

Page 317 39-50, not 4's
and 52-54

42. Starting with $g(x) = \ln x$: reflect across the x -axis,
then vertically shrink by a factor of $\frac{1}{\ln 5} \approx 0.62$.

46. (a)

50.

Domain: $(0, \infty)$; Range: $(-\infty, \infty)$;

Continuous; Always increasing;

Asymptote: $x = 0$;

$\lim_{x \rightarrow \infty} f(x) \rightarrow \infty$; $\lim_{x \rightarrow 0^+} f(x) \rightarrow -\infty$

54. ≈ 8.9987 lumens

1. Tell whether the function is exponential growth or decay, and find the constant percentage rate of growth or decay.

$$f(x) = 5607 \cdot 0.9968^x$$

$$f(x) = 4.3 \cdot 1.018^x$$

2. Determine the exponential function that satisfies the given conditions.

Initial value = 52

Increasing at a rate of 2.3% per day

Initial value = 5

Decreasing at a rate of 0.59% per week

Honors Pre-Calc

11-28-07

3. Determine the exponential function that satisfies the given conditions.

Initial population = 250

Doubling every 7.5 hours

Initial mass = 17g

Halving once every 32 hours

4. Find the logistic function that satisfies the given conditions.

Initial value = 12

limit to growth = 60

passing through (1, 24)

5. The half-life of a certain radioactive substance is 14 days. There are 6.6 g present initially.
- Express the amount of substance remaining as a function of time t .
 - When will there be less than 1 g remaining?