5. [13 points] The bees on Percy's uncle's farm make honey. Over the first two weeks of May, the high temperature has been increasing each day, but the amount of honey the bees have been making decreases each day. Suppose $T(d)$ is the high temperature on the dth day of May in degrees Celsius. Let $H(d)$ be the number of gallons of honey produced by the bees on the dth day of May.

   a. [3 points] Give a practical interpretation of $T^{-1}(14) = 12$ in the context of this problem.

   > *Solution:* The high temperature was 14 degrees Celsius on the 12th day of May.

   b. [4 points] Give a practical interpretation of $T(H^{-1}(13)) = 10$.

   > *Solution:* On the day when 13 gallons of honey were produced, the high temperature was 10 degree Celsius.

   c. [6 points] Compare the two quantities given by putting one of the symbols "<", ">", or "=" in the blank provided. If the relationship between the quantities cannot be determined, write "N" in the blank. You do not need to show your work on this problem, and there is no penalty for guessing.

   $T(5) \underline{\ < \ } T(8)$

   $H^{-1}(5) \underline{\ > \ } H^{-1}(8)$

   $H(T^{-1}(9)) \underline{\ < \ } H(T^{-1}(7))$