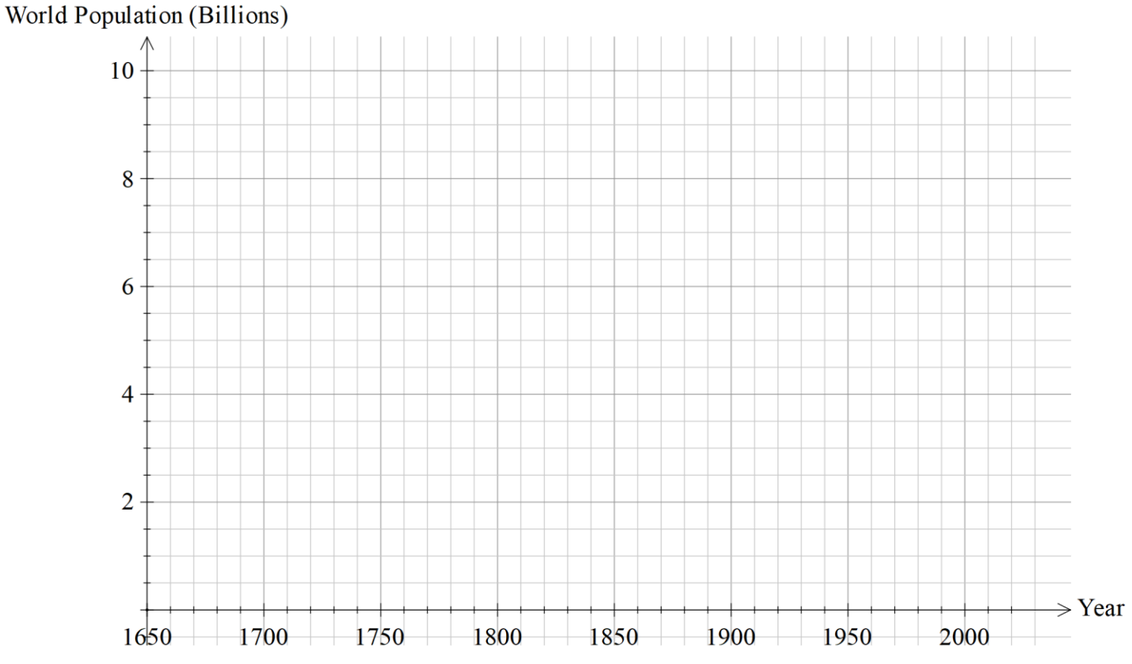
Biology 2201 Human Population Growth Gillam Holy Heart Name: _____

1.) Use the table to create a graph of human population growth. Connect the dots using a **smooth** curve of best fit.

Year	Number of People (Billions)
1650	0.50
1750	0.70
1850	1.0
1925	2.0
1956	2.5
1970	3.6
1980	4.4
1991	5.5
2000	6.0
2004	6.4
2008	6.7
2011	6.9
2014	7.3
2017	7.5
2020	7.8
2022	8.0 (November 2022)



It took 1,649 years for the world population to double from .25 billion people to .50 billion people.

2.) How many years did it take for the population to double a second time? _____

3.) How many years did it take for the population to double a third time? _____

4.) How many years did it take for the population to double a fourth time? _____

5.) Based on your graph, in what year will the population reach 9 billion? _____

Earths Carrying Capacity

Prior to 1950, the death rate was high, which kept the numbers of humans from increasing rapidly. In the 19th Century, the agricultural revolution increased food production. The industrial revolution improved methods of transporting food and other goods. In the 20th Century, advances in medicine, sanitation and nutrition have decreased the death rates further. These factors combined to produce the rapid growth of the human population in the 20th century.

As with any population, humans are also limited by factors such as space, amount of food and disease. The carrying capacity is the number of individuals that a stable environment (earth) can support. Authorities disagree on the maximum number of people that the earth can support, though the numbers generally range for 8 to 10 billion. As the population approaches its limit, starvation will increase. Some countries have a much higher growth rate than others. Growth rate is the number of people born minus the number of people that die.

Most countries are trying to reduce their growth rate. Zero population growth means that as many people are being born as there are dying - to achieve zero population growth, each couple would need to have no more than two children (to replace the parents). Even if this number is achieved, the population will continue to grow because the parents will still live on for decades, as their children have children and their children have children… and so forth. The United States reached zero population growth in the 1980's, and yet the overall population of the US still increases.

6.) What advancements contributed to the world's exponential population growth in the last 150 years?

_____

_____

_____

_____

_____

7.) Why does a population not level off during the same year it reaches zero population growth?

_____

_____

_____

_____

_____

8.) If the carrying capacity of the earth was 9 billion people, what year do you think this number be reached? Why?

_____

_____

_____

9.) What will happen when the human population exceeds the earth's carrying capacity?

_____

_____

_____

_____

_____

Use google to answer the questions below.

10.)What impacts does overpopulation have on the environment?

_____

_____

_____

_____

_____

11.) What are some solutions to these problems?

_____

_____

_____

_____

_____

_____

_____

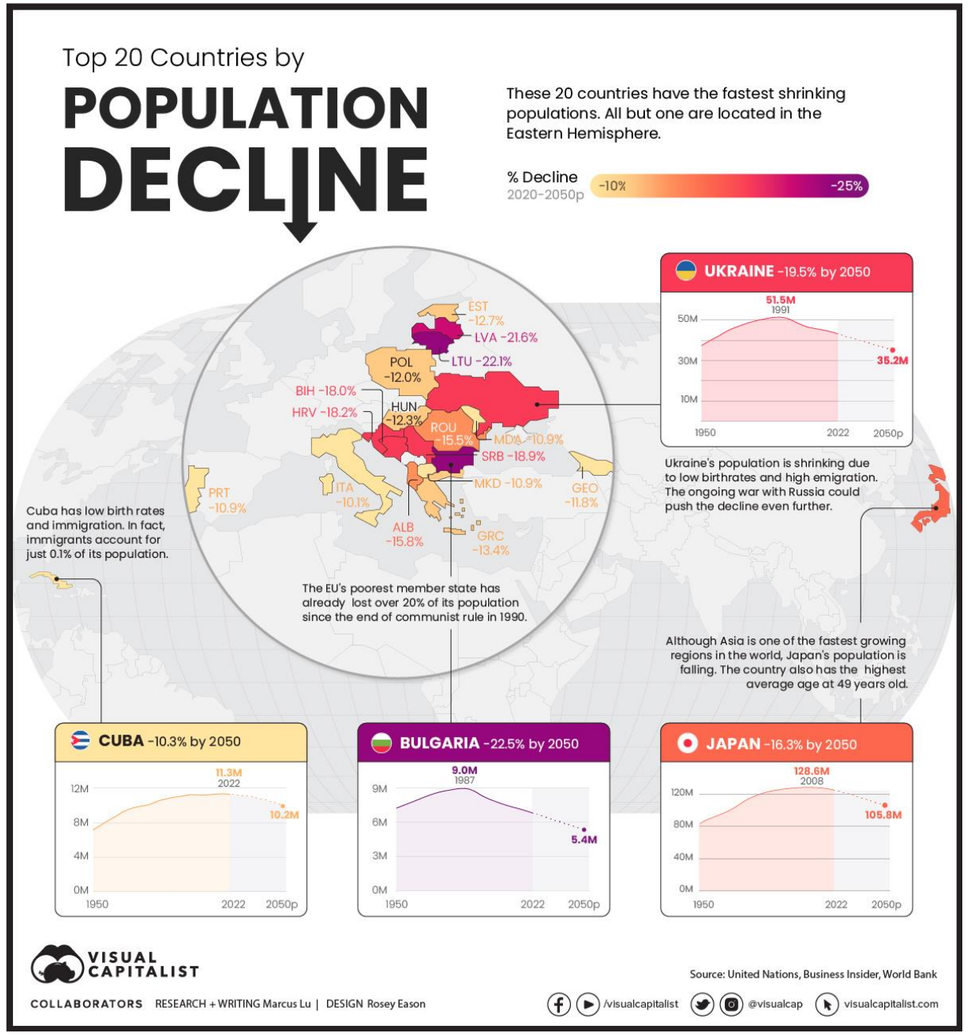
12.)What continent has the lowest population growth rates? Why?

_____

_____

_____

_____



Rank	Country	Decline 2020-2050
1	Bulgaria	22.5%
2	Lithuania	22.1%
3	Latvia	21.6%
4	Ukraine	19.5%
5	Serbia	18.9%
6	Bosnia and Herzegovina	18.2%
7	Croatia	18.0%
8	Moldova	16.7%
9	Japan	16.3%
10	Albania	15.8%