

73.

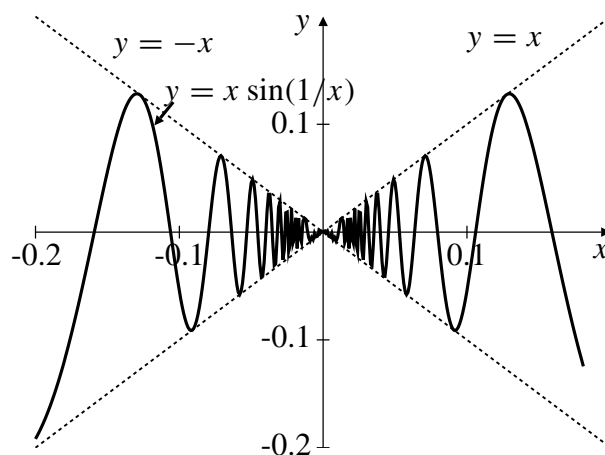


Fig. 2-73

$f(x) = x \sin(1/x)$  oscillates infinitely often as  $x$  approaches 0, but the amplitude of the oscillations decreases and, in fact,  $\lim_{x \rightarrow 0} f(x) = 0$ . This is predictable because  $|x \sin(1/x)| \leq |x|$ . (See Exercise 95 below.)