Notecards Application of Integration		
1	Area Bounded by 2 Functions	$Area = \int_{x_1}^{x_2} f(x) - g(x) dx$
	In terms of dx ???	$\int_{x_1} f(x) = \int_{x_1} f(x) = g(x) dx$
		$Area = \int_{x}^{x_2} top - bottom \ dx$
		$Area = \int_{x_1} top - bottom dx$
		Everything must be in terms of x . The limits on the integrand and the
		integrand!!
2	Area Bounded by 2 Functions	$Area = \int_{y_1}^{y_2} f(x) - g(x) dy$
	In terms of dy ???	\int_{y_1}
		$Area = \int_{\gamma_2}^{\gamma_2} right - left dy$
		91
		Everything must be in terms of y . The limits on the integrand and the
3		integrand!!
3	How do you find the volume of an object	$\int_{0}^{\infty} x_2$
	whose cross-sections are perpendicular	$Volume = \int_{x_1}^{x_2} Area \ dx$
	to the x —axis?	
4		c.V2
	How do you find the volume of an object	$Volume = \int_{0}^{y_2} Area \ dy$
	whose cross-sections are perpendicular to the x —axis?	J_{y_1}
	to the x dais:	
5		
	How do you find the volume of a solid	$Volume = \pi \int_{x}^{x_2} (function - L. O. R)^2 dx$
	revolved around the x —axis or parallel to	Volume = $n \int_{x_1} (J \operatorname{unction} - L. O. K) dx$
	the x —axis?	
6		
0	How do you find the volume of a solid	ζ^{y_2}
	revolved around the y —axis or parallel to	$Volume = \pi \int_{\gamma_1}^{\gamma_2} (function - L.O.R)^2 dy$
	the y —axis?	y_1
7		27-
	How do you find the volume of a figure	$Volume = \pi \int_{x_1}^{x_2} (outer function - L. O. R)^2$
	with a hole in it, revolved around the x —axis or parallel to the x —axis?	J_{x_1}
	x - axis or parallel to the $x - axis$?	$- (inner\ function - L.O.R)^2\ dx$
8		
	How do you find the volume of a figure	$\int_{0}^{y_2}$
	with a hole in it, revolved around the	$Volume = \pi \int_{y_1}^{y_2} (function - L. O. R)^2$
	x —axis or parallel to the x —axis?	$- (inner\ function - L. O. R)^2 \ dy$
		(,
9		
	How do you calculate the average value	$\frac{1}{b-a}\int_{a}^{b}f(x)dx$
	of the function $f(x)$ over the interval	$b-a \int_a^{a} \int_a^{a} \int_a^{a} dx$
	[a, b]?	