1. <i>C</i> ′ = 0	$11.(tgx)' = \frac{1}{\cos^2 x}$
2. x' = 1	$12.(ctg\ x)' = -\frac{1}{\sin^2}$
$3.\left(\sqrt{x}\right)' = \frac{1}{2\sqrt{x}}$	$13.(\arcsin x)' = \frac{\sin x}{\sqrt{1-x}}$
$2\sqrt{x}$ $4.(a^x)' = a^x \ln a$	$14.(\arccos x)' = -\frac{\sqrt{1-x}}{\sqrt{x}}$
$5.(x^{\alpha})' = \alpha \cdot x^{\alpha-1}, x \in R$	$15.(arctg x)' = \frac{1}{1+1}$
$6.(e^x)'=e^x$	$16.(arcctg\ x)' = -$
$7.(\log_a x)' = \frac{1}{x \cdot \ln a}$ $8.(\ln x)' = \frac{1}{x}$	17.(shx)' = chx
$8.(\ln x)' = \frac{1}{x}$	18.(chx)' = shx
$9.(\sin x)' = \cos x$	$19.(th x)' = \frac{1}{ch^2 x_1}$ $20.(cth x)' = -\frac{1}{ch^2 x_1}$
$10.(\cos x)' = -\sin x$	$20.(cth x)' = -\frac{x_1}{x_1}$

$$5.(x^{\alpha})' = \alpha \cdot x^{\alpha-1}, x \in R$$

$$6.(e^{x})' = e^{x}$$

$$7.(\log_{a} x)' = \frac{1}{x \cdot \ln a}$$

$$8.(\ln x)' = \frac{1}{x}$$

$$9.(\sin x)' = \cos x$$

$$10.(\cos x)' = -\sin x$$

$$11.(tgx)' = \frac{1}{ch^{2}x}$$

$$12.(ctg x)' = -\frac{1}{sh^{2}x}$$

$$13.(arcsin x)' = \frac{1}{\sqrt{1-x}}$$

$$4.(a^{x})' = a^{x} \ln a$$

$$5.(x^{\alpha})' = e^{x}$$

$$16.(arcctg x)' = -\frac{1}{1+x}$$

$$20.(cth x)' = -\frac{1}{sh^{2}x}$$

$$11.(tgx)' = \frac{1}{\cos^{2} x}$$

$$12.(ctg x)' = -\frac{1}{\sin^{2} x}$$

$$13.(arcsin x)' = \frac{1}{\sqrt{1-x}}$$

$$14.(arccos x)' = -\frac{1}{1+x}$$

$$15.(arctg x)' = -\frac{1}{1+x}$$

$$16.(arcctg x)' = -\frac{1}{1+x}$$

$$17.(sh x)' = chx$$

$$18.(ch x)' = shx$$

$$19.(ch x)' = shx$$

 $9.(\sin x)' = \cos x$

 $10.(\cos x)' = -\sin x$

 $19.(th x)' = \frac{1}{ch^2x_1}$

 $20.(cth\,x)' = -\frac{1}{sh^2x}$

	N₂	Интеграл	()
	п/п		u^v
	1	$\int 0 dx = C, C = const$	\sim
	2	$\int x^{n} dx = \frac{x^{n+1}}{n+1} + C, \ n \neq -1$	II
	3	$\int \frac{\mathrm{dx}}{\mathrm{x}} = \ln(\mathrm{x}) + \mathrm{C}$	vu^{\imath}
	4	$\int a^x dx = \frac{a^x}{\ln a} + C$)—1
_	5	$\int e^x dx = e^x + C$	u'
	6	$\int \sin x dx = -\cos x + C$	+
	7	$\int \cos x dx = \sin x + C$	u
	8	$\int \frac{\mathrm{dx}}{\cos^2 x} = \mathrm{tgx} + \mathrm{C}$	$= vu^{v-1}u' + u^vv' \ln u$
2	9	$\int \frac{dx}{\sin^2 x} = -\operatorname{ctg} x + C$	lna
	10	$\int \frac{dx}{x^2 + x^2} = \frac{1}{2} \operatorname{arctg} \frac{x}{2} + C$	ı
	11	$\int \frac{dx}{\sqrt{a^2 - x^2}} = \arcsin \frac{x}{a} + C, a > 0$	
	12	$\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + C$	
	13	$\int \frac{\mathrm{dx}}{\mathrm{x}^2 - \mathrm{a}^2} = \frac{1}{2\mathrm{a}} \ln \left \frac{\mathrm{x} - \mathrm{a}}{\mathrm{x} + \mathrm{a}} \right + \mathrm{C}$	
	14	$\int \frac{\mathrm{dx}}{\sqrt{x^2 \pm a^2}} = \ln x + \sqrt{x^2 \pm a^2} + C$	
		+6	J
	Nº	Интеграл	$\widehat{}$
	0/0		\boldsymbol{z}

	$\int \frac{1}{\sin^2 x} = \frac{\cos x}{\cos x} + \cos x$	n	
10	$\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \arctan \frac{x}{a} + C$	u	
11	$\int \frac{dx}{\sqrt{a^2-x^2}} = \arcsin \frac{x}{a} + C, a > 0$		
12	$\int \frac{\mathrm{dx}}{\sqrt{1-x^2}} = \arcsin x + C$		
13	$\int \frac{\mathrm{dx}}{\mathrm{x}^2 - \mathrm{a}^2} = \frac{1}{2\mathrm{a}} \ln \left \frac{\mathrm{x} - \mathrm{a}}{\mathrm{x} + \mathrm{a}} \right + \mathrm{C}$		
14	$\int \frac{dx}{\sqrt{x^2 \pm a^2}} = \ln x + \sqrt{x^2 \pm a^2} + C$		
		_	•
№ п/п	Интеграл	$(u^v)'$	9 =
1	$\int 0 dx = C, C = const$	\smile	- 11
2	$\int x^{n} dx = \frac{x^{n+1}}{n+1} + C, \ n \neq -1$		=y(my)
3	$\int \frac{\mathrm{dx}}{\mathrm{x}} = \ln(\mathrm{x}) + \mathrm{C}$	vu^{1}	y = u
4	$\int a^x dx = \frac{a^x}{\ln a} + C$	v-1)
5	$\int e^x dx = e^x + C$	u'	
6	$\int \sin x dx = -\cos x + C$	+	
7	$\int \cos x dx = \sin x + C$	ι	
8	$\int \frac{\mathrm{dx}}{\cos^2 x} = \mathrm{tgx} + \mathrm{C}$	$= vu^{v-1}u' + u^vv' \ln u$	
9	$\int \frac{dx}{\sin^2 x} = -\operatorname{ctg} x + C$	$\ln i$	
10	$\int \frac{dx}{a^2 + x^2} = \frac{1}{a} \operatorname{arctg} \frac{x}{a} + C$	7	
11	$\int \frac{dx}{\sqrt{a^2-x^2}} = \arcsin \frac{x}{a} + C, a > 0$		
12	$\int \frac{dx}{\sqrt{1-x^2}} = \arcsin x + C$		
13	$\int \frac{dx}{x^2 - a^2} = \frac{1}{2a} \ln \left \frac{x - a}{x + a} \right + C$		
14	$\int \frac{\mathrm{dx}}{\sqrt{x^2 \pm a^2}} = \ln x + \sqrt{x^2 \pm a^2} + C$		