

BEFORE YOU READ

Read the integrand first

The shape of the integrand points to the technique. Each card names the pattern to look for.

Integration techniques

5 methods

Substitution

Look for
 $f(g(x)) \cdot g'(x)$

Move
let $u = g(x)$

Integration by parts

Look for
products of different
function types

Examples
polynomial $\times$
exponential,
polynomial $\times$ trig, log
 $\times$ polynomial

Trigonometric integrals

Look for
powers or products of
sin and cos

Trigonometric substitution

Look for
 $\sqrt{a^2 - x^2}$, $\sqrt{a^2 + x^2}$,
 $\sqrt{x^2 - a^2}$

Partial fractions

Look for
rational functions with
a factorable
denominator

TAKEAWAY

Match the pattern, then commit

Substitution and parts cover most integrals; trigonometric methods and partial fractions handle the specialised shapes.

