

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 d th day of May in degrees Celsius. Let $H(d)$ be the number of gallons of honey produced by the bees on the d th day of May.

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

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

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.

$$T(5) \text{ _____ } T(8)$$

$$H^{-1}(5) \text{ _____ } H^{-1}(8)$$

$$H(T^{-1}(9)) \text{ _____ } H(T^{-1}(7))$$