LEC16-Trigonometric Integrals

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Tvesday, February 11, 2025	1,
Section 3.2	
	<u>Example</u>
	If the substitution u=cosx was used for the following integral, what would the resulting integral be?
	[cos*xsin*xdx], u: cosx so -sinx = dx
	$5 \int -u^{6}(1-u^{2}) du \left(\cos^{2}x + \sin^{2}x = 1 \right)$
	Integrating Cos"xsin" x, where n and m are non-negative integes
	(ex. sodd (ex. scos²xsin²xdx)
	Separate one sinu and write the rest in terms of cosu using the pythogorean identity (cos2x+sin2x=1) [u=cosu]
	(ase 2: n is odd (ex. lcos3xsin2xdx)
	Separate one cosx and write the rest in terms of sinx using the pythagorean identity [u = sinx]
	Case 3: n and m are even (ex, Scostasintada)
	Try repeatedly using the double angle identities
	$\sin^2\theta = \frac{1}{2}(1-\cos(2\theta)) \ \& \cos^2\theta = \frac{1}{2}(1+\cos(2\theta))$