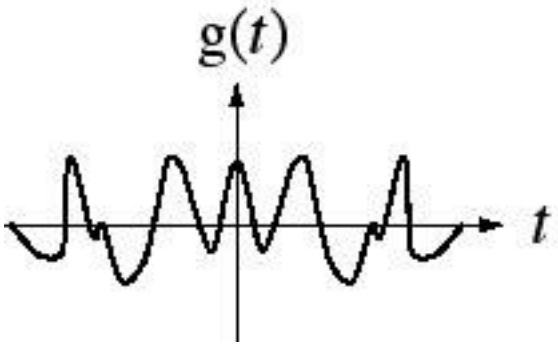
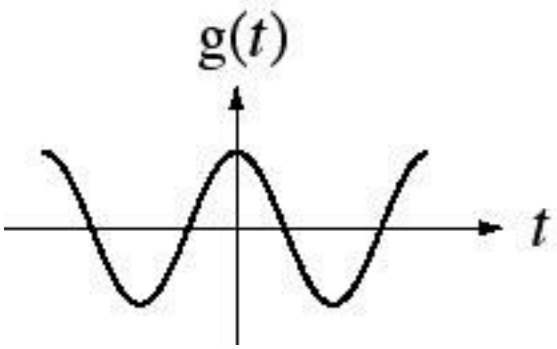
Operations on continuous-time and discrete-time signals (including transformations of independent variables)

Even and Odd Signals

Even Functions

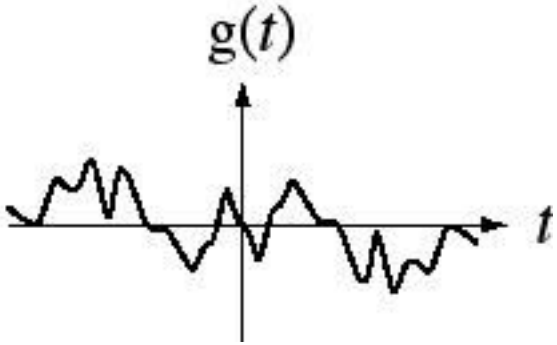
$$g(t) = g(-t)$$

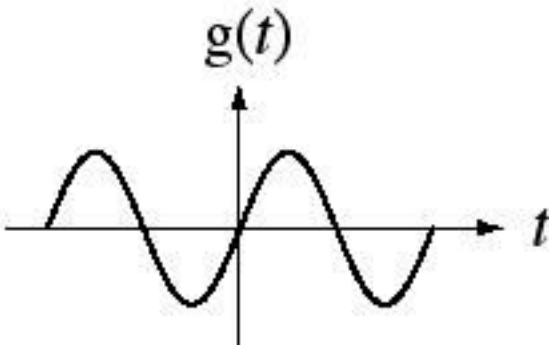




Odd Functions

$$g(t) = -g(-t)$$





Even and Odd Parts of Functions

The **even part** of a function is $g_e(t) = \dfrac{g(t)+g(-t)}{2}$

The **odd part** of a function is $g_o(t) = \dfrac{g(t)-g(-t)}{2}$

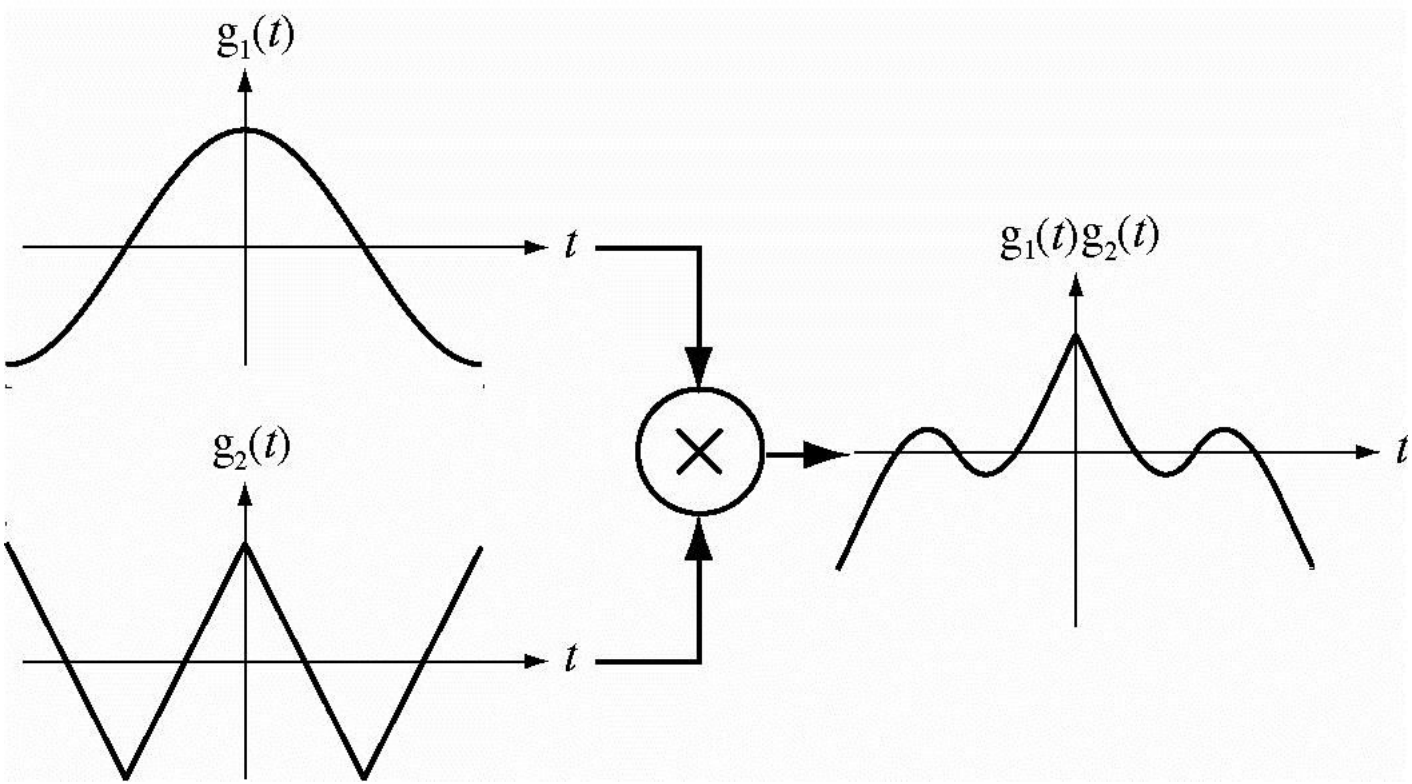
A function whose even part is zero, is odd and a function whose odd part is zero, is even.

Various Combinations of even and odd functions

Function type	Sum	Difference	Product	Quotient
Both even	Even	Even	Even	Even
Both odd	Odd	Odd	Even	Even
Even and odd	Neither	Neither	Odd	Odd

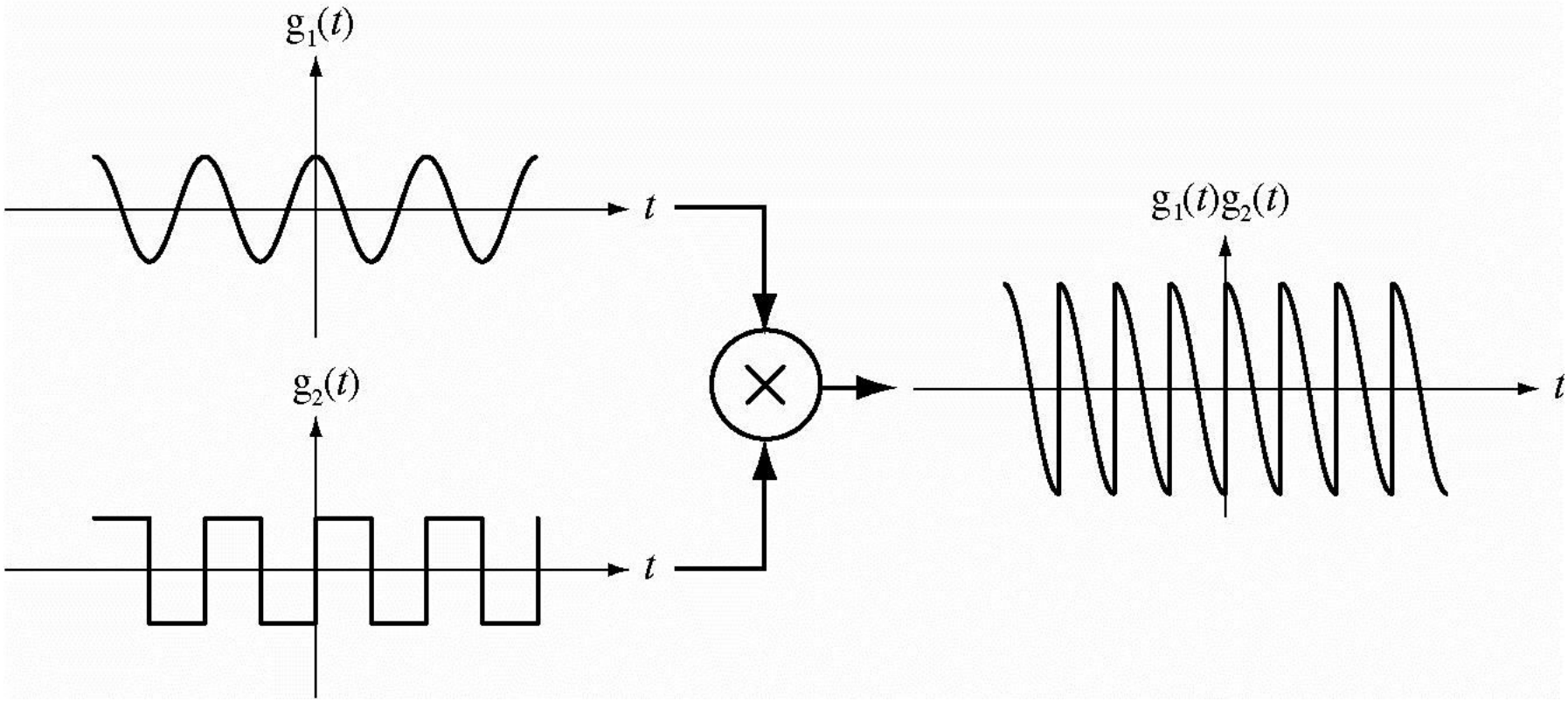
Product of Even and Odd Functions

Product of Two Even Functions



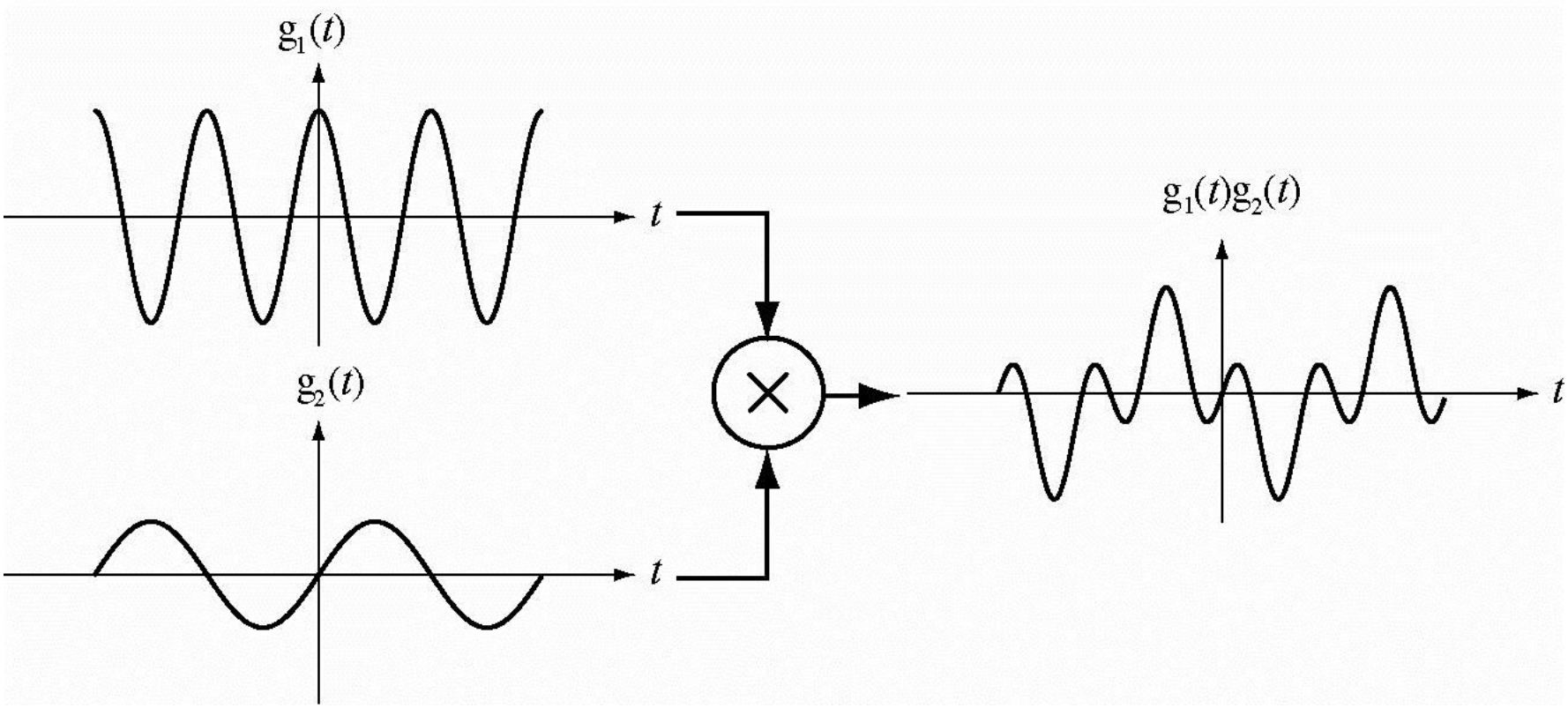
Product of Even and Odd Functions Contd.

Product of an Even Function and an Odd Function



Product of Even and Odd Functions Contd.

Product of an Even Function and an Odd Function



Product of Even and Odd Functions Contd.

Product of Two Odd Functions