

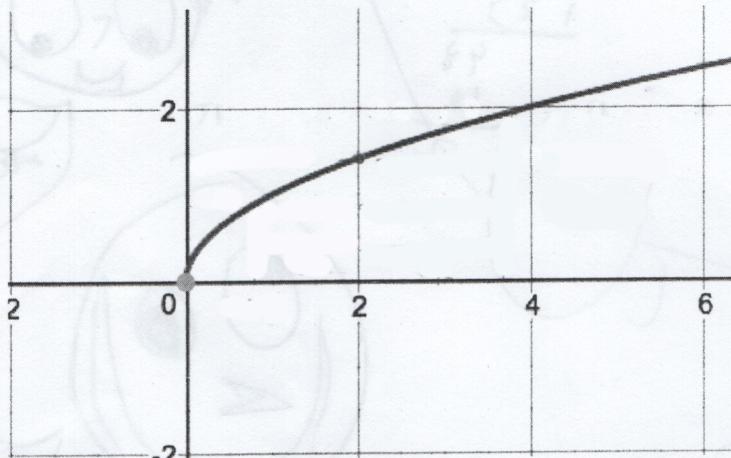
1. Fill in the blanks: [3 pts]

$\lim_{x \rightarrow c} f(x) = L$ if and only if for every _____, no matter how small, there exists a(n) _____ such that if _____ is within _____ units of _____, then _____ is within _____ units of _____.

2. Refer to the graph of $f(x)$ below. Estimate all answers to the nearest tenth.

a. $\lim_{x \rightarrow 2} f(x) = \underline{\hspace{2cm}}$ [1 pt]

b. Given $\varepsilon = 0.5$, use the graph to estimate the largest possible value of δ that will satisfy the limit definition. Draw on the graph to clearly indicate important lines and measurements that you considered. [4 pts]



3. Given the function, $f(x) = (x - 2)^3 + 4$, complete a delta epsilon proof to prove: $\lim_{x \rightarrow 3} f(x) = 5$. [7 pts]