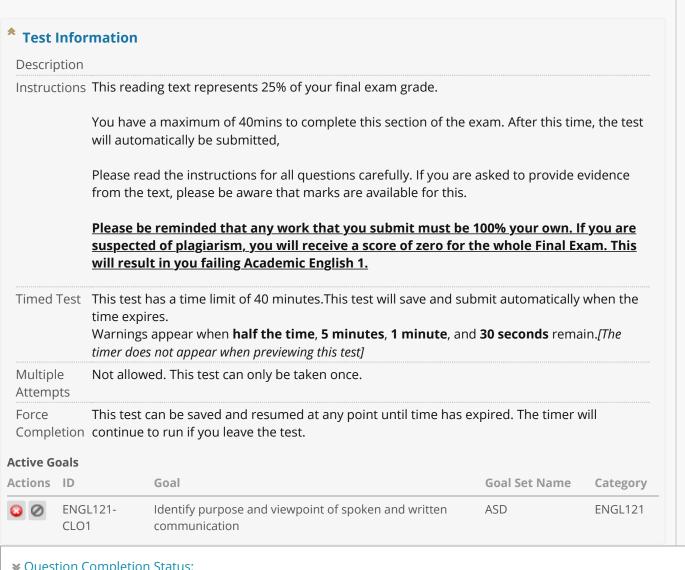
## Preview Test: Final Reading\_Semester 3\_1920



## **▼** Question Completion Status:

**QUESTION 1** Save Answer 1 points

## **Benefits and Risks of Genetic Testing**

Medical Matters Monthly, April 2020

1. Traditionally, the only way for a person to learn more about their genes would be by undergoing expensive and invasive hospital procedures. These were only given if a person had a genuine medical need, such as the risk of a serious disease. However, in the past ten years, a few biotechnology companies such as '23 and me' have begun



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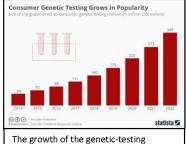


Example genetic heritage results from company '23 and Me'

- 2. The results provide customers with a lot of information. Firstly, they can tell you about your ancestors, the people from your family in the past such as your great-great grandparents, and what part of the world they came from. As the diagram on the left illustrates, these results are extremely accurate and show the exact percentage of your genetic heritage. For people who do not know much about their ancestry, such as some North Americans, this is quite interesting, because their families often came from many different places in the past.
- 3. Another reason why people may choose to conduct a genetic test is to find out about the hereditary or genetically caused diseases that you and your children are at risk for. Take Alzheimer's disease as an example. Alzheimer's sufferers lose crucial brain

functions such as memory later in life, which often leads to more serious behavior and social problems. According to various research studies conducted in the late 2000s, people who carry certain types of the APOE gene, such as APOEs4, are much more likely to develop Alzheimer's. An at home genetic test will tell you whether or not you carry this gene, and will help you and your family to prepare for the future.

4. Given the usefulness of the information that these tests provide, their relatively low cost and the convenience at which the tests can be taken, it is hardly surprising that genetic-testing services have become extremely popular. According to data from Statista (2020) sales of these kits in the last year alone represent a multi-million dollar industry worldwide. This has also led to an increase in dollars that investors have given to these biotech companies to help them develop and market their product. At first glance, it would seem like this is good news for everyone—people can learn more about their genetic data and businesses can make money. However, a more careful analysis shows that there are a few issues.



The growth of the genetic-testing market since 2014. Source: Statista

- 5. The first issue is with understanding the data that the tests provide. As previously mentioned, the APOE£4 gene has been identified as a potential indicator of someone developing Alzheimers. However, not all people with APOE£4 will develop Alzheimer's. In fact, a study by the United Nations (2014) proved that African populations with the gene do not show any increased chance for Alzheimer's at all. There are many reasons why a person gets a disease— their childhood environment, the foods they eat, etc. Genes are just one of the possible causes. However, most people do not understand genetics well enough to see this. They see the increased possibility for a disease and think that it will definitely happen, which may cause them to worry unnecessarily.
- 6. There is also a problem with how these companies collect and share their customer's data. Genes contain a whole lot of information about you, and that information can be very valuable to the right people. A report published by the Business Ethics Journal (2017) showed that the majority of genetic-testing companies sell their customers' genetic data to pharmaceutical companies, the companies that make medicine. The pharmaceutical companies say that they use data to create better medicines for genetic diseases. So this *seems* to be a positive. But, what if they start selling customer information to other companies, such as advertisers or even health insurance companies? In many countries, this could make buying insurance very expensive, or even impossible, for someone that carries genes for a serious disease. This means that a customer who has paid money to a genetic testing company to find out about their genes may find themselves significantly disadvantaged financially in the future. This hardly seems fair.
- 7. Overall, at-home genetic-testing services are certainly an exciting new industry. However, customers should be very careful about the type of company that they trust with this very personal, and valuable, information. Let's hope that these companies keep the best interests of their customers in mind, rather than focusing purely on profit.

Preview the text (look at the title, images and introduction paragraph only) and apply your critical thinking skills. Make a prediction about the content of the text. Mention what evidence from the text this is based on. Answers that are copied directly from the text will not be accepted. □・缸・T・タ・② □ i 数 TTTT Paragraph V Arial 3 (12pt) O f<sub>x</sub> 

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HTML CSS Words:0 Path: p **QUESTION 2** Save Answer 1 points According to paragraph 2, why is genetic testing so popular in the United States? because the results provide customers with a lot of information because US citizens travel to many different countries every year because people in the US want to find out more about their genetic heritage ( ) because the results are very accurate **QUESTION 3** 1 points Save Answer In which paragraph does the writer suggest that people do NOT always understand how genetics works? oparagraph 2 paragraph 3 this point is not mentioned in the text paragraph 5 **QUESTION 4** 1 points Save Answer What is the main conclusion that can be drawn about at home genetic testing from this passage?

it does not provide accurate information					
it can be useful but also has risks					
QUESTION 5			1 points	Save Answer	
The writer's example in paragraph 5 about African <sub> </sub> APOEε4 gene is important because it	populations	with the			
gives strength to the claim that carrying certain mean a disease will develop	n genes does	not alwa	ays		
O proves that the APOEε4 gene causes Alzheimer	r's disease				
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QUESTION 6			2 points	Save Answer	
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