

Final Score: _____

Name: _____

How fast is the state population growing?

State: _____

Project Score Sheet

Equation Form (1 point each – total 4 points)

- 1. Linear: $y = mx + b$ _____
- 2. Quadratic: $y = ax^2 + bx + c$ _____
- 3. Cubic Polynomial: $y = ax^3 + bx^2 + cx + d$ _____
- 4. Exponential: $y = ae^{rt}$ _____

Equation Correct (2 Points each – total 8 points)

- 1. Linear (each number must be accurate to nearest thousandth) _____
- 2. Quadratic (each number must be accurate to nearest thousandth) _____
- 3. Cubic (each number must be accurate to nearest thousandth) _____
- 4. Exponential (each number must be accurate to nearest thousandth) _____

y-intercept/meaning relative to project/Makes sense explanation (1 points each – total 8 points)

- 1. Linear:
 - a. Y-intercept (consistent and accurate to nearest tenth) _____
 - b. Explanation of what the y-intercept means relative to the data. _____
- 2. Quadratic
 - a. Y-intercept (consistent and accurate to nearest tenth) _____
 - b. Explanation of what the y-intercept means relative to the data. _____
- 3. Cubic
 - a. Y-intercept (consistent and accurate to nearest tenth) _____
 - b. Explanation of what the y-intercept means relative to the data. _____
- 4. Exponential
 - a. Y-intercept (consistent and accurate to nearest tenth) _____
 - b. Explanation of what the y-intercept means relative to the data. _____

Rates (2 points each – total 8 points)

- 1. Linear:
 - a. Rate with proper units (consistent and accurate to nearest tenth) _____
 - b. Explanation of what the linear rate means relative to the data. Use proper units. _____
- 2. Exponential:
 - a. Rate as a percent (consistent and accurate to nearest tenth) _____
 - b. Explanation of what the exponential rate means relative to the data. Use proper units. _____

Population Estimates (2 or 1 point based on accuracy – total 24 points) – Need to use your calculator.

2 points if within 4 people; 1 point if within 8 people

- 1. Linear: 1870 _____ 1984 _____ 2000 _____
- 2. Quad: 1870 _____ 1984 _____ 2000 _____
- 3. Cubic: 1870 _____ 1984 _____ 2000 _____
- 4. Exp: 1870 _____ 1984 _____ 2000 _____

Compared Estimated population to actual and gave numerical difference (1 point each – total 8 points)

- 1. Linear: 1870 _____ 2000 _____
- 2. Quad: 1870 _____ 2000 _____
- 3. Cubic: 1870 _____ 2000 _____
- 4. Exp: 1870 _____ 2000 _____

Year Estimate (4, 2, or 1 point based on accuracy – total 16 points) – Need to use your calculator.

4 points if within 1 years; 2 points if within 2 years; 1 point if within 3 years

- 1. Linear: _____
- 2. Quadratic: _____
- 3. Cubic: _____
- 4. Exponential: _____

Graph labels and curve matches the data (0.5 points each – total 4 points)

- 1. Linear: labels _____ curve _____
- 2. Quad: labels _____ curve _____
- 3. Cubic: labels _____ curve _____
- 4. Exp: labels _____ curve _____

Table from census bureau printed out and included with project (2 points) _____

Bulleted summary layout matches the example, typed, neat, etc (6 points) _____

Sub Total 1: (Maximum total points 88) _____

Project Extension for a possibility of an "A":
Extrapolation and Interpolation Score Sheet

Extrapolation (7 points per population)

1. All four models are on the same graph (1 points) _____
2. Graphs were labeled using a legend (1 point) _____
3. Models have been extend in both directions to show definite distinctions (2 points) _____
4. *In general, discusses the problems associated with extrapolating and why models may or may not be appropriate for predicting too far into the future or past. Refer to your graphs as examples of such problems. (maximum 3 points – No points if did not discuss your graphs.) _____

Interpolation (5 points per population)

1. All four models are on the same graph (1 points) _____
2. Graphs were labeled using a legend (1 point) _____
3. *In general, discusses what criteria one would use to select or eliminate a model for interpolating the data. In that discussion you must deal with why or why not each model you have would be appropriate or not appropriate. (maximum 3 points – No points if did not discuss your graphs.) _____

Sub Total 2: (Maximum points 12) _____

*Note: The discussions above are subjective so impress me with your knowledge to get full credit.

Sub total 1 – Page 1: _____

Sub total 2 – Page 2: _____

Grand Total: _____ out of 100 points