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 a whole number.)*

10 ✔ **Answer:** 10

10

You have used 1 of 1 submissions

(1/1 point)

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

15 ✔ **Answer:** 15

15

You have used 1 of 1 submissions

(1/1 point)
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 this model? *(Round to 2 decimal places.)*

1.34 ✔ **Answer:** 1.34

1.34

You have used 1 of 1 submissions

(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 ✔ **Answer:** .34

0.34

You have used 1 of 1 submissions

(1/1 point)
3e. Assuming exponential growth, find the initial number of wolves when the project began. Use your rounded answer from the previous question. *(Round to a whole number.)*

19 ✔ **Answer:** 19

19

You have used 1 of 1 submissions

(1/1 point)
3f. By 2002, there were 147 wolves in Yellowstone Park. Which model was determined to fit the data better?

◉ Exponential ✔

- Linear
- Neither model appears to fit well

You have used 1 of 1 submissions

(1/1 point)

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

10 ✔ **Answer:** 10

10

You have used 1 of 1 submissions