Question 3

3. Yellowstone National Park began a project to restore its native wolf population in the mid 1990's. Below are the number of wolves soon after the start of the project:

Year	Years since Project Began	Number of Wolves
1996	1	25
1998	3	45

(1/1 point)

3a. Researchers fit a linear model to the wolf data. Using this model, how many wolves were being added to the park each year? *(Round to zero decimal places.)*

10

10

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(1/1 point)

3b. According to their linear model, what was the size of the original wolf population when the project began?

15

15

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(1 point possible)

3c. Another researcher assumed that the wolves would experience exponential growth because there were no predators. He fit an exponential model to this data. What is the growth factor for his model? *(Round to 2 decimal places.)*

1.8

1.8

Answer: 1.34

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(1/1 point)

3d. What is the annual growth rate of these wolves each year, according to this model? *(Report as a proportion rounded to 2 decimal places.)*

0.34

0.34

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(1/1 point)

3e. Assuming exponential growth, find the initial number of wolves when the project began. *(Round to zero decimal places.)*

19

19

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(1/1 point)

3f. By 2002, there were 147 wolves in Yellowstone Park. Which model was determined to fit the data better?

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- (•) Exponential ✔
- ( ) Linear
- ( ) Neither model appears to fit well

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(1 point possible)

3g. Using the best-fitting model, how many years must pass before there are **more than** 325 wolves in Yellowstone? *(Round to zero decimal places.)*

84

84

Answer: 10

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