory notes in the Netherlands in the 1630s. What does this practice explain? *Choose 2 answers.*
    - [A] Why tulips replaced gold as a form of currency
    - [B] Why buyers were no longer interested in owning actual tulips
    - [C] Why borrowing in the Netherlands increased on a significant scale
    - [D] Why the middle class in the Netherlands expanded in size

SPEAKING

This section measures your ability to speak in English about a variety of topics.

There are six questions in this section. For each question, you will be given a short time to prepare your response. When the preparation time is up, answer the question as completely as possible in the time indicated for that question. You should record your responses so that you can review them later and compare them with the answer key and scoring rubrics.

1. You will now be asked to speak about a familiar topic. Give yourself 15 seconds to prepare your response. Then record yourself speaking for 45 seconds.

   Listen to Track 53.

   Talk about a photograph or painting you have seen that was memorable. Explain what you liked or disliked about it.

   Preparation Time: 15 seconds
   Response Time: 45 seconds

2. You will now be asked to give your opinion about a familiar topic. Give yourself 15 seconds to prepare your response. Then record yourself speaking for 45 seconds.

   Listen to Track 54.

   Some people have one career throughout their lives. Other people do different kinds of work at different points in their lives. Which do you think is better? Explain why.

   Preparation Time: 15 seconds
   Response Time: 45 seconds

WRITING

This section measures your ability to write in English to communicate in an academic environment.

There are two writing questions in this section.

For question 1, you will read a passage and listen to a lecture about the same topic. You may take notes while you read and listen. Then you will write a response to a question based on what you have read and heard. You may look back at the passage when answering the question. You may use your notes to help you answer the question. You have 20 minutes to plan and write your response.

For question 2, you will write an essay based on your own knowledge and experience. You have 30 minutes to plan and complete your essay.

1. **Directions:** Give yourself 3 minutes to read the passage.

Reading Time: 3 minutes

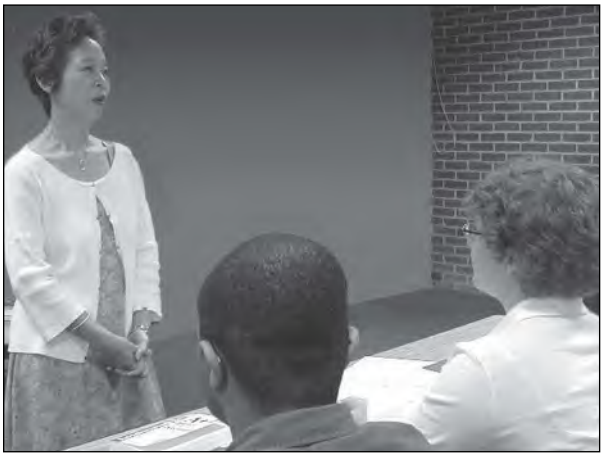
Communal online encyclopedias represent one of the latest resources to be found on the Internet. They are in many respects like traditional printed encyclopedias: collections of articles on various subjects. What is specific to these online encyclopedias, however, is that any Internet user can contribute a new article or make an editorial change in an existing one. As a result, the encyclopedia is authored by the whole community of Internet users. The idea might sound attractive, but the communal online encyclopedias have several important problems that make them much less valuable than traditional, printed encyclopedias.

First, contributors to a communal online encyclopedia often lack academic credentials, thereby making their contributions partially informed at best and downright inaccurate in many cases. Traditional encyclopedias are written by trained experts who adhere to standards of academic rigor that nonspecialists cannot really achieve.

Second, even if the original entry in the online encyclopedia is correct, the communal nature of these online encyclopedias gives unscrupulous users and vandals or hackers the opportunity to fabricate, delete, and corrupt information in the encyclopedia. Once changes have been made to the original text, an unsuspecting user cannot tell the entry has been tampered with. None of this is possible with a traditional encyclopedia.

Third, the communal encyclopedias focus too frequently, and in too great a depth, on trivial and popular topics, which creates a false impression of what is important and what is not. A child doing research for a school project may discover that a major historical event receives as much attention in an online encyclopedia as, say, a single long-running television program. The traditional encyclopedia provides a considered view of what topics to include or exclude and contains a sense of proportion that online "democratic" communal encyclopedias do not.

Listen to Track 61.



Directions: You have 20 minutes to plan and write your response. Your response will be judged on the basis of the quality of your writing and on how well your response presents the points in the lecture and their relationship to the reading passage. Typically, an effective response will be 150 to 225 words.

Listen to Track 62.

Response Time: 20 minutes

Summarize the points made in the lecture, being sure to explain how they oppose the specific points made in the reading passage.