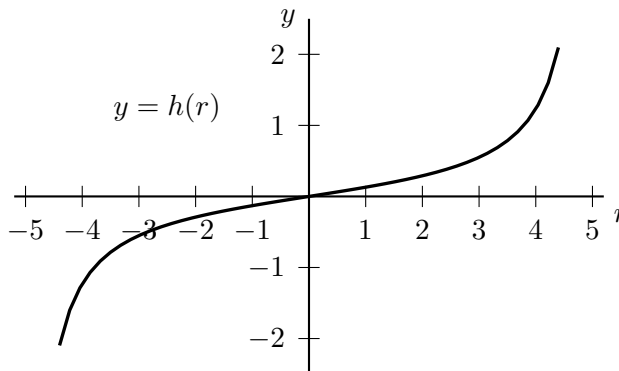


3. [10 points] In each problem below, some information about a function has been given. This is followed by statements about certain characteristics of the function. Choose the ONE best option in each box. You do NOT need to show any work on this problem.

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



<p style="text-align: center;">Circle ONE</p> <p><input type="radio"/> $\frac{h(4)-h(1)}{3} > \frac{h(4)-h(2)}{2}$</p> <p><input checked="" type="radio"/> $\frac{h(4)-h(1)}{3} < \frac{h(4)-h(2)}{2}$</p> <p><input type="radio"/> $\frac{h(4)-h(1)}{3} = \frac{h(4)-h(2)}{2}$</p> <p><input type="radio"/> The relationship between $\frac{h(4)-h(1)}{3}$ and $\frac{h(4)-h(2)}{2}$ cannot be determined from the information provided.</p>	<p style="text-align: center;">Circle ONE</p> <p>On the portion of the domain shown, $h(r)$ is</p> <p><input checked="" type="radio"/> always increasing</p> <p><input type="radio"/> always decreasing</p> <p><input type="radio"/> neither of these</p>	<p style="text-align: center;">Circle ONE</p> <p>On the portion of the domain shown, $h(r)$ is</p> <p><input type="radio"/> always concave up</p> <p><input type="radio"/> always concave down</p> <p><input checked="" type="radio"/> neither of these</p>
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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.

<p style="text-align: center;">Circle ONE</p> <p><input checked="" type="radio"/> $B(w)$ is always increasing.</p> <p><input type="radio"/> $B(w)$ is always decreasing.</p> <p><input type="radio"/> Neither of the above statements is true.</p>	<p style="text-align: center;">Circle ONE</p> <p><input type="radio"/> $B(w)$ is always concave up.</p> <p><input checked="" type="radio"/> $B(w)$ is always concave down.</p> <p><input type="radio"/> Neither of the above statements is true.</p>
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