3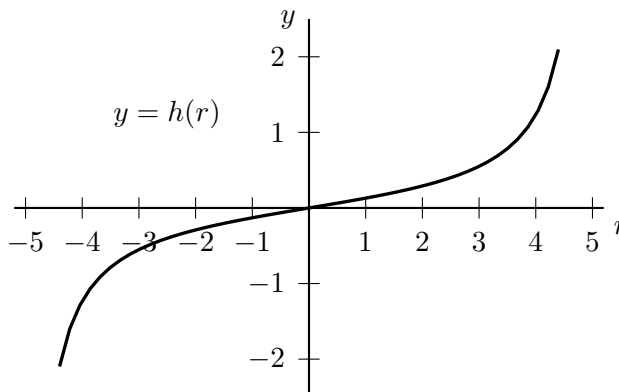. [10 points] In each problem below, some information about a function has been given. This is followed by statements about certain characteristics of the function. Choose the ONE best option in each box. You do NOT need to show any work on this problem.

a. [6 points] The graph of a function $h(r)$ is shown below.

Circle ONE	Circle ONE	Circle ONE
○ $\frac{h(4)-h(1)}{3} > \frac{h(4)-h(2)}{2}$ ○ $\frac{h(4)-h(1)}{3} < \frac{h(4)-h(2)}{2}$ ○ $\frac{h(4)-h(1)}{3} = \frac{h(4)-h(2)}{2}$ ○ The relationship between $\frac{h(4)-h(1)}{3}$ and $\frac{h(4)-h(2)}{2}$ cannot be determined from the information provided.	On the portion of the domain shown, $h(r)$ is ○ always increasing ○ always decreasing ○ neither of these	On the portion of the domain shown, $h(r)$ is ○ always concave up ○ always concave down ○ neither of these

b. [4 points] The amount of time it takes to cook a giant slab of tofu is a function of the weight of the slab. The more a slab of tofu weighs, the longer it takes for it to fully cook. However, as the weight of the tofu slab goes up, the additional time required per extra pound goes down. Let $B(w)$ be the time, in hours, that it takes to cook a giant slab of tofu weighing w pounds.

Circle ONE	Circle ONE
○ $B(w)$ is always *increasing.* ○ $B(w)$ is always *decreasing.* ○ Neither of the above statements is true.	○ $B(w)$ is always *concave up.* ○ $B(w)$ is always *concave down.* ○ Neither of the above statements is true.