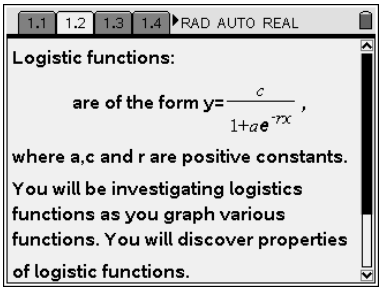
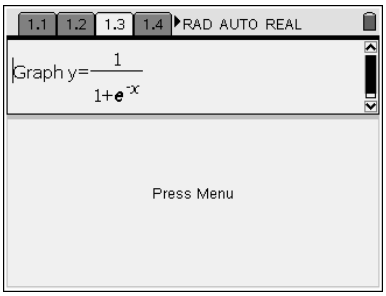
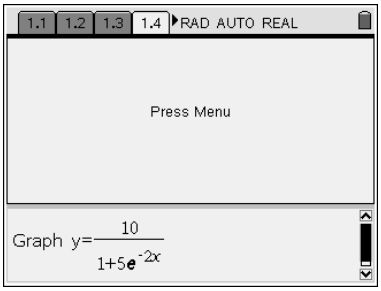
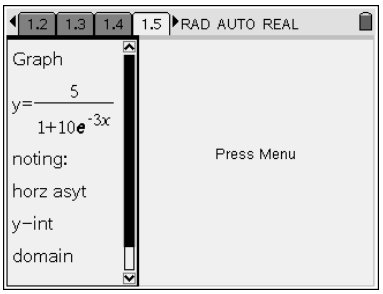
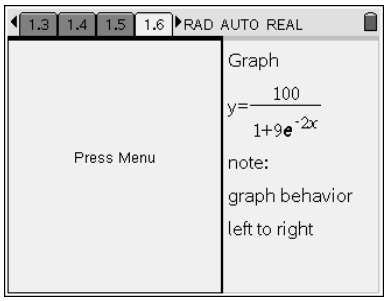
Logistic Function Student tns. Screens

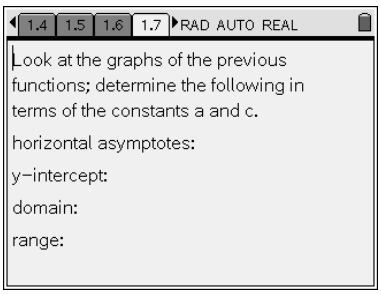


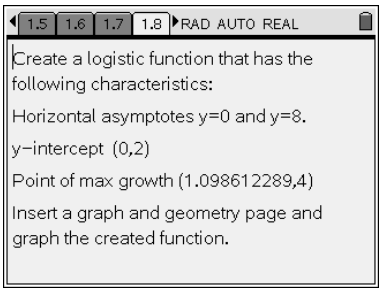


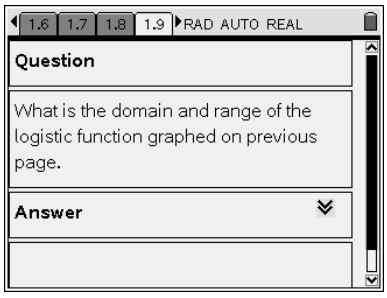


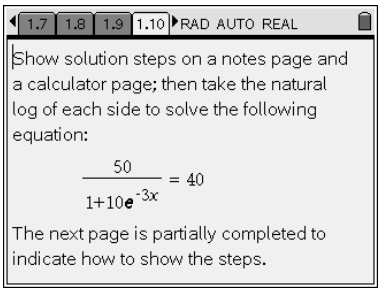


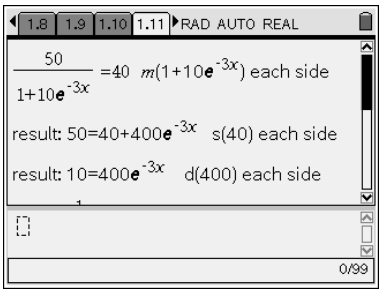


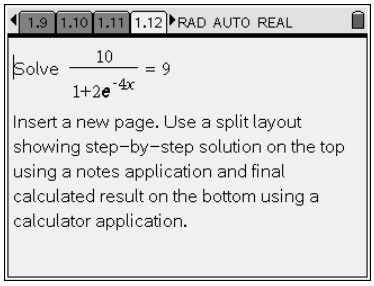


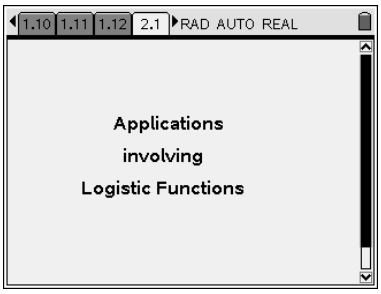


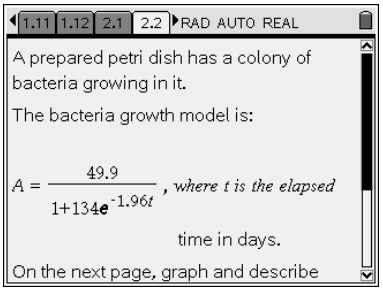


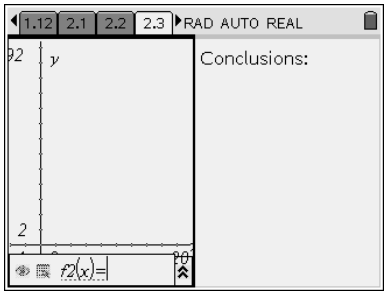


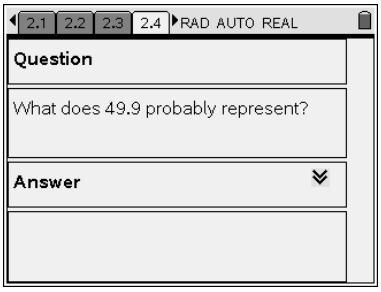


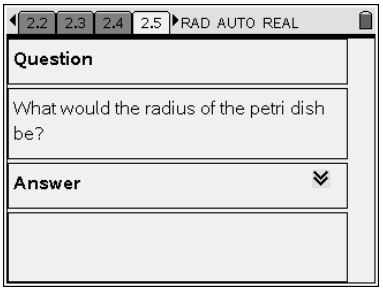


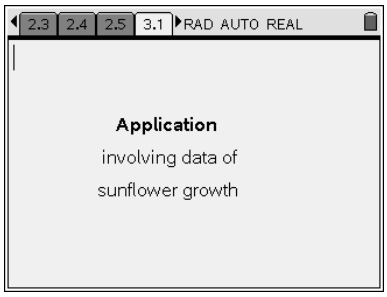


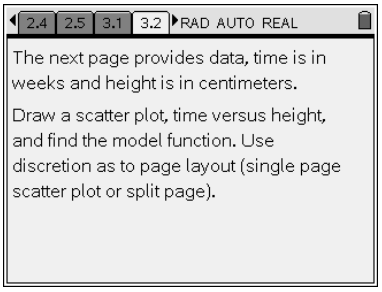


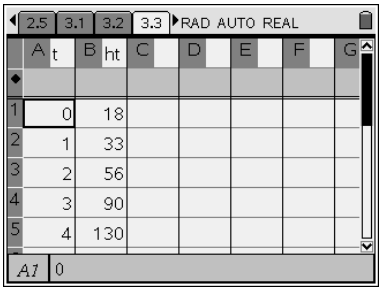


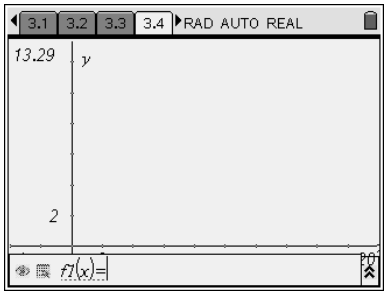


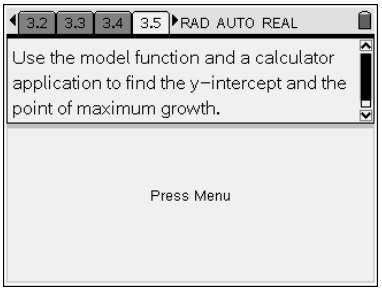

RAD AUTO REAL
Question
What would the radius of the petri dish be?
Answer

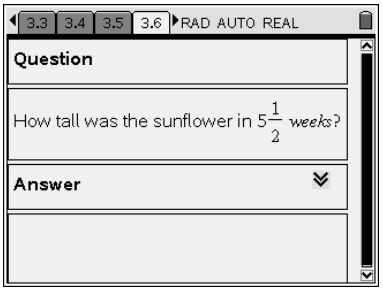

RAD AUTO REAL
Application
involving data of
sunflower growth

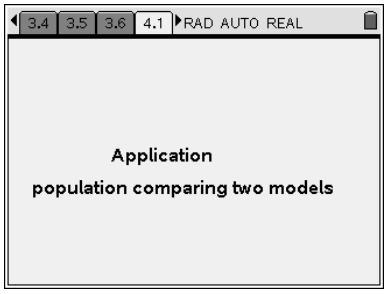

RAD AUTO REAL
The next page provides data, time is in weeks and height is in centimeters.
Draw a scatter plot, time versus height, and find the model function. Use discretion as to page layout (single page scatter plot or split page).

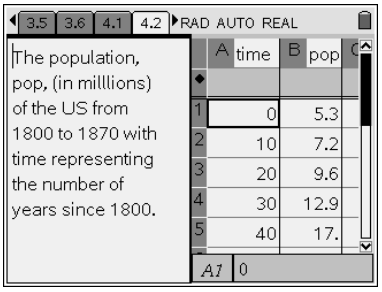

RAD AUTO REAL
A t B ht C D E F G
1 0 18
2 1 33
3 2 56
4 3 90
5 4 130
A1 0

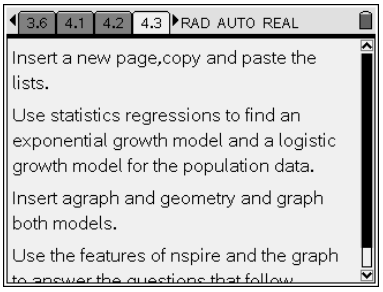

RAD AUTO REAL
13.29
y
2
f1(x)=

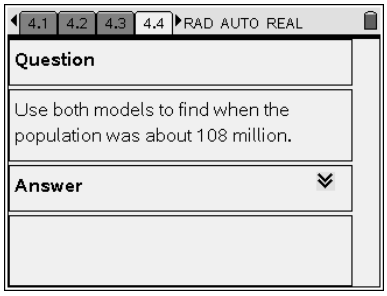

RAD AUTO REAL
Use the model function and a calculator application to find the y−intercept and the point of maximum growth.
Press Menu

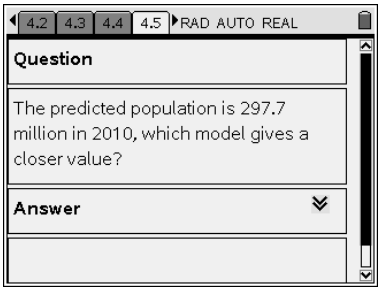

RAD AUTO REAL
Question
How tall was the sunflower in $5\frac{1}{2}$ weeks?
Answer

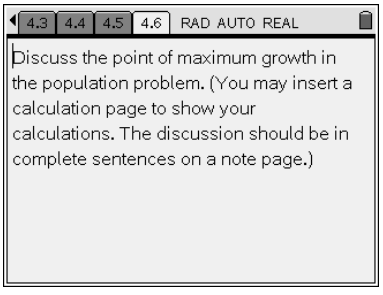

RAD AUTO REAL
Application
population comparing two models


RAD AUTO REAL
The population, pop, (in milllions) of the US from 1800 to 1870 with time representing the number of years since 1800.
A time B pop
1 0 5.3
2 10 7.2
3 20 9.6
4 30 12.9
5 40 17.
A1 0


RAD AUTO REAL
Insert a new page,copy and paste the lists.
Use statistics regressions to find an exponential growth model and a logistic growth model for the population data.
Insert agraph and geometry and graph both models.
Use the features of nspire and the graph


RAD AUTO REAL
Question
Use both models to find when the population was about 108 million.
Answer


RAD AUTO REAL
Question
The predicted population is 297.7 million in 2010, which model gives a closer value?
Answer


RAD AUTO REAL
Discuss the point of maximum growth in the population problem. (You may insert a calculation page to show your calculations. The discussion should be in complete sentences on a note page.)