

4. [6 points] On the axes below, sketch the graph of a single function  $J(t)$  that satisfies all of the properties below. Clearly indicate any relevant features of your graph.

- The domain of  $J(t)$  is all real numbers except for  $t = 1$ .
- The range of  $J(t)$  is  $(-\infty, 3)$
- $\lim_{t \rightarrow \infty} J(t) = -2$ .
- $\lim_{t \rightarrow -\infty} J(t) = 3$ .
- $J(t)$  has a vertical asymptote at  $t = 1$ .

