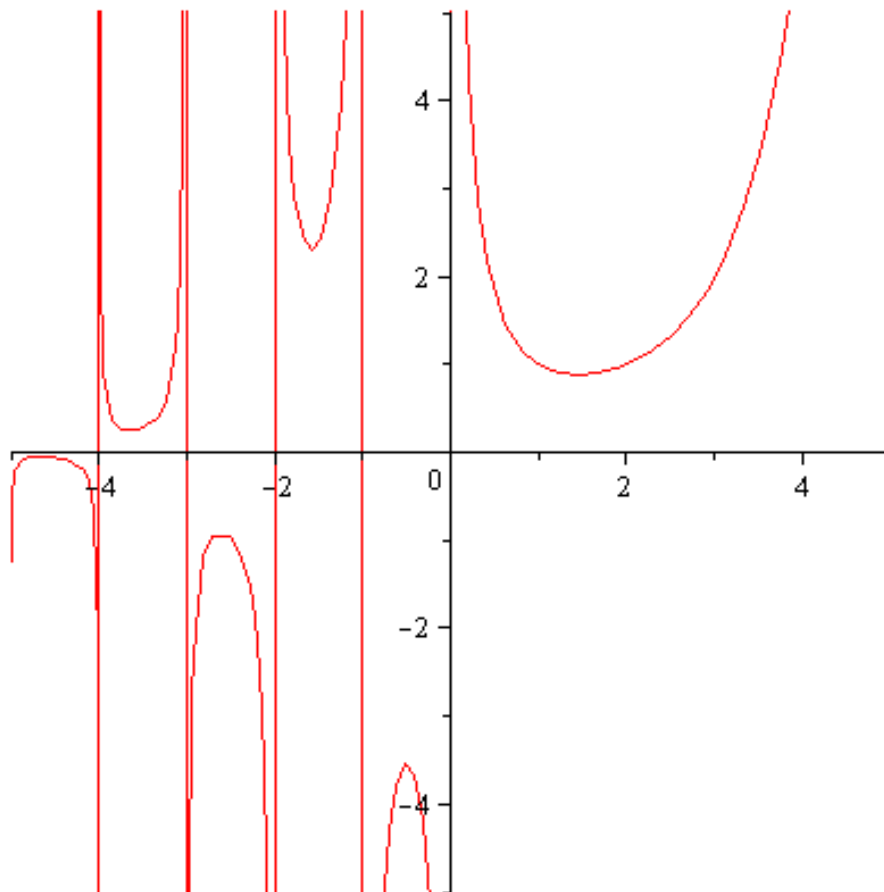


a. **THE GAMMA FUNCTION**

$f := x \rightarrow \text{int}(t^{x-1} \cdot e^{-t}, t=0.. \infty);$

$$x \rightarrow \int_0^{\infty} t^{x-1} e^{-t} dt$$

$\text{plot}(f(x), x=-5..5, y=-5..5);$



NOTE: The definition of the Gamma Function above is essentially valid only for  $x > 0$ . However, in part f, we will see how to extend the definition to include most negative numbers as indicated in the graph above.