

INDIAN SCHOOL AL WADI AL KABIR

Class XII, Mathematics *Worksheet- INTEGRALS-3*

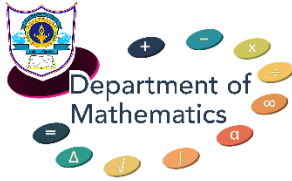
24-08-2020

OBJECTIVE TYPE (1 Mark)

Q.1.	$\int_0^1 \frac{1}{1+x^2} dx$						
A	$\frac{\pi}{3}$	B	$\frac{\pi}{4}$	C	1	D	0
Q.2.	$\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \frac{\cos x}{1+e^x} dx$						
A	$\frac{\pi}{4}$	B	0	C	1	D	e^π
Q.3.	$\int_0^{\frac{\pi}{2}} \log\left(\frac{4+3\sin x}{4+3\cos x}\right) dx$						
A	0	B	1	C	2	D	$\log 2$
Q.4.	$\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} (x^3 + x\cos x + \tan x + 1) dx$						
A	2	B	1	C	0	D	π
Q.5.	$\int_0^{\frac{\pi}{2}} \frac{1}{1+\sin x} dx$						
A	0	B	2	C	$\frac{\pi}{4}$	D	1
Q6	$\int_0^{\frac{1}{2}} \frac{1}{\sqrt{1-x^2}} dx$						
A	0	B	$\frac{\pi}{3}$	C	$\frac{\pi}{6}$	D	$\frac{\pi}{4}$

Q7	$\int_0^1 \frac{1}{\sqrt{2x+3}} dx$							
A	$\sqrt{3}$	B	$\sqrt{5} - \sqrt{3}$	C	$\sqrt{5} + \sqrt{3}$	D	$\sqrt{2}$	
Q8	$\int_2^3 3^x dx$							
A	$\frac{18}{\log 3}$	B	18	C	$-18 \log 3$	D	$36 \log 3$	
Q9	If $\int_0^{\frac{\pi}{2}} \frac{\sqrt{\sin x}}{\sqrt{\sin x} + \sqrt{\cos x}} dx = a\pi$, then $a =$ _____							
A	$\frac{1}{4}$	B	$\frac{1}{2}$	C	1	D	0	
Q10	$\int_0^a \frac{1}{1+4x^2} dx = \frac{\pi}{8}$, then $a =$ _____							
A	1	B	$\frac{1}{2}$	C	2	D	$\frac{1}{4}$	
Q11	$\int_{-1}^1 1-x dx$							
A	0		1	C	2	D	$\frac{1}{2}$	
Q12	$\int_0^{\pi} \cos x dx$							
A	0	B	1	C	2	D	$\frac{1}{2}$	
Q13	$\int_0^{\frac{\pi}{2}} \log(\tan x) dx$							
A	0	B	1	C	2	D	$\frac{1}{2}$	
Q14	$\int_0^{\frac{\pi}{2}} \frac{\sin x - \cos x}{1 + \sin x \cos x} dx$							
A	0	B	1	C	2	D	$\frac{1}{2}$	

Q15	$\int_0^a \frac{f(x)}{f(x) + f(a-x)} dx$						
A	0	B	a	C	2a	D	$\frac{a}{2}$
Q16	$\int_0^1 \frac{e^x}{1 + e^{2x}} dx$						
A	$\tan^{-1}e$	B	$\tan^{-1}e - \frac{\pi}{4}$	C	$\frac{1}{2}(\tan^{-1}e - \frac{\pi}{4})$	D	$\frac{\pi}{2}$
Q17	$\int_1^e \log x dx$						
A	1	B	e	C	2e	D	0
Q18	$\int_0^{\frac{\pi}{4}} \log(1 + \tan x) dx$						
A	$\pi \log 2$	B	$\frac{\pi}{8} \log 2$	C	$\frac{\pi}{4} \log 2$	D	$\frac{\pi}{2} \log 2$
Q19	$\int_0^{\frac{\pi}{2}} e^x (\sin x + \cos x) dx$						
A	$-e^{\frac{\pi}{2}}$	B	0	C	$e^{\frac{\pi}{2}}$	D	1
Q20	$\int_0^1 \sin^{-1} x dx$						
A	$\frac{\pi}{2}$	B	$\frac{\pi}{4}$	C	$\frac{\pi}{2} + 1$	D	$\frac{\pi}{2} - 1$



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Answers

Answers	1	B	2	C	3.	A	4	D
	5	D	6	C	7	B	8	A
	9	A	10	B	11	C	12	C
	13	A	14	A	15	D	16	B
	17	A	18	B	19	C	20	D