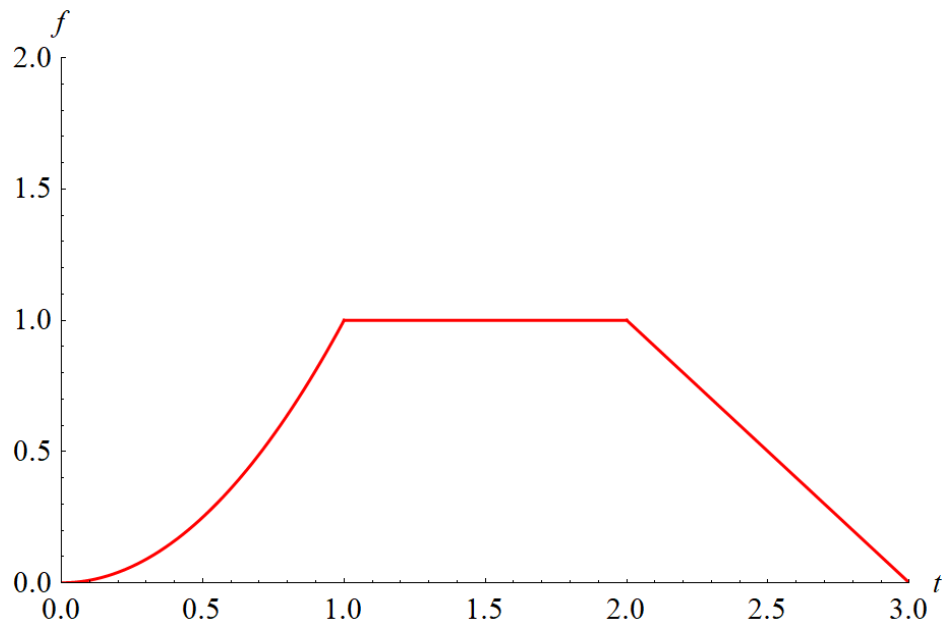


Problem 3

In each of Problems 1 through 4, sketch the graph of the given function. In each case determine whether f is continuous, piecewise continuous, or neither on the interval $0 \leq t \leq 3$.

$$f(t) = \begin{cases} t^2, & 0 \leq t \leq 1 \\ 1, & 1 < t \leq 2 \\ 3 - t, & 2 < t \leq 3 \end{cases}$$

Solution



This function is continuous because the limit of the function at every value of t is the same from the left as it is from the right. In other words, there are no points of discontinuity.