

Name: SOLUTIONS

Quiz #2 - September 1, 2006

1. Complete the following definition precisely:

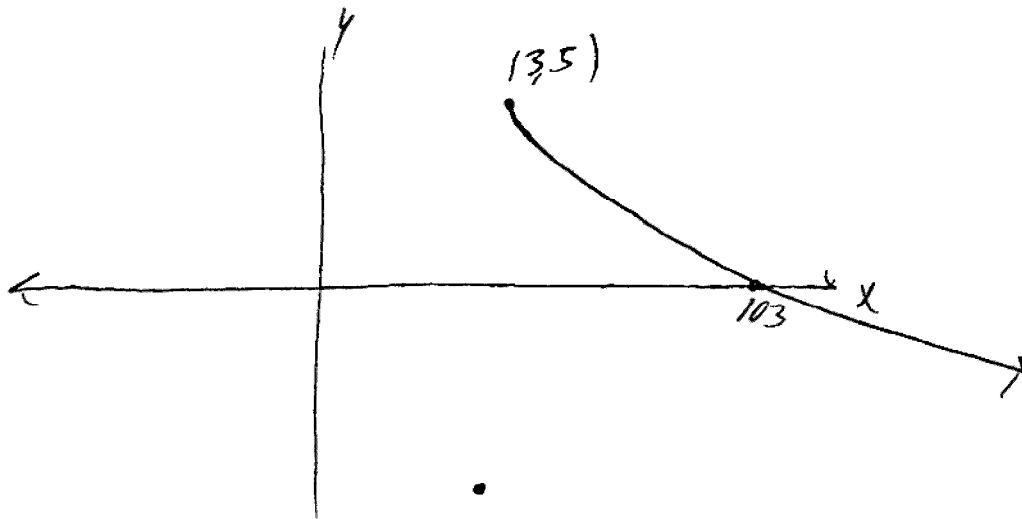
A sequence $\{a_n\}$ has the limit L and we write $\lim_{n \rightarrow \infty} a_n = L$ if ...

For any $\epsilon > 0$ there exists some $N > 0$
such that $|a_n - L| < \epsilon$ whenever $n > N$.

2. Neatly sketch the graph of

$$f(x) = -\frac{1}{2}\sqrt{x-3} + 5$$

labelling any x or y intercepts. Then find the domain and range of $f(x)$.



$$0 = -\frac{1}{2}\sqrt{x-3} + 5$$

$$\sqrt{x-3} = 10$$

$$x = 103$$

$$\text{Domain: } [3, \infty)$$

$$\text{Range: } (-\infty, 5]$$