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Partners: _____

Hour: _____

Continental Population Models

Citation: Wikipedia. List of Continents by Population. (n.d.). Wikimedia Foundation. Retrieved from https://en.wikipedia.org/wiki/List_of_continents_by_population

AFRICA

A. Given each data set below, create an exponential function of the form $P=C$ to model the population of Africa over time. Record your models in the chart below.

1. In 1990, there were 629.987 million people in Africa. By 2000, there were 808.304 million people in Africa.
2. In 2000, there were 808.304 million people in Africa. By 2010, there were 1031.084 million people in Africa.
3. In 1950, there were 228.827 million people in Africa. By 2000, there were 808.304 million people in Africa.
4. In 1960, there were 285.270 million people in Africa. By 2010, there were 1031.084 million people in Africa.

B. Use each of the four models you created to predict the population of Africa in 2013. Record these predictions on the chart below.

Question Number	Model	2013 Prediction	Error
1			
2			
3			
4			
5			

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C. The actual population of Africa in 2013 was 1110.635 million people. Calculate the error of each model and record it in the chart above. Which model was the most accurate?

D. Compare the data you used for the model you chose in part C to the data used in the other models. What about the data do you think explains why the model you choose was most accurate?

NORTH AMERICA

A. Given each data set below, create an exponential function of the form $P=C$ to model the population of North America over time. Record your models in the chart below.

1. In 1990, there were 431.654 million people in North America. By 2000, there were 493.449 million people in North America.

2. In 2000, there were 493.449 million people in North America. By 2010, there were 548.672 million people in North America.

3. In 1950, there were 227.024 million people in North America. By 2000, there were 493.449 million people in North America.

4. In 1960, there were 277.025 million people in North America. By 2010, there were 548.672 million people in North America.



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B. Use each of the four models you created to predict the population of North America in 2013. Record these predictions below.

Question Number	Model	2013 Prediction	Error
1			
2			
3			
4			
5			

C. The actual population of North America in 2013 was 565.265 million people. Calculate the error of each model and record it in the chart above. Which model was the most accurate?

D. Compare the data you used for the model you chose in part C to the data used in the other models. What about the data do you think explains why the model you choose was most accurate?

SOUTH AMERICA

A. Given each data set below, create an exponential function of the form $P=C$ to model the population of South America over time. Record your models in the chart below.

1. In 1990, there were 295.835 million people in South America. By 2000, there were 384.246 million people in South America.

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2. In 2000, there were 384.246 million people in South America. By 2010, there were 394.021 million people in South America.

3. In 1950, there were 112.460 million people in South America. By 2000, there were 384.246 million people in South America.

4. In 1960, there were 147.766 million people in South America. By 2010, there were 394.021 million people in South America.

B. Use each of the four models you created to predict the population of South America in 2013. Record these predictions on the chart below.

Question Number	Model	2013 Prediction	Error
1			
2			
3			
4			
5			

C. The actual population of South America in 2013 was 406.740 million people. Calculate the error of each model and record it in the chart above. Which model was the most accurate?

D. Compare the data you used for the model you chose in part C to the data used in the other models. What about the data do you think explains why the model you choose was most accurate?

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Comparing Continents

Continent	Model	Current Population (this year)
Africa		
Asia		
Europe		
North America		
South America		

For questions 1-10, determine when the population of the two continents listed was (or will be) equal.

1. Africa and Asia

2. Asia and Europe

3. Europe and North America

4. North America and South America

5. South America and Africa

6. Africa and Europe

7. Asia and North America

8. Europe and South America

9. North American and Africa

10. South America and Asia

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What about this data and information is surprising to you? Explain why you think it is surprising.

