

I can interpret a logistic growth model using a graphing utility.

Logistic Growth Model:

$$P(t) = \frac{c}{1 + ae^{-bt}}$$

$P(t)$:

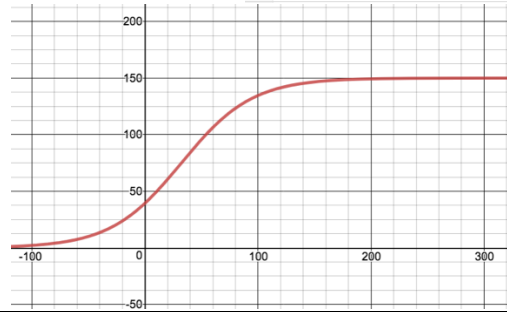
c :

a :

b :

t :

What it could look like: $P(x) = \frac{150}{(1 + 2.8e^{-0.032x})}$



Often environmentalists will capture an endangered species and transport the species to a controlled environment where the species can produce offspring and regenerate its population. Suppose 6 American Bald Eagles are captured and transported to Montana and set free. Based on experience, the environmentalists expect the population to grow according to the model $P(t) = \frac{500}{1 + 83.33e^{-0.162t}}$

- What is the carrying capacity of the environment?
- What is the predicted population of the American Bald Eagle in 20 years?
- When will the population be 300? Use a graphing Utility to answer.

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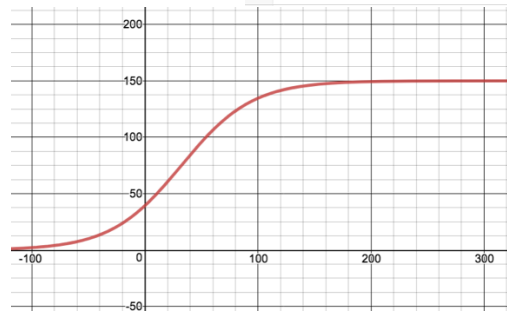
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