

AP[®] EUROPEAN HISTORY 2016 SCORING GUIDELINES

Short Answer Question 1

Use the passage below to answer all parts of the question that follows.

“The best way to assess the depth and scope of the Scientific Revolution is to compare and contrast the science that came into fruition in the seventeenth century with its nearest equivalent in the late Middle Ages ... Traditionally, knowledge had been based on faith and insight, on reason and revelation. The new science discarded all of these as ways of understanding nature and set up experience — experiment and critical observation — as the foundation and ultimate test of knowledge. The consequences were as revolutionary as the doctrine itself. For not only did the new method found knowledge on a wholly new basis, but it implied that men and women no longer had to believe what was said by eminent authorities; they could put any statement to the test of controlled experience.”

I. Bernard Cohen, historian, *Revolution in Science*, 1985

- a) Identify TWO specific examples of scientific discoveries that support Cohen’s argument and explain how each discovery supports his argument.
- b) Explain ONE way in which the shift in scientific inquiry described by Cohen affected European views of society or politics in the seventeenth and eighteenth centuries.

0–3 points

Score 3

Response accomplishes **all three** tasks set by the question.

Score 2

Response accomplishes **two** of the tasks set by the question.

Score 1

Response accomplishes **one** of the tasks set by the question.

Score 0

Response accomplishes **none** of the tasks set by the question.

Score —

Is completely blank

AP[®] EUROPEAN HISTORY

2016 SCORING GUIDELINES

Short Answer Question 1 (continued)

Scoring Guide

0–3 points

- ONE point for identifying a specific example of a scientific discovery made during the Scientific Revolution AND explaining how that example reflects a change or movement away from the traditional medieval practice of science and acquisition of knowledge, as argued by Cohen.
- ONE point for identifying a specific example of a scientific discovery made during the Scientific Revolution that is DIFFERENT from the one provided above AND explaining how that example reflects a change or movement away from traditional medieval practice, as argued by Cohen.
- ONE point for explaining how new methods of scientific inquiry affected European views of society or politics during the seventeenth and eighteenth centuries.

Scoring Notes

Examples of responses to Part A that would earn credit:

- Copernicus's heliocentric view of the solar system proved that the Roman Catholic Church's geocentric view of the universe was incorrect.
- The increased emphasis on experimentation and empirical thought that lay at the heart of the new scientific method undermined faith in, and the authority of, the Catholic Church.
- Newton's theory of gravity, which was supported by mathematical calculations and observation, challenged medieval knowledge based on faith and revelation.
- Advances in navigational and geographical knowledge permitted longer and safer sea voyages than possible in the Middle Ages when sailors lacked accurate maps and nautical technology.
- Advances in mathematical knowledge and systematic observations of planets overturned the Aristotelian and Ptolemaic theories of astronomy.

Examples of responses to Part B that would earn credit:

- New advances in science challenged the authority of the Catholic Church, which led to challenges in other areas of society or politics. People demanded greater participation in their government and the right to choose their own leaders. These types of political demands influenced the philosophies that helped lead to the American and French revolutions.
- Increasingly rigorous demands for factual evidence to validate accusations gradually brought an end to the persecution of witchcraft in the seventeenth and eighteenth centuries.
- The Scientific Revolution prompted Enlightenment thinkers to assert that the purpose of government is to cultivate goodness through rational organization and to implement ideas of meritocratic progress.
- Enlightened absolute rulers in the eighteenth century were influenced by the Scientific Revolution's ideas of rationalism and enacted new legal codes, promoted education, and suppressed feudalism based on those ideas.

Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

Write your answer to SECTION I: PART B, QUESTION 1 on this page only.

1A) An example of scientific discovery that could support Cohen's argument would be Copernicus' theory of heliocentrism and how celestial bodies revolved around the Sun and not the planet Earth. This is supportive of Cohen's belief as it shows how observation of celestial movements and experimentation by Copernicus allowed for him to realize how the Catholic Church was flawed in saying that the Earth was the center of the universe with celestial bodies revolving around it. He went against this religious authority. Another example of scientific discovery would be Galileo using a telescope to accurately describe the moon's surface and those of other celestial bodies to prove how they weren't crystallized heavenly spheres of light as the Catholic Church believed. This once again supports Cohen's argument of that the newfound knowledge of these experimenters, in this case Galileo, allowed for a break from following the traditional beliefs of religious authority and doctrine, stemming from the Catholic Church.

1B) A way in which the shift in scientific inquiry affected European views of society or politics in the 1600s - 1700s could be seen in the decline of the witch hunts and craze about it. With new methods of scientific reasoning, rationalism and empiricism the silliness and absurdity of the whole witch phase was realized and a stop was put to the practice. At the same time, the shifts in science influenced the thoughts of Enlightenment philosophes and the perceptions of what was best for society and the rights of mankind.

End of response area for Q1

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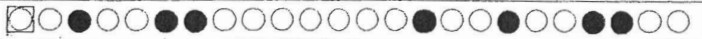
Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

Write your answer to SECTION I: PART B, QUESTION 1 on this page only.

In the Middle Ages, ~~was~~ everything was centered around the church and. The pope was above all else which is ~~was~~ why conflicts such as the Great Schism broke out. People wanted to decide on the pope because it granted indirect influence on the ideas & knowledge of the people. During the time of the Renaissance, northern Italy integrated ~~to~~ religion into the humanist ideals. As the northern humanist returned to the classics, Christian faith was still a part of their reasoning ~~to~~ and logic. As we move into the times of the scientific revolution, notions of empirical research and observations are the key focuses of ~~the~~ knowledge. Bacon's contribution to science was his ideas of logic acquired through the experimental method. He lays the foundation for Empiricism which shapes the ~~old scientific logic~~ of Middle age's ideas of faith is knowledge to a more scientific view that things have to be proven to be considered true. In the earlier times when Christianity & the church dominated European politics people abided to what the clergy said. However when faith cannot be proven during the times of the scientific revolution, people become more skeptical.

End of response area for Q1

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Q3983/3



Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

Write your answer to SECTION I: PART B, QUESTION 1 on this page only.

A) An example of a scientific discovery can be the ~~dis~~ work of ~~Copernicus~~ Copernicus regarding heliocentrism. Due to the evidence ~~and~~ ~~exper~~ gathered ~~to~~ from his research along with other researchers and the experiments he had done, the heliocentric view of the universe was now being accepted. The church authorities ~~also~~ mentioned that geocentrism ~~was~~ was the way the world worked. The opposing theories yet evidence allowed for individuals to no longer believe in the words of the church. ~~People~~ ~~thought~~ ~~that~~ ~~the~~ ~~world~~ ~~was~~ ~~to~~ ~~rotate~~. Mendel's research ^{experiments} using the pea plants to prove ~~his~~ genetics as well as Darwin's ~~to~~ thought to prove the theory of evolution proved what was said by the church to be wrong. The church said that evolution wasn't true yet Darwin proved it to be a true concept.

B) ~~Darwinism~~ was ~~applied~~ ~~to~~ ~~the~~ ~~same~~ ~~as~~ ~~the~~ ~~church~~ ~~during~~ ~~these~~ ~~times~~ ~~were~~ ~~n't~~ ~~given~~ ~~at~~ ~~all~~ ~~the~~ ~~same~~ ~~importance~~ ~~as~~ ~~it~~ ~~was~~ ~~given~~ ~~in~~ ~~the~~ ~~past~~ ~~due~~ ~~to~~ ~~the~~ ~~evidence~~ ~~and~~ ~~experimentation~~ ~~of~~ ~~the~~ ~~Scientific~~ ~~Revolution~~ ~~proving~~ ~~what~~ ~~the~~ ~~church~~ ~~said~~ ~~to~~ ~~be~~ ~~not~~ ~~right~~.

End of response area for Q1

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AP[®] EUROPEAN HISTORY 2016 SCORING COMMENTARY

Short Answer Question 1

Overview

This question presented the student with a passage from a historian about how the Scientific Revolution changed the way scientific knowledge was produced. The student was then asked to identify two examples of discoveries made during the Scientific Revolution and explain how each reflected a change from traditional understanding of the universe or the creation of scientific knowledge. The question then asked the students to identify and explain one consequence of the Scientific Revolution on European views of society or politics in the seventeenth or eighteenth century. The question tested students' ability to understand a standard interpretation of the Scientific Revolution, apply specific evidence in support of that interpretation, and explain a consequence of the Scientific Revolution beyond the areas of knowledge that it originally affected.

Sample: 1A **Score: 3**

The response earned 2 points for part a) by explaining how Copernicus' heliocentric theory challenged traditional geocentric views and how Galileo's use of a telescope challenged the notion that stars and planets were embedded in crystalline spheres. The response earned 1 point for part b) by explaining how the spread of scientific ideas and methods during the Enlightenment led to a decline in the number of witch-hunts.

Sample: 1B **Score: 2**

The first part of the response is confused and off-task and earned no points. The response earned 1 point in part a) for explaining Francis Bacon's contribution to inductive reasoning and the empirical method of inquiry. It also earned 1 point in part b) for explaining the clergy's loss of authority and the rise of skepticism. Note that the use of the word "shape" instead of reshape is considered a minor error.

Sample: 1C **Score: 1**

The response earned 1 point in part a) by explaining how Copernicus undermined traditional ideas of geocentrism. The response's discussion of Mendel and Darwin failed to earn the second point in part a) because they are out of the time period specified by the question. The response to part b) lacks specifics and therefore did not earn a point.