



Problem 1 – Finding an exponential function

- What kind of function would best model the data on page 1.3?
- What happens to the value of a when you divide the two equations on page 1.6?
- What is the determined exponential function on page 1.6?

Go back to page 1.5 and graph the exponential function.

- How well does the equation match the data?
- Looking at your equation, what is your initial population?
- According to your equation, by what percent is the world population growing?
- Using your equation, what will the population be in the year 2015? In 1890?

Problem 2 – Graphically finding the exponential function with base e

- What is the exponential function with base e for the data?
- What is the growth rate of the population with this model?
- How does this value compare to the growth rate from problem 1?
- According to this model, what would the population be in 2015? In 1890?
- Do you think this model of the data is better than your first one? If so, why?



Problem 3 – Finding an exponential function using exponential regression of the data.

- According to this model, what would the population be in 2015? In 1890?
- Which model do you feel is the best and why?
- On page 3.6, use the graph and the exponential regression equation to find the year when the world's population will reach 8.5 billion people.