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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.*)



Answer: 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?




Answer: 15


You have used 1 of 1 submissions

Function Models

Readings


Reading Check due Mar 15, 2016 at 18:00 UTC 

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Pre-Lab

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Lab

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Problem Set

Problem Set due Mar 15, 2016 at 18:00 UTC 

(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.)

✓ Answer: 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.)

✓ Answer: .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.)

✓ Answer: 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.*)

✓ Answer: 10

You have used 1 of 1 submissions

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