BECA / Huson / 11.1 IB Math SL Name:
27 November 2017

Exit Note: Exponential function graphing

This counts as a participation grade. Answer in the space provided.

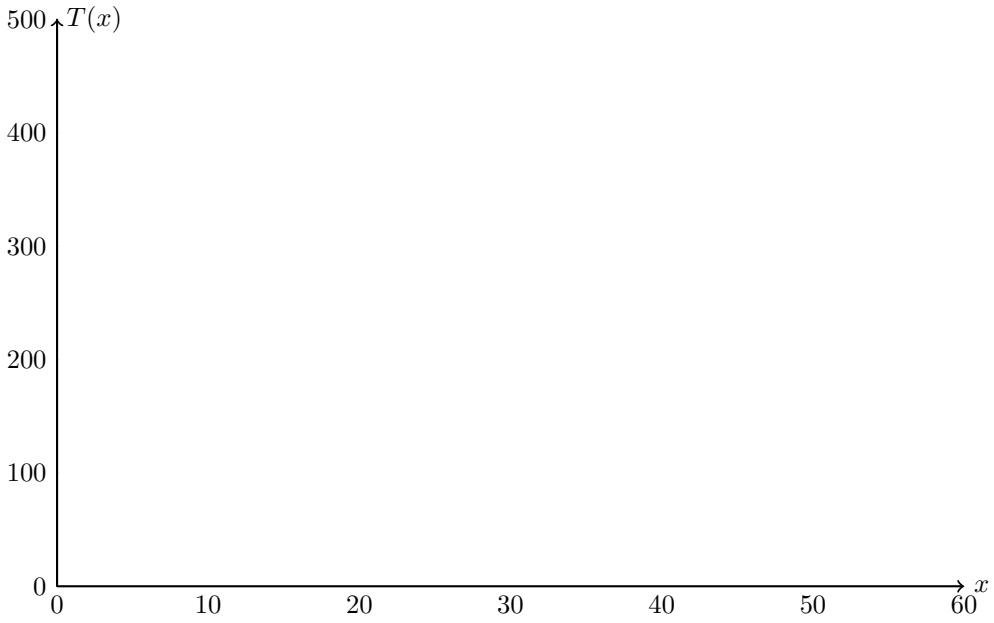
1. The temperature of a hot iron as it cools is modeled by the function $T(x) = 400e^{-0.05x}$ where $T(x)$ is the temperature in degrees Celsius and x is the time in minutes.

   (a) Write down the initial temperature at time zero.

   (b) Find the temperature after one hour.

   (c) When will the temperature of the iron reach 100 degrees Celsius?

   (d) On the graph below, sketch the temperature of the iron, labeling the points above A, B, and C.



Simplify, leaving no negative or fractional exponents.

2. $5x^{-2}y \times 3x^5y^2$

3. $\sqrt[3]{a^3b^{-6}}$

4. $log_7 49$

5. $log_4 2 + log_4 8$

6. Let $f(x) = \sqrt{2x} + 6$ and $g(x) = 2x^2$

   (a) Find $(f \circ g)(x)$

   (b) Find $f^{-1}(x)$