Following are methods of finding integral that we have studied along with the necessary information we have to identify. Given the integrals, find the appropriate method of integration and identify the relevant information for that method. use numerical only when all other options fail. Assume a and b are constants.

Method	Information to Identify
Elementary integral	None (we can take integral directly)
Substitution	O.F.=$f(u)$; I.F. $= u = f(x)$; $du = f'(x)dx$
Integration by Parts	$u =$ \qquad $v' =$ \qquad $u' =$ \qquad $v =$
Integration by Partial Fractions	Decompose fraction into sum (Evaluating numerators is step 2)
Numerical Approximation	Must use $LEFT(n)$, $RIGHT(n)$, $MID(n)$, $TRAP(n)$, or $SIMP(n)$

Integral	Method (2 pts each)	Necessary Information for the method (3 pts each)

$\int_a^b \arctan 5x \, dx$

$\int_a^b x^2 e^{x^3} \, dx$

$\int_a^b \frac{1}{1+x^2} \, dx$

$\int_a^b \frac{3x+1}{x^2-4} \, dx$

$\int_a^b \frac{e^{x^2}}{x} \, dx$

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Integral	Method (2 pts each)	Necessary Information for the method (3 pts each)
$\int_a^b \ln x \, dx$		
$\int_a^b e^x \sin e^x \, dx$		
$\int_a^b \frac{1}{x^2-1} \, dx$		
$\int_a^b \frac{3x+2}{3x^2+4x-4} \, dx$		
$\int_a^b x^7 \sin x^4 \, dx$		