

Pre-Calc AB Worksheet #48 : Answers

- 1a. Decreasing due to negative exponent.
- 1b. 2000; population of 2430 thousand. 2003; population of 2227.53 thousand
- 1c. 2002
- 2. 5,309,734 hits
- 3. 3.15 hours
- 4a. $V = -6394t + 30,788$
- 4b. $V = 30,788e^{-0.268t}$
- 4c. The exponential model depreciates faster
- 4d. Linear: $V(1) = 24,394$, $V(3) = 11,606$. Exponential: $V(1) \approx 23,550$, $V(3) \approx 13,779$
- 4e. Advantage to buyer, linear model, doesn't depreciate as fast, less profit for seller. Disadvantage to buyer, exponential model, depreciates faster, more profit for seller.
- 5a. Use window $70 \leq x \leq 115$ and $0 \leq y \leq 0.04$
- 5b. 100
- 6a. 203 animals
- 6b. 13 years
- 6c. $y = 0$ and $y = 1000$; the population size will approach 1000 as time increase.
- 7. 3:00 AM